



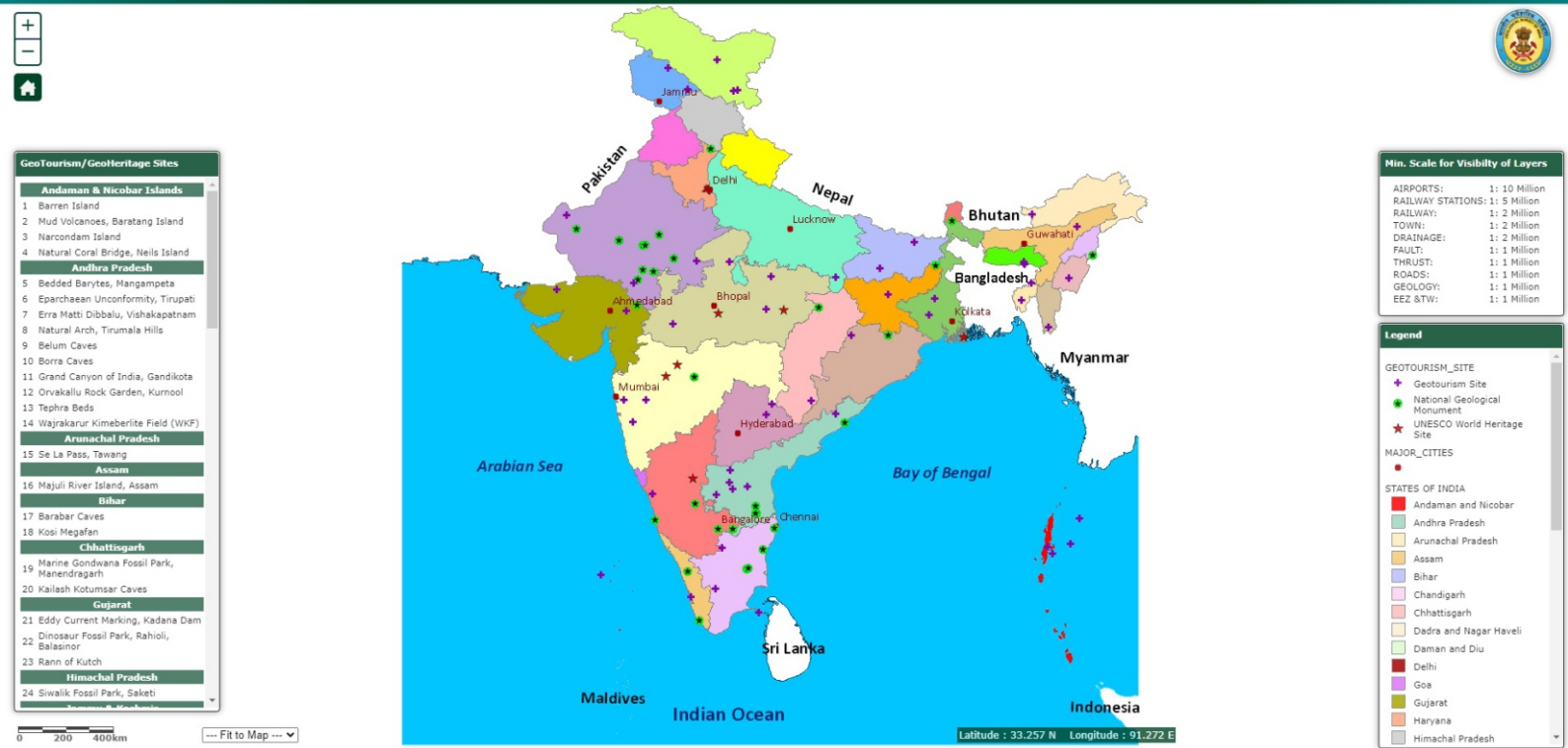
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आज़ादी का
अमृत महोत्सव

भारत सरकार
Government of India
खान मंत्रालय
Ministry of Mines



भारतीय भूवैज्ञानिक सर्वेक्षण Geological Survey of India

GeoTourism/GeoHeritage Sites Map of India



SUMMARY OF ANNUAL PROGRAMME 2023-24

(April 2023 to March 2024)

62nd Central Geological Programming Board
February, 2023

Cover: GeoTourism/GeoHeritage Sites Map of India (<https://bhukosh.gsi.gov.in/Geotourism>) has been inducted in the enterprise portal of GSI.

Images are of Geotourism sites

(L to R) Stacked pillow lava structure at Mardihalli hill, Karnataka; Natural Arch, Tirmulla hills, Tirupati, Andhra Pradesh; Grand Canyon of India, Cuddapah basin, Gandikota, Andhra Pradesh.



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सत्यमेव जयते



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अमृत महोत्सव

भारत सरकार
खान मंत्रालय
भारतीय भूवैज्ञानिक सर्वेक्षण

GOVERNMENT OF INDIA
MINISTRY OF MINES
GEOLOGICAL SURVEY OF INDIA



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महानिदेशक
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समृद्धि सुदृढयत्नम्
ONE EARTH • ONE FAMILY • ONE FUTURE



FOREWORD

The legacy of GSI and the role of this great institution since its birth in 1851 and its pivotal role in development of the infrastructure and industries in building the economy of the country is well known. GSI has made its presence felt in national arena and is poised to build an economically and socially vibrant, creative and an enterprising India by sharing its geoscientific data with entrepreneurs, administrators, policy makers and civil society.

GSI has continued to grow and diversify into various geoscientific activities, and contributed significantly in the arena of geosciences. Currently, GSI activities are organized around five Missions [Mission-I (Ground, aerial and marine surveys), Mission-II (Natural Resource Assessments & augmentation of minerals, coal & lignite), Mission-III (Information and dissemination), Mission-IV (Fundamental and Multi-disciplinary Geoscience research) and Mission-V (Training and capacity building)].

To ensure synergy and close co-ordination between GSI, stakeholder Ministries/ Organizations and State Geological Departments, each year CGPB/CGPB Sub-committee/and SGPB meetings are being held to co-ordinate activities on geological mapping and mineral prospecting, exploration and exploitation in the country, with the GSI as the nodal department and the State Geology and Mining Departments and Central Government institutions as the participating members.

Each year GSI formulates the Annual Programme across five Missions considering i) the stated policies of the Central Government, ii) the requirement of the States/Central Govt. organization/PSUs as proposed in different SGPB and CGPB committee meetings, iii) the geological merit / feasibility and workforce. The proposals has been subjected to thorough critical scrutiny and peer review (internal-100% / external-20%) at Regional level (by GSI's Head of the Region and Mission) and CHQ (by Head of the Missions and PSS).


The summary of Annual Programme for FS 2023-24 provides a glimpse of Mission-Region wise proposed programme to be taken up in upcoming Field Season 2023-24 along with the highlights on budget of GSI. It provides the state-wise information on the programmes planned to be taken up across five Missions (I to V), the target envisaged and the thrust given during the FS year 2023-24.

In FS 2023-24, Total 966 standard programmes have been finalised across five Missions which are as follows- Mission-I: 298; Mission-II: 318; Mission-III: 55; Mission-IV: 140; and Mission-V: 155. The thrust has been given to baseline data generation and mineral exploration programmes with special emphasis on strategic-critical and fertilizer minerals exploration. Among these, 20 programmes are being taken up on State request and 37 programmes are in collaboration with Universities / agencies / under sponsorship of different authorities.

GSI as a generator of geospatial data and as an agency with an all-India presence continues to contribute to the larger public interest on a large number of parameters relating not only to geotechnical, landslides and earthquakes, but also other public-health and public good geoscience. In FS 2023-24 GSI will be taking up 111 such programmes.

A total of 155 courses will be taken up for training and capacity building of GSI officials as well as outside officials including geoscientists from State DGMs.

As always, GSI will strive to attain excellence and will persevere towards quality achievement and fruitful outcome of the field season programmes in FS 2023-24.


(Dr. S. Raju)



Executive Summary of Annual Programme of GSI Field Season 2023-24

GSI (founded in 1851) is one of the oldest Survey organization of the world, the history of GSI is synonymous with history of development of the infrastructure and industries in India.

GSI has continued to grow and diversify into various geoscientific activities, and delivered colossal contribution in the arena of geosciences.

*GSI carries out all activities under five **Missions**, viz. **Mission-I** (Ground, aerial and marine surveys), **Mission-II** (Natural Resource Assessments & augmentation of minerals, coal & lignite), **Mission-III** (Information and dissemination), **Mission-IV** (Fundamental and Multi-disciplinary Geoscience research) and **Mission-V** (Training and capacity building).*

GSI sets the target Annually and formulate the field season proposals (across five Missions-I to V) considering i) the stated policies of the Central Government, ii) the requirement of the States/Central Govt. organization/PSUs as proposed in different SGPB and CGPB committee meetings, iii) the geological merit/feasibility and workforce. The proposal goes through process of scrutiny and peer review (internal-100% / external-20%) mechanism devised by GSI.

***In FS 2023-24, a Total of 966 standard programmes** have been finalised and thrust has been given to programmes of Baseline Geoscience Data Generation (M-I) and Natural Resource Assessment (M-II).*

The break-up of the 966 programmes for FS 2023-24 are as follows- Mission-I: 298; Mission-II: 318; Mission-III: 55; Mission-IV: 140; and Mission-V: 155

Amongst Mission-I (298 projects), 147 projects are of NGCM, followed by STM (86) and NGPM (34). The rest are of remote sensing/hyperspectral survey and multispectral survey (12) and marine surveys (19)

Amongst Mission-II (318 projects), 290 M-IIA items (Mineral Resource Assessment), [183 items are of G4 stage, 74 items are of G3 and 11 items are of G2 stage, 7 R&D/RP Items, and 15 RMT items], 16 M-IIIB items (Natural Energy Resource assessment) [includes 6 G3 stage, 6 G4 stage, 3 Geothermal and 1 Research item] and 12 items of offshore mineral investigation within EEZ using the research vessel Samudra Ratnakar along with other two coastal vessels in marine survey of both offshore and coastal studies.

*Among Mission-IIA items, as per the current demands, GSI proposed highest number of mineral exploration programme for **Strategic Minerals** (Tin, Tungsten, Molybdenum, REE etc.) followed by **Basemetal** (Bauxite, Copper, Lead, Zinc, Antimony etc.), **Industrial Minerals** (Limestone, Magnesite, Graphite, Pyrophyllite etc.), **Precious Metals and Minerals** (Gold, PGE, Diamond etc.), **Ferrous** (Iron Ore, Mn Ore etc.), **Fertilizer Minerals** (Apatite, Phosphorite, Potash, Glauconite, Gypsum) and others.*

Seventy four (74) mineral exploration programmes proposed as a spin off from Mission-I (viz. STM, GCM, NGPM, NAGMP etc.) and RMT programmes



- ✦ Under Mission-III, a Total of 55 Geoinformatics projects have been proposed.
- ✦ Under Mission-IV, a total of **140 items** are being taken up in **Fundamental and Multidisciplinary Geosciences**. GSI has proposed 111 items on multi-disciplinary fields and 29 items on Fundamental Geoscience and Research & Development.
- ✦ Under Mission-V (Training & Capacity Building), a total of **155 courses** proposed which fall in the following broad categories.
 - ✦ 1. Induction-level (Orientation) Courses – 40
 - ✦ 2. International Courses (Thematic) – 2
 - ✦ 3. Sponsored programmes (Thematic) – 2
 - ✦ 4. Basic courses (Thematic) – 27
 - ✦ 5. Refresher courses (Thematic) – 38
 - ✦ 6. Advanced courses (Thematic) - 15
 - ✦ 7. Administrative Courses - 31
- ✦ In FS 2023-24, GSI has taken up **20 programmes on State Government request**. Apart from this, GSI to take up **37 programmes in collaboration with Universities/ agencies and under sponsorship of different authorities** etc.

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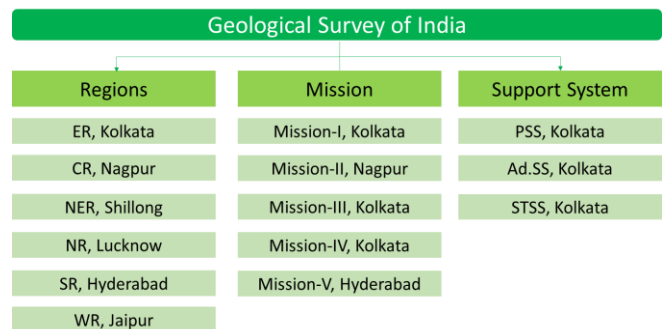
Introduction

Geological Survey of India (GSI) is dedicated to the service of the nation for 172 years with colossal contribution in the development of India. The geoscientific work of GSI involves ground surveys, air-borne and marine surveys, mineral exploration including coal, multi-disciplinary geo-technical, geo-environmental, climate change (including polar and glaciological studies) and natural hazard (including landslide and earthquake) studies of societal significance, dissemination of data for public good and nurturing fundamental research. GSI has made its presence felt in national arena and is poised to build an economically and socially vibrant, creative and an enterprising India sharing its geoscientific data with entrepreneurs, administrators, policy makers and civil society.

Following the recommendations of the High Power Committee (HPC) constituted by the Ministry of Mines and accepted by the Union Cabinet in October 2011, GSI is an 'Attached Office' to the Ministry of Mines.

Mission-Region activity of GSI

GSI conceives and formulates its geoscientific programmes under five Missions, executed by the six regions and to ensure smooth planning, coordination and evaluation of programmes, there are three Support Systems [Scientific & Technical Support System (STSS), Administrative Support System (Ad.SS) and Policy Support System (PSS)]. Missions are designed as think tanks and are responsible for synthesizing core activities, formulating major guidelines and targets to the Regions and State Units, coordinating, monitoring performance and providing sectoral scientific and technical reports. Support Systems are responsible for the internal management, effecting, reporting, planning, monitoring and analysis. Regions execute the programmes and function in a semi-autonomous manner, once their programme for the year is accepted and the funds provided.



Outlay of Region-Mission-Support System

The five Missions are as follows:

Mission-I : Baseline Geoscience Data generation (Mission IA – Ground & Marine Surveys; Mission IB – Remote Sensing & Aerial Surveys)

Mission-II : Natural Resource Assessment

Mission-III: Geoinformatics

Mission-IV: Fundamental & Multidisciplinary Geosciences and Special Studies

Mission-V: Training & Capacity building



GSI executes the programmes of different Missions through 6 geographically distributed Regions, Central (CR), Eastern (ER), North Eastern (NER), Northern (NR), Southern (SR) and Western (WR), with Headquarters at Nagpur, Kolkata, Shillong, Lucknow, Hyderabad and Jaipur respectively (Fig. 1). GSI has its Central Headquarters (CHQ) in Kolkata and has State Units in most of the States. GSI started functioning in the Mission-Region-Hybrid-Matrix mode from the annual programme 2009-2010.

Activities of the Five Missions and Three Support Systems are as follows:-

Mission/ Support System	Components/Activities
Mission-IA & IB: Baseline Geoscience Data generation	Geological Mapping with the aid of Remote Sensing & Photogeology, Specialised Thematic Mapping, Geochemical Mapping, Geophysical Mapping, Remote Sensing & Airborne Survey, Marine & Coastal Surveys.
Mission-II: Natural Resources Assessment	Mineral Resource Assessment for exploration of Ferrous, Non-Ferrous, Precious, Strategic, Industrial, Fertilizer minerals etc.; Exploration for coal including lignite and shale gas (Natural Energy Resources), Geothermal energy
Mission-III: Geoinformatics	Map compilation and Publication on various earth science subjects, Database creation, Data integration, Information Technology, GSI Portal, I.T. Infrastructure & Connectivity, Libraries
Mission-IV: Fundamental & Multidisciplinary Geosciences and Special studies	Geotechnical, Geohazards management, environmental, landslide studies, earthquake geology and seismology, climate change, environmental geology, glacial, desert geological studies. Research work on fundamental geoscience, Arctic and Antarctic studies
Mission-V: Training & Capacity building	Human Resource Development, Training
Scientific & Technical (S & T) Support System	Modernization, Analytical Chemistry and the Chemical Laboratory Network, Capital Assets Procurement and Management, Drilling & Workshop, Transport, Survey, Core Library
Administrative Support System	Finance, Personnel, Legal Cell, HRD, Parks and Museums, Estates
Policy Support System	Planning & Monitoring, Science Policy & Coordination, CGPB Secretariat, Commercial Operations, Geoscience partnerships

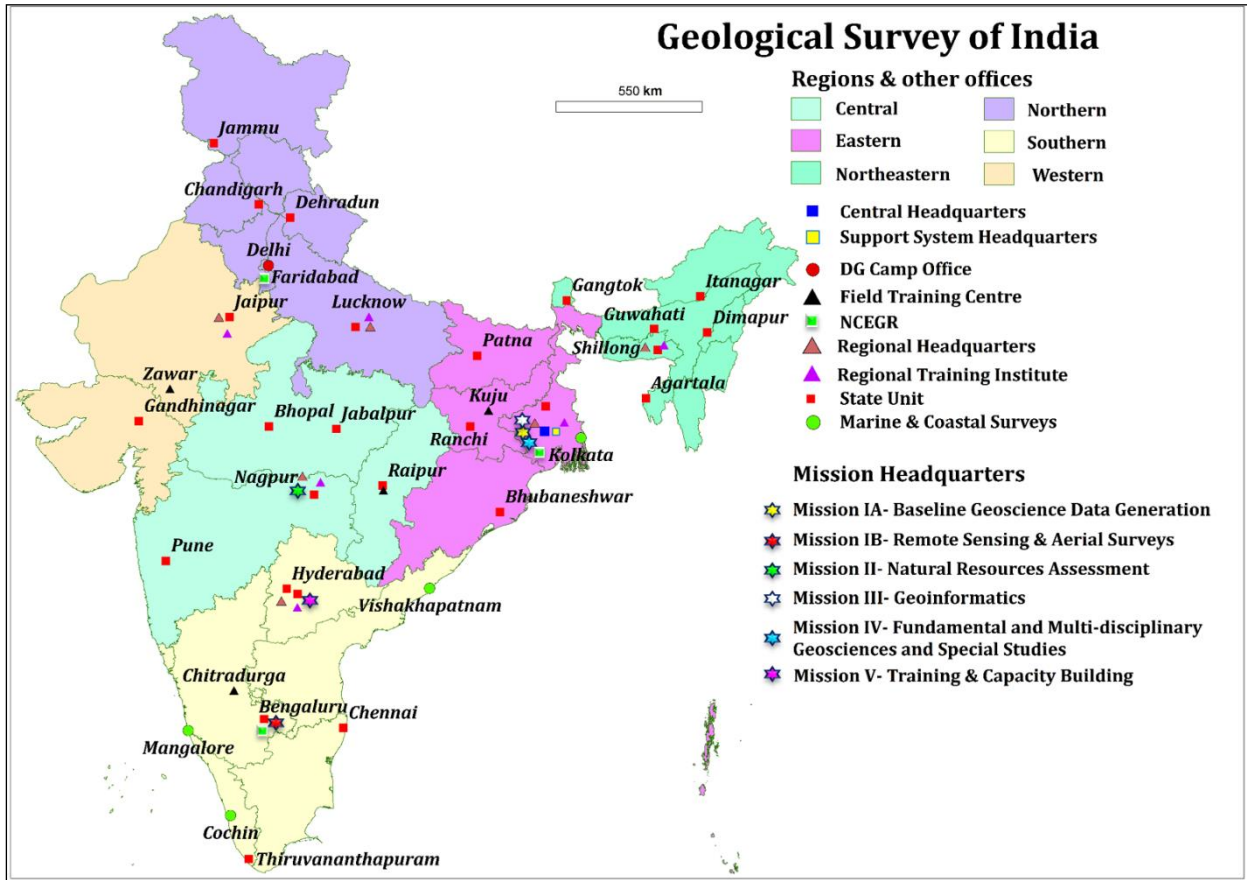


Fig.1. Map showing the GSI regional offices, CHQ, Mission Headquarters, DG Camp office, Field Training Centres etc.



Chapter-2

Overview of ongoing (FS 2022-23) programmes

2.1 Mission Activities:

GSI conceives and formulates its geoscientific programmes under five Missions (1 to 5) and Regions (CR, ER, NR, NER, SR and WR) execute the programmes. The brief of ongoing FS 2022-23 activity under each Mission are as follows.

Mission-I: Baseline Geoscience Data Generation

Under the Mission-I, activity involves Ground Surveys (Geological, Geophysical and Geochemical surveys), Marine & Coastal Surveys (Marine Survey within Territorial Water, Exclusive Economic and beyond, Zone, Coastal survey), Remote Sensing and Aerial Surveys (Aero-geophysical Survey; Photo Geology & Remote Sensing-Multispectral and Hyperspectral studies).

GSI is the only organization in India which is actively engaged in three layers of ground mapping (geology, geochemical & geophysics) of the Indian landmass. The integration of all Geo scientific data (Geological, Aero-geophysical, Geophysical, Geochemical and Remote sensing) in GIS platform is also being done for prognostication of potential mineralized belt, to resolve geological problems as well as to do public good geoscience and all data are uploaded in GSI portal for use of all other stake holders.

Mission-IA activity:

The entire land mass of India is having 3.287 million sq. km area distributed over 5112 toposheets which is covered by hard rocks, soft rocks, soil and alluvium. Out of the total landmass of the country, barring some disputed areas, about 3.146 million sq. km area is mappable.

Systematic Geological Mapping (SGM)

The Systematic Geological Mapping (SGM) on 1:50,000/63,360 scale is the most fundamental and basic mapping programme carried out by Geological Survey of India during the last few decades to cover the mappable part of entire country. This knowledge base has been providing the baseline data to earth science related technical and socio-economic activities and programmes of the nation. Out of the total mappable area of 3.146 million sq.km of the country, some inaccessible terrains of North Eastern parts of the country in the states of Assam, Arunachal Pradesh, Nagaland, Manipur and Meghalaya (bordering Bangladesh); mountainous terrains of the Northern Himalayas in the states of Jammu & Kashmir and Uttarakhand; Jarwa / Sentelenes inhabited islands of Andaman & Nicobar; and Abujhmar Plateau of Chhattisgarh and Maharashtra have not been covered by SGM.



However, during FS 2016-17, 2017-18 and 2020-21 GSI took up remote sensing aided geological mapping programmes on 1:50,000 scale in the uncovered inaccessible areas with limited field check in the gap areas of the Northern and North-Eastern India bringing a **total coverage of 3.123 million sq.km** by Systematic Geological Mapping which is around **99.27% of the total mappable area of the country**.

Specialized Thematic Mapping (STM)

GSI is carrying out theme based **Specialized Thematic Mapping (STM)** on 1:25,000 or larger scales from VIII plan period onwards. In STM field data is complemented by precision laboratory studies and has great application in finding new target areas for prognostication of natural resources; risk management, land use management, environmental analysis etc. This integrated geo-scientific study helps resolving many of the geological ambiguities and problems and opens up new avenues for future investigations. A total of **3.86 lakh sq. km** area has been covered till December, 2022 since the initiation of STM.

National Geochemical Mapping (NGCM)

The **National Geochemical Mapping (NGCM) programme** was initiated in field season (FS) 2001-02, to generate baseline geochemical database on 1:50,000 scale, to identify prospective areas for probable mineral occurrences as well as for soil fertility assessment, human/animal health, and in establishing environmental baseline of geochemical parameters. The main objective of the NGCM is to create a seamless geochemical base map on 1:50,000 scale of different elements for the entire country where the main medium of sampling is fluvial/stream sediment or slope wash material in 1km x 1km or 2km x 2km or 4km x 4km cells depending on the various terrain conditions and geological setup of the terrain. Actual /Composite samples (based on the sampling grid) from these cells are subjected to analyses for 62 elements to derive anomalous zone/s of elemental concentration through interpretation. A total of about **17.54 lakh sq. km** area has been covered till December, 2022 since the initiation of NGCM programme.

National Geophysical Mapping (NGPM)

National Geophysical Mapping (NGPM) programme was initiated in field season (FS) 2002-03. The objective of this project is to generate basic and derivative maps of Bouguer Anomaly and IGRF corrected magnetic total field anomaly maps of the country by conducting ground gravity and magnetic surveys on 1: 50,000 scale with an approximate observation density of one station in 2.5 sq. km. The maps thus produced provides information about crustal architecture and tectonics and at the same time capable of providing information regarding litho-units and structure which can host mineralization. The gravity – magnetic anomaly maps are helpful in identification of potential areas of interest from mineral exploration point of view in both shallow and deeper levels. A total of about **11.13 lakh sq. km** area (including



outsourcing of 0.82 lakh sq. km) has been covered till December, 2022 since the initiation of National Geophysical Mapping.

As an outcome of STM, NGCM, NGPM and aerial survey programmes of Mission-I, number of programmes for mineral investigation have been launched in GSI and last five years details are shown in the following table.

Mineral exploration items taken up as spin off from previous Mission-I items:

	2018-19	2019-20	2020-21	2021-22	2022-23
SGM		1(NER)			
STM	18 (4CR, 6ER, 1NER, 1NR, 2SR, 4WR)	17 (5CR, 6ER, 1NER, 3SR, 2WR)	17 (9ER, 4CR, 1WR, 3SR)	20 (7CR, 1ER, 1NER, 1NR, 3SR, 7WR)	29 (9CR, 5ER, 2NER, 4NR, 6SR, 3WR)
NGCM	18 (5CR, 2ER, 6NER, 2SR, 3WR)	24 (5CR, 5ER, 3NER, 10SR, 1WR)	15 (4ER, 4CR, 2WR, 2SR)	37 (7CR, 11ER, 3NER, 1NR, 8SR, 7WR)	18 (6CR, 4ER, 3NER, 1NR, 4SR)
NGPM		13 (2CR, 3ER, 3NER, 2NR, 3WR)	4 (3WR, 1SR)		1 (WR)
STM + NGCM	2 (1CR, 1SR)	2 (1CR, 1ER)	5 (3CR, 2WR)	4 (1CR, 1ER, 1NER, 1SR)	5 (2CR, 2NER, 1WR)
STM + NGPM					
NGCM+NGPM		9 (1CR, 6NR, 2WR)	11 (WR)	1 (WR)	2 (2WR)
Aerial Survey		2 (SR)	3 (ER)		2 (CR)
TOTAL	38	68	59[#]	62	57

#includes 4 spin-off of NAGMP by WR

Marine and Coastal Surveys (M&CS)

The offshore activities of the GSI started in the early sixties under the Central Petrological Lab., Kolkata in August, 1965 and became a separate unit, "Offshore Mineral Exploration and Marine Geology (OME & MG) Wing", which was later renamed as Marine Wing and now Marine and Coastal Survey Division (MCSD). Systematic seabed mapping and exploration within the Indian EEZ was initiated in the year 1983-84. Marine and Coastal Survey Division (MCSD) has carried out more than 762 cruises within the Exclusive Economic Zone (EEZ) of India to generate baseline marine geoscientific data, since 1983.

Marine and Coastal Surveys (M&CS) of GSI with its Headquarters at Mangalore functions through its operational offices at Kolkata (ER), Mangalore, Visakhapatnam, Kochi and Chennai (SR) to undertake seabed survey in the Exclusive Economic Zone (EEZ) of India and beyond, in Territorial Water (TW) and coastal studies along eastern and western coastal tracts of India. GSI has a fleet of three ocean going vessels. R V Samudra Ratnakar (RVSR), which carries out survey in the EEZ and beyond while R V Samudra Kaustubh and R V Samudra Shaudhikama carry out survey within Territorial Waters. Based on GSI's survey and exploration with its research vessels, scientific program proposals are being planned and executed regularly to meet the data and knowledge gaps in offshore survey.

GSI acquires baseline data on bathymetry [sea bottom topography], sea surface sediment distribution, gravity, magnetic, etc. within the EEZ of India. Reconnaissance seabed mapping has been completed over an area of **20,41,698 sq. km.** (94.54%) out of a total EEZ area of 21,59,620 sq.km. (on 1:5,00,000 scale) which includes the coverage of **1,43,385 sq. km** within the Territorial Waters (TW), till January 2023.

GSI has also launched seabed mapping in the selected areas within the **International waters** since FS 2022-23 and covered an area of **70,227 sq.km** till December, 2023 for generation of baseline data along with search for possible mineral occurrences in Ninety East Ridge near Equator, Indian Ocean and in the Laxmi Basin (Block-I, II and III), Arabian Sea by deploying RVSR.



R. V. Samudra Shaudhikama (Since 1983)



R. V. Samudra Kaustubh (Since 1983)



R. V. Samudra Ratnakar (Since 2014)

GSI's Fleet of Vessels



Mission-IB activity:

Airborne Survey

The aero-geophysical survey is considered as the comprehensive science to scan large areas in limited time to tap the concealed mineral resources. Therefore, it is imperative to cover pan India by aero geophysical survey for intensifying exploration activities to meet the ever-growing need of the industry. GSI embarked on aero-geophysical journey on the year 1967 under the project Operation Hard Rock (OHR) and emerged as a unique Geological organization with Ground, Air and Marine wing.

The Airborne Geophysical Surveys are being carried out by the Twin Otter Airborne Survey System (TOASS) with Magnetic and Gamma Ray Spectrometric sensors acquired by GSI since 1986. From 1986-2020, a total of 7,83,915-line km over an area of 6,11,386 sq.km has been covered. TOASS survey presently is being carried out over Gaya Dumka area of Bihar and Jharkhand. During FS-2022-23, a total of 1624 line km have been covered up to 31.12.2022.

Multi-sensor Aero-geophysical surveys over Obvious Geological Potential (OGP) and Adjoining areas of India

As per the National Mineral Exploration Policy (NMEP) 2016, GSI has launched project called the "National Aero-Geophysical Mapping Program" (NAGMP) in April, 2017, to acquire uniform aero-geophysical data over OGP areas (divided in 12 blocks). The survey is completed over NAGMP block 1,2,3,4 & 11. The survey is in progress over NAGMP block 6 & 8. For rest of the blocks (5,7,9,10 &12) survey is in different stage of initiation. Till December 2022, total **0.280 million sq. km** area was covered against the target of **0.778 million sq.km**. The project is aimed to delineate concealed, deep seated structure/litho-units capable of hosting mineralization, delineate extension of the existing mineralized zone and understanding of shallow crustal architecture in the context of mineral occurrence. The project is being funded by National Mineral Exploration Trust (NMET). The Project Implementing Agencies [PIAs] have been selected through global tendering. Till date, a total 150 mineral prospective areas have been identified in the states of Rajasthan, Gujarat, Madhya Pradesh, Uttar Pradesh, Chhattisgarh Telangana, Andhra Pradesh and Maharashtra based on the NAGMP survey.

Hyperspectral Remote Sensing Technique in Exploration:

Since 2009 GSI has engaged in spectral mapping using Multispectral data towards the generation of alteration zone maps, ultimately to identify the potential zones of mineralisation. The Hyperspectral data was less attempted due to its limited availability. But the Recent acquisition of AVIRIS NG data in collaboration with NASA ISRO, GSI in collaboration with NRSC, ISRO is engaged in a 3 year programme since 2019 for geological evaluation of 14 (6336 sq.km) geologically potential areas in the

country to establish the ability of Airborne Hyperspectral data for mineral exploration studies.

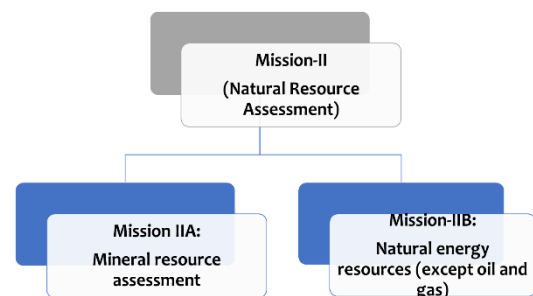
During FS 2022-23, Photo Geology and Remote Sensing (PGRS) Division has taken up mapping of alteration/ mineralized zones using spectro-radiometer (1,22,464 sq. km)/ multi hazard zonation (1400 sq. km) /Seismic Hazard Micro-zonation (SHMZ) (200 sq. km)/ resolving the mismatch of lithological boundary (836 sq. km) on 1: 50,000 scale using Multispectral and Hyperspectral remote sensing data. A total of **1,24,900 sq. km area** is covered till December, 2022 by remote sensing studies in the FS 2022-23, with the objective to delineate alteration zones associated with mineralization and building up of spectral library for different litho-units and seismic and multi-hazard zonation studies. This has resulted in identification several potential areas for further follow up exploration. The outcomes of the multi-hazards and seismic study would be the most relevant geo-scientific input for the planners and administrators for mandatorily use in the comprehensive multi-hazard risk assessment and management practices for all sorts of developmental and infrastructure project in the particular terrain.

All the available geoscientific data (Geology, Aero-geophysical, Geophysical, Geochemical and Remote sensing) are being integrated in GIS platform and the predictive modelling of the same led to delineation of prospective mineral targeting areas.

Mission-II activities: Natural Resource Assessment

Over the years, mineral exploration activities of GSI have increased manifold for the sustainable development of the national economy and to meet the increasing demand of various stake holders.

During FS **2022-23**, a total of **322** investigation programs were taken up by GSI which included **271** projects on Mineral Exploration, **15** projects on 'offshore mineral investigation', **13** projects on Natural energy resources, **15** Regional Mineral Targeting (RMT) projects, **6** R&D projects (including 5 R&D projects of M-IIA and 1 R&D projects of M-IIB) and **2** projects on Uncover (India).



Outlay of Mission-II activity

Mission-IIA (Mineral Resource Assessment) activity:

GSI is carrying out Mineral investigation programme (G2/G3/G4) throughout the country and since amendment of MMDR Act, 2015, the resource bearing reports (G2/G3) are being handed over to respective State DGMs from time to time for consideration in the process of auction. Since amendment of MMDR Act 2015, **179**

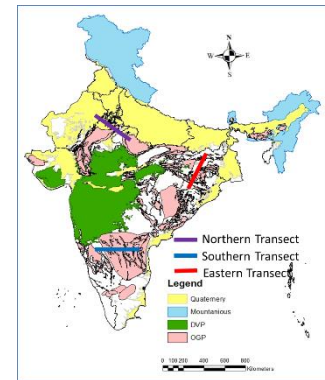
resource bearing G2/G3 reports of GSI have been handed over to the concerned State Governments. Following MEMC amendment rules 2021, **252** Geological Memorandums (GM) were handed over to the concerned state governments.

During FY **2022-23**, a total of **271** investigation programs has been taken up by GSI under Mineral Resource Assessment. The break-up of the programmes are as follows: **21** on Ferrous Minerals, **36** on Precious Metals and Minerals, **148** on Non-Ferrous and Strategic Minerals, **66** on Industrial and Fertilizer Minerals.

Besides, **15** Regional Mineral Targeting (RMT) projects, **5 M-IIA** R&D projects and **2** projects on Uncover (India) have also been executed during FS **2022-23**. Keeping in mind with the national requirement, GSI has laid emphasis on the exploration of critical and strategic minerals during FS **2022-23** and **125** programmes taken up during FS **2022-23**.

Project UNCOVER:

As a follow up of NMEP, 2016 GSI had taken up pilot scale project "Uncover (India)" to evaluate the potentiality of deep-seated mineral deposits in **two** transects viz- Southern Transect across Western and Eastern Dharwar Craton and Eastern Transect in Singhbhum Craton. The project under these **two** transects are under execution in FS **2022-23**.



Location of project UNCOVER transects

Regional Mineral Targeting (RMT)

Regional Mineral Targeting (RMT) projects conceived in 2018 by GSI with an integrated approach covering large stretches of area (in thousands of sq.km) to identify gap areas for launching standard mineral exploration items as well as to enhance the knowledge regarding mineral systems.

The main objective of RMT projects is to bring out potential new areas for G4 stage mineral investigation programme, on various mineral commodities. Processed and interpreted Regional geo-science data sets with intensive field validation will enhance the mineral deposit discovery.

During FS 2022-23, 15 Regional Mineral Target (RMT) projects are operational in Rajasthan (4), Odisha (2), Jharkhand (2), Madhya Pradesh (2) and each one in Chhattisgarh, Maharashtra, Haryana, Karnataka, and Andhra Pradesh. Data integration to identify target zones of mineralization followed by drilling to test these zones is currently under progress in all RMT projects.

Since initiation, as an outcome of RMT projects, 10-G4 and 4-G3 programme were carved out in different parts of the country.

Mission-IIB (Natural Energy Resources) activity: [Coal and Lignite]

GSI has established significant coal & lignite resources through regional exploration and could demarcate potential areas at shallow to intermediate depth level (0-600m), particularly in basins concealed under trap/ younger sediment cover. In the quest of unconventional energy, shale gas at Jharia Coalfield has been explored by GSI since 2014 to envisage its potentiality and significant potentiality of shale gas in Jharia Coalfield has been established. During FS **2022-23, 13** projects [**10** coal, 1 lignite, 1 shale gas and 1 geothermal] have been taken under Mission-IIB (Natural Energy Resources). Besides this, 1 M-IIB R&D project has also been taken up.

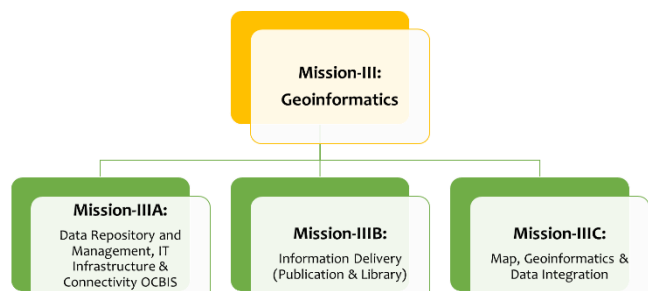
Marine Mineral Investigation:

During FS 2022-23, 15 projects on 'offshore mineral investigation are under execution.

Beside baseline data generation and seabed mapping, GSI also carries out focused mineral investigations in identified target areas. Based on the sea-bed mapping, GSI has identified potential area of 5,89,560 sq. km within the EEZ of India where focussed mineral investigation are being carried out for various mineral commodities e.g. Lime-mud, Fe-Mn/polymetallic nodules, phosphate bearing sediments etc.

Mission-III activities: Geoinformatics

Geoinformatics aims at comprehensive management and effective utilization of all geoscientific information for delivering accurate, up-to-date and comprehensive products and services, and provide crucial support to all users, Missions and stakeholders. The mission is actively involved in maintenance and management of the IT infrastructure, archival of the datasets, IT policy decision and planning for inclusive IT enablement of the organization.



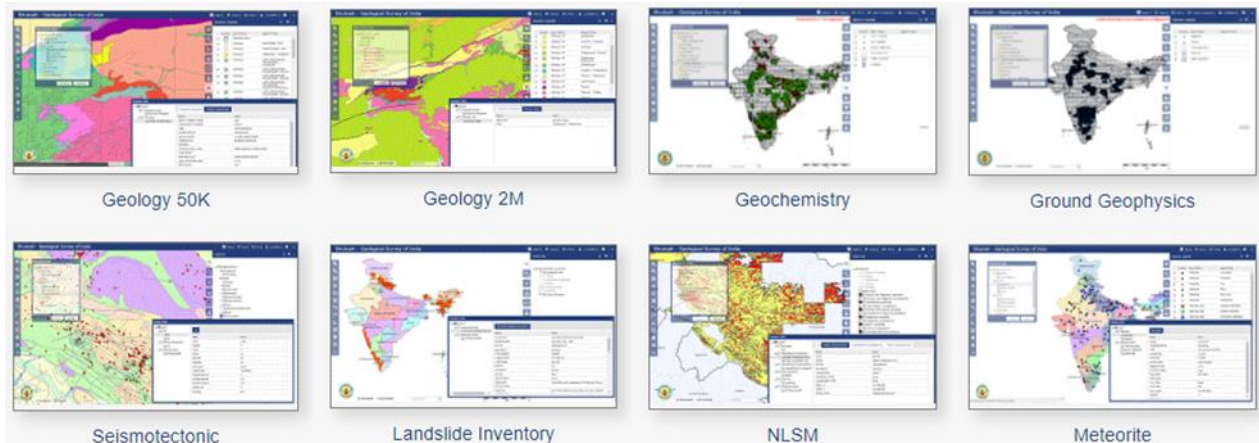
Outlay of Mission-III activity

The Online Core Business Integrated System (OCBIS) portal is an integrated Enterprise Portal connecting all users, core processes, data and support systems in a web-based platform. This was initiated in 2015-16 and became operational since 2017-18 across all GSI offices. The OCBIS portal consist of 13 Core Modules (with 29 processes), 4 e-Gov applications (with 69 processes) and 14 Support Modules (with 27 processes). External users are regularly accessing Bhukosh for viewing and downloading geospatial data and geophysical datasets. Till date 114406 geospatial map data and geophysical data sets have been downloaded among which 93319 are by external registered users. Recently GeoTourism/GeoHeritage Sites Map of India and Rock Texture Atlas applications has been inducted in the Enterprise Portal.

During 2022-23, all field season programs were submitted and approved through FSPMIS, 360108 samples were collected using field application, 215854 samples submitted through LMS. Transactions in different processes include 12119 in DMIS,

1185 transactions in VMIS, 67 through THReDS; 1270 in vigilance, 68 in Rajbhasha, 22 in legal, 9 in CLIS, 36633 in HRMS, 104256 in Claims, 7032 in Materials Management module.

The datasets in Enterprise Portal repository include 31494 progress reports, 2897 published maps, 1388 publications, 9921 geophysical datasets (Airborne-7978, Ground-966, Marine-977), 148 geospatial layers, 4648 virtual museum artefacts and core library data of 34569 boxes pertaining to 555 projects.



BHUKOSH: Gateway to all Geoscientific data of GSI

(<https://bhukosh.gsi.gov.in/Bhukosh/Public>)

During FS 2022-23, (upto December 2022) total 26 nos. of Publications including 2 no. of Miscellaneous Publications, 5 nos. of Special Publications, 3 nos. of Coffee table books, 2 nos. Indian Journal of Geosciences (Volume 76, No. 1, 2), 10 Nos. of Records of GSI (Pt -2 to 9); 4 nos. Bulletin Series (A & B) are released.

During FS 2022-23, in all India level, the following Map compilation and database collation work is under progress at all India level:

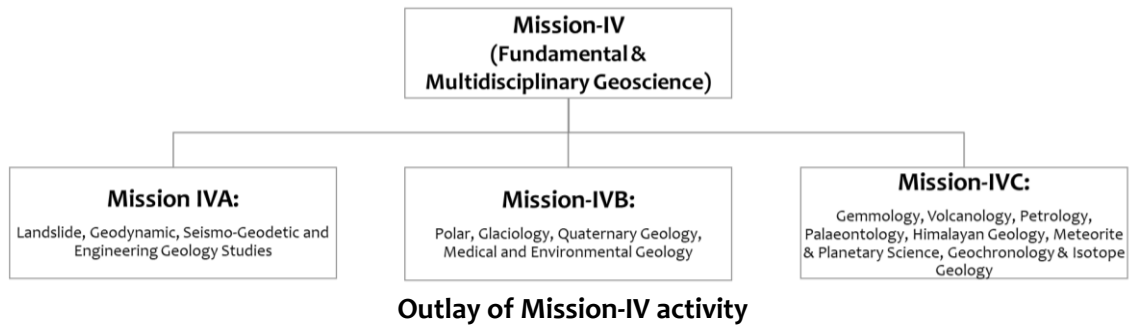
- Geology and Mineral resources Map of India (1:2M)
- Coal Field Map of Singrauli and Tatapani-Ramkola
- Geo-Tourism map of Central India and Geotourism Maps of Rajasthan, Gujarat and Daman & Diu.
- Creation of commodity wise GIS database in Maharashtra, Chhattisgarh, Madhya Pradesh, Bihar, Odisha, Jharkhand, Sikkim, Andhra Pradesh, Telangana & Karnataka.
- 67 nos. of DRMs: (4 nos. of MP, 6 Nos. of Chhattisgarh, 6 Nos. of Maharashtra, 6 Nos. of West Bengal, 2 Nos. of Sikkim, 1 no. of Nagaland, 6 Nos. of Arunachal Pradesh, 6 nos. of Assam, 9 Nos. of Uttar Pradesh, 2 Nos. of UT: Jammu & Kashmir, 6 nos. of Tamil Nadu, 13 nos. of Karnataka)
- 3 nos. Geological Quadrangle Maps(62H, 63L and 63O) of NR
- Mineral Belt Maps: MBM of Krol and Tal groups of Himachal Pradesh, MBM for Manganese in Andhra Pradesh and MBMs of WR
- Updation of the 1:50K database for NER.



- Compilation and preparing a separate geo-database for Thematic Geological Maps in 1:25K scale using STM.
- Synthesis and collation of All India National Geochemical Map data (NGCM) and National Geophysical Map data (NGPM) on 1:50,000 scale and their uploading on Bhukosh (OCBIS Geoportal).
- Geotourism/Geoheritage Sites Map of India consisting of 90 nos. of Geotourism sites has been prepared and digitally opened for all on 15th July, 2022.
- A total 26 nos. of TW & CZ Maps (Scale 1:50,000 scale) have been approved and published during the tenure and 18 nos. of TW & CZ maps have been scrutinised and sent to respective division for finalisation. State map of Andhra Pradesh (Scale 1:0.5M) has also been published.
- Creation of National Geoscience Data Repository (NGDR): NGDR is a flagship initiative conceptualised by Ministry of Mines as a part of National Mineral Exploration Policy (NMEP), 2016 for hosting all exploration related geoscientific data for dissemination to all the stakeholders so as to expedite, enhance and facilitate the exploration coverage of the country. GSI is the nodal agency for the implementation of NGDR project. NGDR project is being implemented by engaging Bhaskaracharya National Institute for Space Applications and Geo-Informatics (BISAG-N), Gujarat, an autonomous scientific society under Ministry of Electronics and Information Technology (MeitY), Government of India as a system Integrator of NGDR project. The project is being funded by NMET. A MoU was signed between GSI and BISAG-N on 08.02.2022 and development of Milestone 3 & 4 (mobile app development, MERT workflow development and assigning of role based privileges, multi-criteria intelligent search, and 3D Borehole Visualization and Integration etc.) is in progress.
- A total 6038 nos. of reports of GSI has been handed over in phased manner to BISAG-N for digitization & geodatabase creation.

Mission-IV activities: Fundamental & Multidisciplinary Geosciences and Special studies

GSI has made significant contributions to the various aspects of geosciences by adapting state-of-the art technologies and infrastructure. In the recent years, GSI has given an altogether different orientation to geo-scientific research and development in the form of "Public Good Geosciences" for sustainable societal development. GSI has identified many areas where geo-scientific knowledge can be used to explore, assess, quantify and prescribe solution for many societal issues like soil and water pollution, natural hazards, geo-tourism, infrastructure development, archaeological investigation, climate change, desertification etc. GSI is performing its geoscientific R&D studies in the most extreme parts of the world like the Arctic, Antarctic and the Himalayas.



GSI, like other reputed R&D institutions, have robust R&D infrastructure in the form of National Centre of Excellence in Geoscientific Research (NCEGR) situated in Kolkata, Bengaluru and Delhi NCR (Faridabad) and six regional laboratories across the country. These centres are fully equipped with state-of-the-art laboratories and well-trained geoscientists.

The focus areas of Mission IV are as follows:

- Landslide studies: GSI being the Nodal agency of Government of India, carries out Landslide hazard zonation study on macro and meso-scale.
- Geotechnical studies during feasibility, construction and post construction stages of various engineering projects.
- Active fault mapping, earthquakes and seismotectonics.
- Geo-environmental study and Medical geology.
- Glaciological and Polar research studies.
- Crustal evolution, tectonics and volcanism.
- Meteorite and planetary studies: GSI being Nodal agency is responsible for collection, preservation, registration and dissemination of all the Meteorite falls/finds in the Indian territory.
- Isotope geology and geochronology including luminescence dating.
- Palaeobiology and palaeoenvironmental studies.
- Petrology and Gemmology.

These activities of Mission-IV, for techno-administrative purpose, has been broadly divided in to three domains: (1) Mission-IVA comprises of Geotechnical & Geohazards Management, (2) Mission-IVB consists of Climate Change & Eco Systems, Polar Studies, Environmental Geology & Medical Geology and (3) Mission-IVC deals with Fundamental Geosciences and Research.

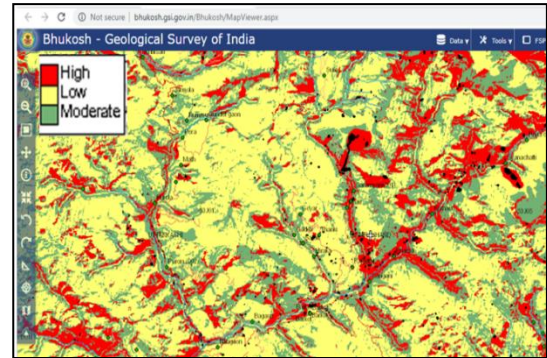
During FS 2022-23, 164 items were taken up under Mission-IV which includes 83 items of M-IVA, 38 items of M-IVB and 43 items of M-IVC. The major activities pursued by GSI in M-IVA centre around developmental and societal issues related to Geotechnical projects, Landslide studies and Seismotectonic studies.

Mission-IVA: Landslide, Seismic and Engineering geology

During FS 2022-23, a total of 83 standard items were executed under M-IVA, of which 46 are landslide related studies, 16 are Seismic studies and 21 are Geotechnical and Engineering Geological Studies.

i. Landslide Studies

During FSP year 2022-23, under landslide study, the research project on 'Development and implementation of regional landslide early warning system at three sites in Darjeeling Himalaya in West Bengal, Nilgiris hills in Tamil Nadu and Rudraprayag district in Uttarakhand' was in continuation of the LANDSLIP project initiated in 2017. As part of its endeavour to expand the prototype framework for a regional landslide early forecasting system in India, GSI issued experimental landslide forecast bulletins during monsoon period on daily basis for Darjeeling and Kalimpong district in West Bengal, Nilgiris district in Tamil Nadu and Rudraprayag district, Uttarakhand. The issuance of bulletin was closed by the end of SW monsoon. The evaluation of the various components of model is under progress by GSI. As per the approved strategy plan, similar LEWS experimentation in 10 landslide prone states will be carried out up to 2025. During 2022-23, projects have been taken up in Himachal Pradesh, Kerala, Karnataka, Sikkim, Assam, Nagaland, Meghalaya and Mizoram. The augmentation of essential infrastructure for establishing a state-of-the-art landslide forecasting facility at GHRM Centre, Kolkata is under progress, which will enable GSI, in near future, to operationalize landslide forecasting in India. In landslide sector, GSI has already prioritized its investigations on meso scale (1:10,000) and site specific (1:1000/2000) scales for generating more detailed scientific inputs for directly using the same in detailed developmental planning and site-specific landslide mitigations. During 2022-23, GSI has taken up 34 meso-scale (1:10k) projects and has also taken up detailed site-specific landslide investigations for five active landslides. Under the National Landslide Susceptibility Mapping (NLSM) program, GSI has completed macro-scale (1:50k) landslide susceptibility mapping for 4.3 lakh sq. km area spreading over 18 landslide-prone States/UTs by March, 2022. GSI has already uploaded the above GIS enabled landslide susceptibility map data of 3.63 lakh sq. km. areas on its Bhukosh map portal (<https://bhukosh.gsi.gov.in/Bhukosh/Public>) for free downloading and use by all stakeholders and the community. The remaining susceptibility map of Arunachal Pradesh (71000 sq.km) will be uploaded by March 2023. Along with the 1:50k landslide susceptibility map, the vital geodata also contains 87,500 landslide incidences as polygons and 30,881 field validated landslides as landslide inventory points with detailed geoparametric attributes. The national level landslide geodatabase of GSI is now also



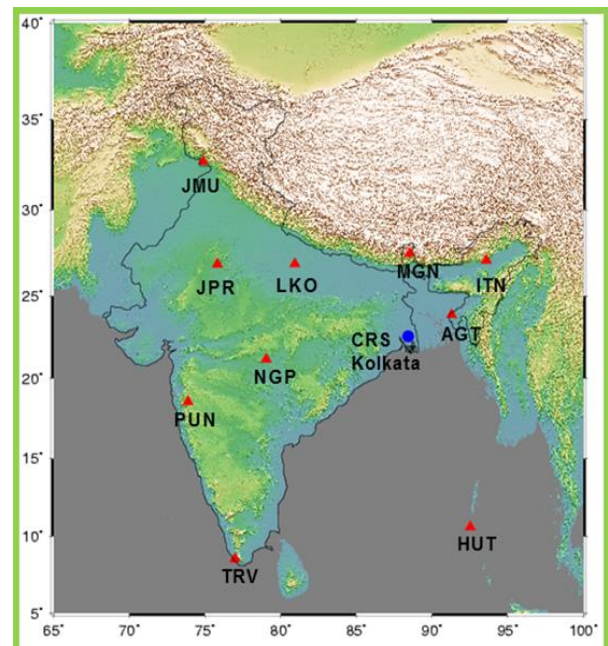
NLSM data in public domain
(<https://bhukosh.gsi.gov.in/Bhukosh/Public>)

mirrored with the GIS map portal services of the National Disaster Management Authority (NDMA) through Web Map Service (WMS) for integrating the same vital geodata with an aim to use it for landslide disaster management plans by different landslide prone States/ UTs. GSI has also undertaken a pilot R&D project on Monitoring of landslide and ground movements using satellite based InSAR and ground based 3D-Terrestrial Laser Scanner (TLS) around Mangan, Sikkim.

ii. Seismic Studies

The Geodynamic Studies Division (GSD) of GSI has installed and commissioned 34 permanent GPS stations at Jammu, Agartala, Itanagar, Mangan, Nagpur, Lucknow, Hutbay (Little Andaman), Jabalpur, Chennai, Shillong, Kolkata, Jaipur, Thiruvananthapuram, Pune, Dehradun, Gandhinagar, Raipur, Bhopal, Chandigarh, Patna, Bhubaneswar, Vishakhapatnam, Aizawl, Zavar, Faridabad, Mangalore, Uttarkashi, Pithoragarh, Chitradurga, Port Blair (South Andaman), Rangat (Middle Andaman), Kuju, Siliguri and Diglipur (North Andaman). At present 34 permanent GPS stations pan-India are active and the obtained data (1Hz and 30Sec RINEX) is being archived in the central server installed at the Geodynamic Studies Division (GSD) and processed using GAMIT/GLOBK/MATLAB to monitor long term crustal movement and establish strain model. GSD is carrying out a campaign mode GPS survey in parts of the Andaman Islands to understand the ongoing crustal deformation and dynamicity of the existing fault system.

Seismo-Geodetic Data Receiving and Processing Centre (SGDRPC) is operating real time Seismo-geodetic data receiving and processing with its Central Receiving Station at CHQ, Kolkata. Ten (10) Broadband Seismo-geodetic observatories which were established at Jammu, Agartala, Itanagar, Mangan, Nagpur, Jaipur, Lucknow, Pune, Thiruvananthapuram and Hutbay (Little Andaman) became fully operational. SGDRPC has planned to augment this network with another 25 observatories and the procurement process is underway. The SGDRPC division is in close liaison with GSD and providing the seismo-geodetic data and integrated analysis whenever necessary for tectonic vis-à-vis geologic interpretations and an integrated analysis. Presently the Detailed Seismological studies and regular monitoring, acquisition and processing of seismo-geodetic data in real-time mode is in progress. Detailed Micro-Earthquake (MEQ) survey in parts of North Bihar is going on to understand the seismicity pattern, nature and distribution of seismogenic sources.



Broadband Seismo-geodetic observatories of GSI



One multidisciplinary research project titled "Geological, Geophysical, Geotechnical and Geothermal investigation in and around Shri Badrinath Dham Temple Precinct Development area" has been completed and the report shared with the stakeholder.

(iii) Engineering Geology (EG)

The geotechnical/EG studies have always been a forte of GSI. Numerous mega infrastructure projects have been executed by GSI since decades. GSI's expertise in geotechnical/EG projects for the construction of major dam, hydel power, reservoir projects of India, Nepal, Bhutan is well known. The projects related to irrigation canals, roadways, railways, tunnels etc. are also taken up through MoUs/MoAs/collaborations with various sponsoring agencies. The Engineering Project Evaluation (EPE) Division, DGCO New Delhi is the Appraising agency which evaluates and appraises the "Geological and Geotechnical Aspects" of the Detailed Project Reports (DPRs) / Survey and Investigation Reports of major hydroelectric and multi-purpose projects, costing more than 1000 Crore, provided by the developer through Central Electricity Authority (CEA).

Following the new Guidelines of DPR appraisal, in current FSP 2021-22, EPE division has received survey & investigation (S&I) stage reports of 12 projects for appraisal. Out of that, 5 reports are from pumped storage projects (PSP) and rest are hydroelectric/multipurpose projects including one located in Nepal. 1st observation on geological aspect for 08 nos. of projects received in this FS has been submitted to CEA and the respective developers. 2nd observation for two projects and 3rd observation for 01 project has been submitted to CEA and the developer.

Final clearance (FC) for Gandhi Sagar PSP (1440 MW) in M.P and Conditional clearance (CC) for Lower Arun HEP, Nepal (669 MW) have been given. Interaction Meeting for 22 no. of projects were held with the developers of various projects at New Delhi. Comments on the Draft report on Brahmaputra Basin and Indus Basin have been submitted to CEA. Field visit for 4 nos. of project have been carried out. Notes on field inspection visit to Arun-III HE Project (900 MW), Nepal, Chitravathi PSP (500 MW) and Gandikota PSP (1000 MW), Andhra Pradesh and Dulhasti Stage-II HEP (260 MW), Kishtwar district, Jammu and Kashmir was submitted to CEA & respective developer.

Mission-IVB: Glaciology, Quarternary geology, Medical geology, Polar studies and Environment

In FS 2022-23, under sub-mission IVB, a total of 38 items were taken up including 3 projects in glaciology, 6 project in polar studies 5 projects in Quaternary Geology and 24 projects in Environmental Geology.

Glaciology projects are being pursued to study the recessional pattern and mass balance of the glaciers in Higher Himalayas, to identify the potential areas for high Glacial Lake Outburst Flood (GLOF) risk and update the inventory of Himalayan glaciers. Polar researches are mainly devoted to Ice Sheet Dynamics, both in Arctic and Antarctic, with special reference to climate change. In the Antarctic region, study of hard rock geology and thematic mapping of the Archaean-Precambrian terrains are being carried out. For FS: 2022-23 GSI official has been chosen as the Voyage Leader for the 42nd Indian Scientific Expedition to Antarctica comprising multiple research agencies/dept. The study area for this project are around South of Schirmacher Oasis, Wohlthat Mountain and Larsemann Hills in East Antarctica. The work being carried out is mainly to monitor the health of the glaciers and to study the patterns of their recession/advancement, accumulation/ablation and mass balance. The work also encompasses monitoring of the glacier snout and glacier dynamics and attempt to calculate influx and outflow of ice from the catchment area of the region.



Indian Research Base-Bharati, Larsemann Hills, East Antarctica

Under the public good geosciences and societal cause projects, geogenic contamination of surface/ sub-surface water with Arsenic (As), Fluoride (F), Lead (Pb) and other toxic elements are being studied under Environmental Geology programs in Nagaland, Meghalaya, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Andhra Pradesh and Rajasthan.

Mission-IVC: Fundamental and Multidisciplinary Geoscience and R&D

Under M-IVC, the fundamental research in three principal branches of geosciences viz., Petrology, Palaeontology and Geochronology & Isotope Geology is being carried out. The other branches are Meteorite and Planetary sciences, Gemmology, Himalayan Geology, Volcanology, Quaternary geology and Experimental petrology. R&D infrastructure in the form of National Centre of Excellence in Geoscientific Research (NCEGR) situated in Kolkata, Bengaluru and Delhi NCR (Faridabad) is spearheading high-quality research in diverse fields of geology utilizing state of the art instrumentation and through formation of several expert research groups. A total of 43 items, under this sub-mission during FS 2022-23, were taken up including 19 projects in Petrology, 16 projects in Palaeontology, 3 projects in Geochronology and isotope geology, 2 projects in Meteorite and Planetary Science and 2 projects in Himalayan geology and 1 project in Experimental Petrology.

GSI is carrying out several research projects with an idea to augment the mineral resources of the country. Major thrust has been on genesis of ore mineralisation, in particular REE/RM, gold mineralisation, chromite/PGE mineralisation, sulphide mineralisation etc. from different mineral belts of India. The data generated from the four EPMA and four SEM-EDX Laboratories have been utilized in these Mineral Exploration Projects.



GSI's Meteorite Repository, Kolkata

Palaeontology research projects have emphasised on studying diversity changes during Event Boundaries in microfossils and different fossil groups of invertebrates, vertebrates, palynomorphs. Research Projects were focussed on study of fauna from marine and terrestrial strata of peninsular India to ascertain the correlation between major geological/tectonic events and palaeoclimatic conditions, marine & terrestrial environmental changes leading to biodiversity evolution, extinction events within and across Cretaceous, study of Permian marine fauna from the Tethyan realm in Spiti and Arunachal Himalaya and its implication on global palaeobiogeography.



GSI has been declared as the Nodal agency and curator of all Meteorite Falls and Finds within the Indian Territory. Two research projects have been taken up by Meteorite & Planetary Science Division (MPSD) in 2022-23; one on high pressure phases and shock-induced microstructures in shock melt veins of ordinary chondrites to understand their possible thermal and shock history. The other on suspected meteorites induced impact craters in Ramgarh, Rajasthan and Luna, Gujarat to understand and categorise shock metamorphic effect. The Gemology Laboratory, NCEGR, Kolkata is extending paid (as per SoC) services to public in identifying purity of gems and precious stones including diamond.

Out of 164 standard items, carried out during FS 2022-23, outcome of 82 items would have direct societal benefits and 14 projects exclusively taken as R&D items for aiding/boosting the mineral exploration activities of GSI.

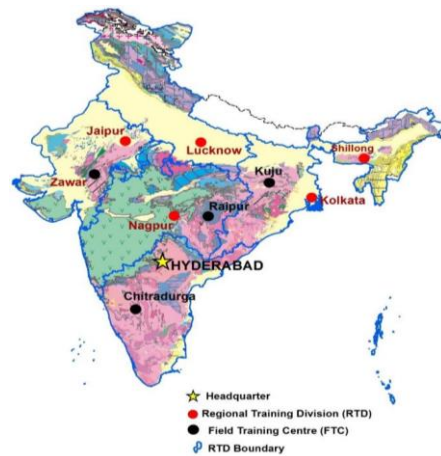
Mission-V activities: Training & Capacity Building

Geological Survey of India Training Institute (GSITI) was established during 1976 and Geological Survey of India Training Institute (GSITI) was established in 1976 and has been functioning under the Ministry of Mines. Since 2018, as per the directive of the Ministry of Mines, GSITI has been operating from 9 training sites across India. These are 1) Hyderabad, 2) Nagpur, 3) Lucknow, 4) Kolkata, 5) Shillong, 6) Zavar-Jaipur, 7) Chitradurga (Karnataka), 8) Kuju (Jharkhand) and 9) Raipur (Chhattisgarh). Hyderabad Center is designated as Headquarters for all other eight centres and it has specialized Divisions for Laboratory and Classroom training.

Sl. Nos. 2 to 6 are Regional Training Divisions (RTDs), located at respective Regional Offices, conduct training programmes in coordination with Hyderabad Headquarters. Region-specific training courses of the Southern Region are catered by Hyderabad Center.

As a capacity building and human resource development measure, the GSI Training Institute imparts various types of training to the geoscientists of GSI keeping pace with the latest development and trends in earth sciences and priorities of the department. Administrative/Management courses for the departmental personnel are being conducted in collaboration with the reputed Management Institutes of India. Besides, GSI has taken a major initiative in capacity building of the state DGMs, PSU, Universities/Institutions and other earth science organizations of the country. International geoscientists are also being trained in the two fields viz. 'Remote Sensing and Digital Image Processing' and 'Geographic Information System' under the aegis of Indian Technical and Economic Cooperation (ITEC) sponsored by the Ministry of External Affairs, Govt. of India. The Institute regularly conducts programmes sponsored by ISRO (Indian Space Research Organisation) as National Natural Resources Management System (NNRMS) programmes. Besides, GSITI conducted training for officials of the Oil and Natural Gas Corporation (ONGC) on a payment basis.

The Training Institute's prime activity remains to conduct Induction-level training programmes for Group A and Group B officers of Geology, Geophysics, Chemistry and Engineering streams. In addition, need-based basic, refresher and advanced courses for in-service scientific and technical personnel are being conducted. With the recent emphasis on skill and capacity development and in consonance with the National Training Policy 2012, the Training Institute has initiated Induction-level training programmes for Administrative and other streams, mid-career training as mandatory promotion-linked programmes for all personnel in the technical and non-technical streams of GSI.



Location of RTD and FTC of GSI Training Institute

During FS 2022-23, 137 (One hundred and thirty-seven) programmes have been conducted by GSITI till December 2022. A cumulative of 7422 participants attended the training programmes which includes 2825 participants from GSI, 15 from overseas countries, 112 from various State DGMs, 250 from other organizations (state/central PSUs etc.), and 4220 from various academic institutions.

Under the aegis of *Azadi Ka Amrit Mahotsav* (the 75 week-long celebrations in commemoration of the 75 years of India's Independence), a total of 65 training programmes was conducted, which accommodated 4220 students, research scholars and faculty from different Universities/Colleges.

2.2 Activities in the International arena

The activities of international Affairs of the Geological Survey of India (GSI) continued in FS: 2022-23 by way of interaction with international scientific organizations/bodies and foreign agencies through active involvement in collaborative programmes and scientific projects. During the current period, GSI has been collaborating with other countries for knowledge sharing and technology upgradation and maintained continuous correspondence and communication with ministry for possible areas of new cooperation with different countries.

1. Bilateral Collaborative Activities:

GSI continued its participation in bilateral cooperation and collaborative programs with other countries on several geoscientific disciplines for mutual benefits. Activities are being taken up as per the signed Memorandum of Understandings (MoUs) with various countries.

A. Existing MoUs

i) JOINT STOCK COMPANY ROSGEOLOGIA (ROSGEO):

GSI has signed MoU with JOINT STOCK COMPANY ROSGEOLOGIA (ROSGEO) on 01.12.2021 for three years. Two interactive online meetings were held under the MoU with representatives of Joint Stock Company, ROSGEOLOGIA (ROSGEO) on 20th January 2022 and 14th February 2022. The discussions were held regarding possible cooperation in field of mineral exploration including offshore exploration, geophysical survey, including machine learning, data acquisition, training and capacity building of two organizations and techno-commercial aspects for project implementation etc.



Glimpse of the second interactive meeting between GSI officers and representatives of Joint Stock Company, ROSGEOLOGIA (ROSGEO)



ii) Florida International University (FIU), USA:

GSI has signed a MoU with Florida International University (FIU) on 06.10.2021 for three years. A Collaboration Agreement (CA) was also signed on 18.11.2021 among Geological Survey of India (GSI), Florida International University (FIU) and University of Florida (UF) under the same MoU. Joint fieldwork between FIU scientist (Prof. Neptune Srimal) and GSI officers were undertaken in the Ladakh UT between 21 July and 18 August 2022 and in Arunachal Pradesh between 22 November and 23 December 2022 under the MoU.

iii) Geological Survey of Finland:

A MoU between the GSI, Ministry of Mines of the Republic of India and the Geological Survey of Finland (GTK), Finland was signed on 3rd December, 2020. The MoU envisages cooperation in the field of Geology and Mineral Resources for an initial period of five years. Consequently, two online meetings were conducted between GSI and GTK officials.

iii) Brazil:

A MoU between Geological Survey of India, Ministry of Mines of the Republic of India and Geological Survey of Brazil - CPRM, Ministry of Mines and Energy of the Federative Republic of Brazil on cooperation in the field of Geology and Mineral Resources was signed on 25.01.2020 for five years. Two virtual meetings have been conducted on 30th August 2021 and 29th September 2021 for discussion of possible collaboration.

iv) British Geological Survey (BGS), UK:

A MoU between the Geological Survey of India of the Ministry of Mines of the Republic of India and the British Geological Survey of the Natural Environment Research Council of UK concerning Technical Cooperation in the field of Earth Sciences, Mineral Prospecting and Disaster Management was signed on 01.08.2017 for four years. The MoU has been extended for another four years w.e.f. 01.08.2021. Under the ambit of MoU, an implementing arrangement (IA) on Landslide Multi-Hazard Risk Assessment, Preparedness and Early Warning in South Asia: Integrating Meteorology, Landscape and Society – LANDSLIP was signed on 1st August 2017 for four years by both GSI and BGS for capacity building and technological upgradation of GSI.

v) Geoscience Australia (GA):

MoU between GSI and Geoscience Australia on scientific and technical cooperation was signed **on 01/09/2015** for five years initially, thereafter, it was extended automatically for a subsequent period of five years i.e. the same MoU is valid up to **31/08/2025**. Two Term of Reference (ToR) was signed with an objective to develop

a road map to configure methodologies to be adopted, capacity building, technological upgradation and modernization of equipment so as to upgrade functioning of GSI. Five workshops and two secondments have been successfully completed under the said ToRs.



Glimpse of the meeting between Geological Survey of India and Geoscience Australia

B. New Agreements:

- i) **ToR between GSI and Geoscience Australia (GA)** signed on **11/10/2022** to continue the collaboration with GA as well as enhancing the experience on mineral exploration.
- ii) **Extension of MoU with SJVN Limited on construction stage geotechnical services for Arun-3 HEP, Nepal** signed for a further period of one-year w.e.f. 16th day of June 2022 to 15th day of June 2023.



Dr. S Raju, Director General, GSI signing the Term of Reference (TOR) under MoU between GSI and Geoscience Australia

- iii) **MoU with SJVN on Hydroelectric Projects in Nepal** was signed on 7th September, 2022 through virtual mode.

2.3 Central Geological Programming Board:

To ensure synergy and close co-ordination between GSI, stakeholder Ministries/ Organizations and State Geological Departments, a mechanism was evolved for



formulation and detailing of the programmes in the Geological Survey of India in particular and earth science arena in India as a whole. This would avoid duplication of work in different earth science organizations. The principal mechanism for this is the Central Geological Programming Board (CGPB). The CGPB was established through Government of India Resolution dated 27 July, 1966. It was primarily constituted to co-ordinate activities on geological mapping and mineral prospecting, exploration and exploitation in the country, with the GSI as the nodal department and the State Geology and Mining Departments and Central Government institutions as the participating members. Subsequently, to complement the activities of the CGPB, State Geological Programming Boards (SGPB) were constituted in the States to co-ordinate geoscience activities within the State and to interface with the CGPB and GSI. As per National Mineral Policy (NMP), 2008 GSI was declared the principal agency for geological mapping and regional mineral resources assessment of the country. The emergence of a large number of newly established Central and State level organizations as well as research institutions in the scientific sector necessitated revamping of the CGPB mechanism. It was accordingly decided to reconstitute the CGPB and its Subcommittees and to provide better coordination between Central and State level stakeholders by encouraging the regular functioning of State Geological Programming Boards (SGPB). Accordingly the CGPB was revamped through a Resolution No. 4[2]97-M.I dated 12 March, 2009, wherein it is the trustee of GSI's new Charter. The CGPB is now supported by 12 Committees for the various themes and recommendations which are taken into account during formulation of programmes. SGPB is the forum where threadbare discussions are held on the issues of urgency and necessity of the investigations. GSI while formulating its annual programme pays utmost importance in the recommendations of the SGPB meetings to the extent possible subject to availability of resources. Apart from State Governments, many public sector undertakings, private entrepreneurs also submit their request from time to time.

Status of SGPB Meeting for the year 2022-2023

Sl.No.	Name of State	Date of Meeting	Minutes Received Status
1.	Andhra Pradesh	7-12-22	YES
2.	Arunachal Pradesh	10-6-22	YES
3.	Assam	30-11-22	YES
4.	Bihar	28-06-22	YES
5.	Chhattisgarh	29-09-22	YES
6.	Goa	-	-
7.	Gujarat	10-08-22 & 23-08-22	YES
8.	Haryana	17-06-22	YES
9.	Himachal Pradesh	12-09-22	YES
10.	Jammu and Kashmir	28-10-22	YES
11.	Jharkhand	17-08-22	YES
12.	Karnataka	29-09-22	YES
13.	Kerala	30-08-22	YES
14.	Madhya Pradesh	05-09-22	YES



15.	Maharashtra	29-08-22	YES
16.	Manipur	14-09-22	YES
17.	Meghalaya	-	-
18.	Mizoram	19-08-22	YES
19.	Nagaland	28-07-22	YES
20.	Odisha	27-07-22	YES
21.	Punjab	09-11-22	YES
22.	Rajasthan	-	-
23.	Sikkim	-	-
24.	Tamil Nadu	11-08-22	YES
25.	Telangana	-	-
26.	Tripura	12-04-22	YES
27.	Uttar Pradesh	22-09-22	YES
28.	Uttarakhand	20-12-22	No
29.	West Bengal	25-08-22	YES
30.	Ladakh	11-01-23	No

2.4 Financial Performance of GSI during last three financial year

After completion of the XII Plan period, the distinction between Plan and Non-Plan fund was abolished and accordingly from the F.Y. 2017-18, GSI started activity-wise budget allocation under revenue and capital heads.

FY 2020-21:

During FY 2020-21, GSI received budget grant of Rs. 1349.98 crore (Rev. Rs. 1241.68 crore & Cap. Rs. 108.30 crore) and accordingly GSI made activity-wise fund allocation for carrying out all activities. Out of the revenue grant of Rs. 1241.68 crore, an amount of Rs. 884.62 crore was allotted for establishment & Administrative Support Activities expenditure and remaining revenue grant of Rs. 357.06 crore was allotted for all mission activities of GSI. The capital grant of Rs. 108.30 crore has been allotted for modernization & replacement. Compared to FY 2019-20, BE grant in Survey & Mapping head has been increased to meet the obligatory outstanding payments of 3rd quarter in part and 4th quarter in full to SCI for the operational and maintenance charge of vessels for the F.Y. 2019-20.

At RE stage, the budget grant was reduced to Rs. 1116.24 crore and accordingly allocations under different object heads were revised keeping in view of their changed requirements / priorities (Rev. Rs. 1063.82 crore & Cap. Rs. 52.42 crore).

Following the financial guidelines of MoF, GSI was permitted to utilise only 15% of the BE grant in 1st and 2nd quarters to meet the committed establishment expenditure as well as expenditure for other activities considering the COVID-19 pandemic. GSI had taken necessary steps to execute bulk of the activities as MoF has relaxed financial restriction for rest of the financial year and GSI could utilize Rs.1110.94 crore which amounts to 99.53% of the total RE allocation. GSI could optimally utilized the fund for successful completion of projects under various missions during FY 2020-21.



FY 2021-22:

During FY 2021-22, GSI received budget grant of Rs. 1181.58 crore (Rev. Rs. 1115.68 crore & Cap. Rs. 65.90 crore) and accordingly GSI made activity-wise fund allocation for carrying out all activities. Out of the revenue grant of Rs. 1115.68 crore, an amount of Rs. 817.68 crore was allotted for establishment & Administrative Support Activities expenditure and remaining revenue grant of Rs. 298.00 crore was allotted for all mission activities of GSI. The capital grant of Rs. 65.90 crore was allotted for modernization & replacement. Compared to RE grant of FY 2020-21, BE grant of FY 2021-22 in mineral exploration and Research & development heads were substantially increased due to enhanced activities. Further, the allocation under Establishment and Administrative expenditure heads were also increased due to escalation in the committed expenditure.

The BE grant of FY: 2021-22 was distributed to all regional/operational office for execution of all activities for FS 2021-22 and initiatives was taken for optimum utilization of the fund. However, Ministry of Finance (MoF) vide its OM No. 12(13)-B (W&M) /2020 dated 30th June, 2021 restricted the overall expenditure of GSI within 20% of the BE-2021-22 during the 2nd quarter (July to September, 2021) of FY-2021-22 considering the prevailing situation arising out of COVID-19. However, against the restriction of 20% of BE-2021-22 an additional amount of Rs.64.21 crore over and above 20% was provided for utilisation during the 2nd quarter of FY-2021-22 and GSI could utilised 100% of the total budget provided during the 2nd quarter of FY-2021-22. At RE stage, the budget grant was reduced to Rs. 1174.78 crore (Rev. Rs. 1123.48 crore & Cap. Rs. 51.30 crore) with overall reduction of Rs. 6.80 crore. However, an amount of Rs. 4.40 crore was re-appropriated by MoM from RE Revenue grant. Hence Rs. 1170.38 crore (Rev. Rs. 1119.08 crore & Cap. Rs. 51.30 crore) was the final grant available with GSI for all activities of FY 2021-22. In view of reduction of fund, GSI had judiciously reallocated fund for different activities under Revenue and Capital heads with an aim to achieve physical targets for F.S.2021-22 with optimum utilisation of the fund.

GSI could utilize Rs.1166.54 crore which amounts to 99.67% of the total RE allocation. In spite of challenge caused by Covid19 pandemic 2nd and 3rd wave, with sincere effort from all corners, GSI could achieve the FS target with optimum utilization of the fund as per Field Season Programme.

FY 2022-23:

During FY 2022-23, GSI received Budget Estimate (BE) grant of Rs. 1205.17 crore (Rev. Rs. 1147.67 crore & Cap. Rs. 57.50 crore) and accordingly GSI made activity-wise fund allocation for carrying out all activities.

Out of the revenue grant of Rs. 1147.67 crore, an amount of Rs. 868.47 crore was allotted for establishment & Administrative Support Activities expenditure and remaining revenue grant of Rs. 279.20 crore was allotted for all mission activities of GSI. The capital grant of Rs. 57.50 crore has been allotted for modernization & replacement. Compared to RE grant of FY 2021-22, BE grant of FY 2022-23 in survey & mapping and Research & development heads were substantially increased due to



enhanced activities. Further, the allocation under Establishment and Administrative expenditure heads were also increased due to escalation in the committed expenditure. At BE stage, the fund allocations under different object heads were done keeping in view of their requirements / priorities and the fund has been distributed to all regional/operational office for execution of all activities for FS 2022-23.

At RE stage, the budget grant was increased to Rs. 1251.91 crore. Further, an additional amount of Rs. 2.05 crore (SCSP- Rs. 1.35 crore and TSP- Rs. 0.70 crore) has been provided to GSI vide IFD re-appropriation dated 16.12.2022 over BE/RE 2022-23. Hence the total available fund with GSI is increased to Rs. 1253.96 crore (Rev. Rs. 1196.46 crore & Cap. Rs. 57.50 crore) with increase of Rs. 48.79 crore compared to BE grant. The additional fund received will be utilized to meet the enhanced expenditure in the activities of GSI under Survey & Mapping, mineral exploration and establishment expenditure heads. The overall utilisation of the fund is Rs. 1026.30 crore (81.85%) including minor works authorization of Rs. 24.01 crore to MoUD till December, 2022.

The Year-wise, Activity-wise financial performance of GSI against the approved budget outlay during the last two financial years (2020-21 & 2021-22) and BE / RE Grants along with expenditure for current financial year (2022-23) till December, 2022 is presented in Table-I.

Table-I: Year-wise and activity-wise financial performance of GSI during FS 2020-21, 2021-22 and current FS 2022-23 upto December, 2022

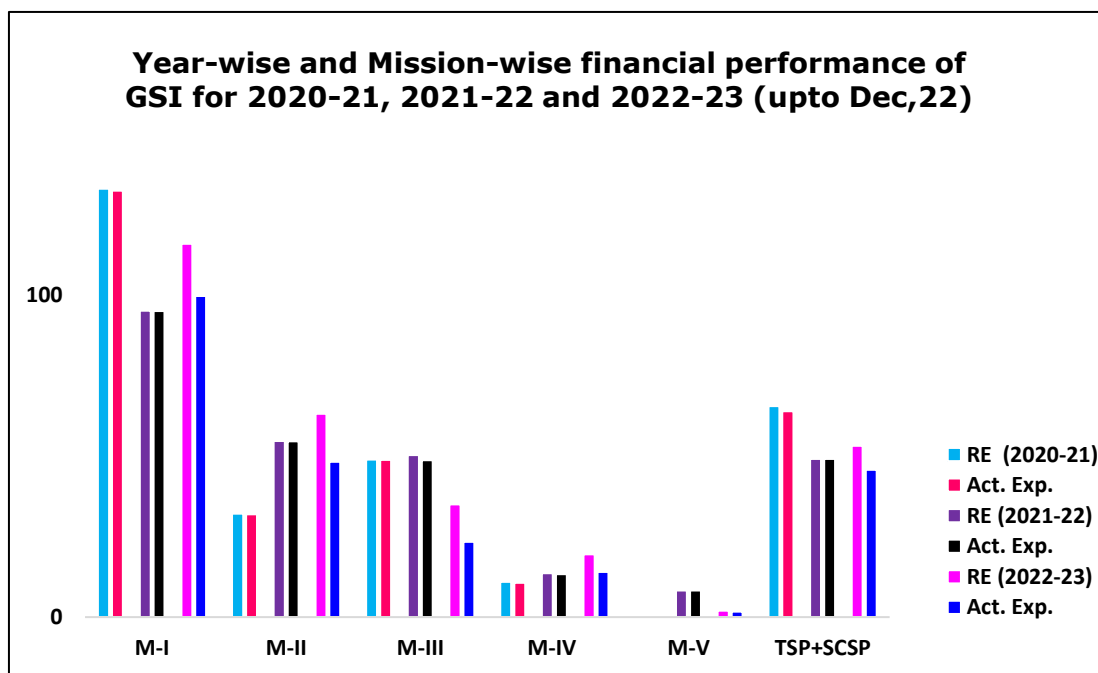
Activity (Mission)	2020-21			2021-22			2022-23		
	BE Grant	RE Grant	Actual Expend.	BE Grant	RE Grant	Actual Expend.	BE Grant	RE Grant	Actual Expend. (up to Dec,22)
Survey and Mapping (M-I)	149.00	132.85	132.28	131.40	95.00	94.93	108.92	115.75	99.58
Mineral Exploration (M-II)	43.00	32.05	31.91	51.00	54.60	54.47	52.70	63.00	48.15
Information Dissemination (M-III)	77.26	48.85	48.73	56.60	50.20	48.68	45.50	35.00	23.32
Special Investigation & Antarctica (M-IV)	2.50	1.99	1.91	2.40	3.05	2.97	3.48	3.08	2.10
Research & Development (R&D) (M-IV)	17.80	8.95	8.71	12.60	10.55	10.38	15.50	16.37	11.93
Human Resource Development (HRD) (M-V)	3.30	0.60	0.60	2.00	8.30	8.30	2.00	2.00	1.68
TSP	22.00	23.23	23.14	14.40	17.50	17.48	20.00	20.70#	14.54
SCSP	42.20	42.20	40.69	27.60	31.56	31.55	31.10	32.45#	31.17
Administrative Support Activity+	111.90	84.50	82.78	94.97	88.61	87.54	99.86	90.26	81.03



Minor Works (ASA)									
Establishment Expenditure (EE)	772.72	688.60	688.47	722.71	759.71	759.28	768.61	817.85	681.50
Total Revenue	1241.68	1063.82	1059.22	1115.68	1119.08	1115.58	1147.67	1196.46	995.00
Capital (Modernization & Replacement)	108.30	52.42	51.72	65.90	51.30	50.96	57.50	57.50	31.30
Total (Rev. + Capital)	1349.98	1116.24	1110.94	1181.58	1170.38	1166.54	1205.17	1253.96	1026.30
% of Fund Utilisation against RE in GSI			99.53%			99.67%			81.85%
Rev. Fund re-appropriated by MOM from RE grant	-	-		-	4.40*				
Total (Rev + Capital)	1349.98	1116.24	1110.94	1181.58	1174.78	1166.54	1205.17	1253.96	1026.30

*An amount of Rs.3.00 crore under IT (OE) and Rs.1.40 crore under Mission-II- Other Charges Head was re-appropriated by the Ministry vide re-appropriation Order dated 18.01.2022 from RE-2021-22 (Rs.1174.78 crore)

Total RE grant received Rs. 1251.91 for FY 2022-23. An additional amount of Rs. 2.05 crore (SCSP- Rs. 1.35 crore and TSP- Rs. 0.70 crore) has been provided to GSI vide IFD re-appropriation dated 16.12.2022 over BE/RE 2022-23.



2.5 Programme under execution in 2022-23:

A total of 1084 regular coded items (Mission –I to Mission –V including additional items taken up during ongoing field season) were under execution in FSP 2022-23. The breakup of the items as per Mission / Scheme is given in the **Table-II** and shown in Fig. 2.

Table II: Mission wise programmes of FS 2022-23

Sl.	Mission	Scheme / Activity	No. of items
1.	Mission-I (Baseline Geoscience Data Generation)	Survey & Mapping	388
2.	Mission-II (Natural Resource Assessment)	Mineral Exploration	322*
3.	Mission-III (Geoinformatics)	Information & Dissemination	62
4.	Mission-IV (Fundamental Geoscience, Multidisciplinary and special studies)	Specialised Investigation Research & Development & other Exploration (Polar studies)	164
5.	Mission-V (Training & Capacity building)	Human Resource Development	147
TOTAL		Grand Total	1083

* Includes 15 Marine Mineral Investigation items.

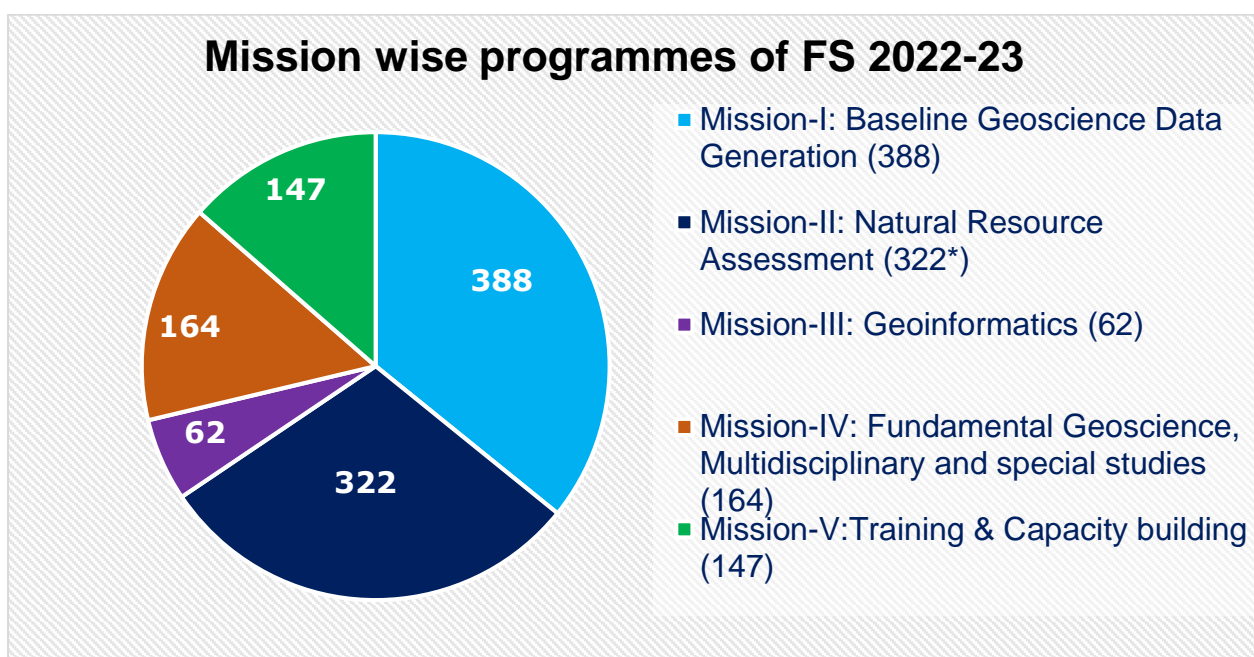


Fig. 2. Mission wise programmes of FS 2022-23

* Includes 15 Marine Mineral Investigation items



2.6 Budget Grant of GSI: FY 2023-24

GSI demanded for Rs. 1435.26 crore (Rev. Rs. 1323.26 crore & Cap. Rs. 112.00 crore) in the for FY 2023-24 considering fund requirement for continuation of all activities of GSI including administrative and establishment expenditure and the committed expenditure of FY 2023-24. However, in BE stage GSI has been allotted a total budget grant Rs. 1308.60 crore (Rev- Rs. 1236.50 Cr. & Capital- Rs. 72.10 Cr.) for FY 2023-24. Out of this total allotted budget grant of Rs.1308.60 crore, Rs. 65.30 crore has been allotted for all activities of NER. The allotted outlay for Establishment Expenditure is Rs.836.50 crore and Rs.105.30 crore for administrative support activities & other expenditure. The allotted outlay for GSI Mission (I to V) activities is Rs.294.70 crore and Capital outlay is Rs.72.10 crore for modernization & replacement including ICT activities of GSI. The activity-wise budget outlay as per approved BE 2023-24 is presented in Table-II.

Table-III: Activity-wise budget outlay for FY 2023-24

Activity	Mission & Support Systems	Activity-wise BE 2023-24 (in Rs. crore)
Survey & Mapping	Mission I	135.00
Mineral Exploration	Mission II	63.00
Information Dissemination	Mission III	23.60
Special Investigation & Antarctica	Mission IV (A&B)	3.50
Research & Development	Mission IV C	16.50
Human Resource Development	Mission V	2.10
Tribal Sub Plan (TSP)	Mission Activity of I,II,IV &V	17.50
Scheduled Caste Sub Plan (SCSP)	Mission Activity of I,II,IV &V	33.50
Administrative Support Activity & Other Expenditure (DTE, FTE, Office Expenses, Rents, Rates and Taxes, Professional Services, Material & Supplies, Advertising & Publicity, Minor civil & electrical works, other revenue expenditure)	Administrative Support Activity (ASA)	105.30
Establishment Expenditure [Salary, Allowances, LTC, Wages, rewards, medical treatment]	Establishment Expenditure (EE)	836.50
Revenue (Total)		1236.50
Modernisation & Replacement (Capital) [Motor Vehicle, Machinery & Equipment, Information, computer, telecommunication (ICT) equipments, furniture & fixture]	S & T Support System	72.10
Grand Total (Revenue + Capital)		1308.60



Activity-wise details of budget allocation in FY 2023-24 are summarized below-

- Under 'Survey & Mapping' head, an amount of Rs. 135.00 crore has been allocated for Mission I activities of GSI including operation and maintenance of three GSI vessels for 2023-24 to Shipping Corporation of India (SCI), operation & maintenance of the TOASS airborne Survey System and execution of ground survey projects e.g. Specialized Thematic Mapping (STM), Geochemical Mapping (GCM), Geophysical Mapping (GPM) etc.
- Under 'Mineral Exploration' (Mission-II), an amount of Rs 63.00 crore has been allocated for execution of the mineral exploration programmes of GSI including payment towards outsourced drilling. Every year GSI is taking up G4, G3 and G2 stage exploration programmes (as per UNFC) with a view to augment resources for various mineral commodities including energy minerals (coal & lignite) in different parts of the country.
- Under 'Information & Dissemination' (Mission-III), Rs 23.60 crores has been allocated in which Rs. 3.00 crore has been allocated for printing & publication of journals, maps, reports etc. and Rs. 20.60 crore has been allocated for payments related to the operation / maintenance of OCBIS and other miscellaneous activities under IT in all offices of GSI.
- Under Mission-IV, an amount of Rs. 20.00 crore has been allotted to 'Specialized investigation & polar studies in Antarctica' (Mission-IVA&B) and 'Research & Development' (Mission-IVC) heads. Out of the total budget, Rs. 3.40 crore has been allotted for multidisciplinary specialized investigations, Rs. 0.10 crore has been allotted for polar studies in Antarctica and Rs. 16.50 crore has been allotted for Research and development activities of GSI.
 - Under 'Research & Development' head, fund has been provisioned for taking up fundamental research and development programmes, AMC of the laboratory instruments and equipment of GSI and also for the expenditures towards procurement of laboratory consumables.
 - Under 'Specialized Investigations' & 'other exploration (Antarctica)' heads funds have been provisioned for execution of field work of geotechnical investigation on societal issues, landslide studies, seismological studies, environmental studies, climatology, glaciology etc. and expedition to Antarctic, Arctic regions, miscellaneous expenditure related to AMC and maintenance of seismic and Geo-technical laboratories.
- Under 'Training (Human resource development)' head (Mission-V), Rs. 2.10 crore has been allocated for carrying out various training courses e.g. orientation courses, thematic refreshers course, promotion linked training programme for capacity building of GSI personnel as well as geoscientists from other geological institutes including foreign nationals.
- As per the mandatory guidelines of Government of India, Rs. 17.50 crores has been allocated under 'Tribal area Sub Plan (TSP)' head and Rs. 33.50 crore has been allocated under 'Scheduled Caste Sub Plan (SCSP)' head for welfare service to the ST/SC people indirectly by utilization of the funds under mandated Mission-I, II, IV



- & V field activities falling in scheduled tribe and Scheduled cast dominated areas in different parts of the country.
- Under 'Modernisation & Replacement' head, capital grant of Rs. 72.10 has been allocated out of which Rs. 2.00 crore has been allocated for procurement of motor vehicles to carry out field activities, Rs. 55.00 crore for procurement of machinery and equipment to improve the capabilities in the field as well as GSI laboratories with an aim to generate quality earth science data contemporary in nature, Rs. 15.00 crore for procurement of information, computer and telecommunication (ICT) equipments for digital transformation of GSI's activities and Rs. 0.10 crore for procurement of furniture and fixtures.
 - Under 'Administrative Support Activities (ASA)' head, Rs. 105.30 crore has been allocated out of which Rs 73.00 crore has been allocated to meet the expenditure on domestic & foreign travel expenses, office expenses, rent, rates and taxes for land & building, professional services and Rs. 32.30 crore has been kept under 'Other Expenditure' head which includes minor civil & electrical works and repair & maintenance of different GSI buildings, supply & material, advertisement & publicity and other revenue expenditure.
 - Under 'Establishment Expenditure (EE)' head, a total of Rs.836.50 crore has been allocated out of which Rs. 500.00 crore has been allocated under Salary head, Rs. 300.00 crore for allowances, Rs. 10.00 crore for leave travel concession and remaining fund has been allocated for various establishment expenditures such as wages, rewards, medical treatment.
 - During FY 2023-24, New Object Heads has been implemented by the Ministry of Finance, Department of Expenditure vide Gazette Notification dated 16th December 2022 where nomenclature of various object heads and code has been changed which are effective from 1st April 2023. Further, separate object heads have been created for salary, allowances and LTC under establishment expenditure and procurement of ICT equipment's is provisioned in Capital head which was earlier kept in Information and Dissemination (Mission-III) head as revenue expenditure.



Chapter-3

Annual Programme Proposal of GSI FS 2023-2024 at a Glance

While formulating the **Annual Programme of GSI FS 2023-24** in addition to elaborate departmental exercises and a series of reviews including Internal Peer Review of 100% programmes and External Peer Review of 20% programmes, the following factors have been considered:

- Outcome Budget document of GSI submitted to the Govt.,
- Government policies and directives; suggestions and guidelines,
- Recommendations and requests made by stakeholders,
- CGPB follow up and Committees of CGPB recommendations,
- State Geological Programming Board (SGPB) recommendations

The programme are initially formulated at Divisions/ Projects taking clues and ideas from National Missions and Regional Missions who are think tanks. Region wise targets for different Missions were set by PSS as policy requirements. The programmes were scrutinized and approved at Regional and Heads of the various Mission levels. Subsequently, **Internal Peer Review** of 100% programme takes place at Central Headquarters through video conferencing with elaborate scrutiny and discussion between Regions, Missions and PSS and finally GSI's programme documents are drafted. Thereafter, **External Peer Review** of 20% of the proposals were done by external experts and eventually after incorporating all modifications the programme are placed in the CGPB for discussion.

GSI takes up programmes at the request of State Governments directly, or as an outcome of SGPB meetings or CGPB Committee meetings. State wise distribution of such programmes taken up (**20 nos.**) is given in **TABLE IV**. The details of all such programmes proposed in FS 2023-24 are listed in **TABLE V**. Apart from this, GSI is going to take up **37 nos.** of programmes in collaboration with Universities/ agencies or under sponsorship of different authorities etc. which is summarised in **TABLE VI**. Detail of all such programmes proposed under collaboration and sponsored is listed in **TABLE VII**.



TABLE IV: Number of programmes proposed as per State Request/SGPB/ CGPB recommendations/others for FS 2023-24

Region	State	State request/SGPB/ CGPB recommendations	Commodity/ Field
NER	Arunachal Pradesh	1	Landslide (1)
	Sikkim	2	Landslide (2)
	Assam	3	Landslide (2), Seismic Microzonation (1)
	Mizoram	2	Landslide (2)
	Nagaland	1	Landslide (1)
	Tripura	1	Seismic Microzonation (1)
ER	Odisha	2	Chromite and Nickel (1), Seismic Microzonation (1)
	West Bengal	1	Landslide (1)
SR	Karnataka	4	Landslide (4)
	Andhra Pradesh	1	Seismic Microzonation (1)
	Tamil Nadu	2	Landslide (2)
Total			20

TABLE V: Programmes proposed in FS 2023-24 as per State Request/ SGPB / CGPB recommendation/others

Sl. No	Region	Title	Request/ Recommendations
1	North Eastern Region	Detailed Geological Investigation of the Renging Village Landslide, East Siang District, Arunachal Pradesh.	SDMA, Govt. of Arunachal Pradesh
2		Meso-scale (1:10,000) landslide susceptibility mapping in Japorigog-Hengrabari area, Kamrup Metro, Assam.	ASDMA, Govt. of Assam
3		Meso-scale (1:10,000) landslide susceptibility mapping in Sonaighuli-Udayachal area, Kamrup Metro, Assam	ASDMA, Govt. of Assam
4		Mesoscale (1:10,000 scale) landslide susceptibility mapping around Mon Town area, Mon District, Nagaland	Govt. of Nagaland
5		Meso Scale (1:10,000) Landslide Susceptibility Mapping along Toong-Shipgyer-Mangan road corridor, Mangan District, Sikkim	Govt. of Sikkim
6		Detailed site-specific landslide investigation of the Passingdang Slide	Govt. of Sikkim



		zone, Mangan-Dzongu Road, Mangan District, Sikkim	
7		Meso-scale (1:10000) Landslide susceptibility mapping of Tawipui N II to Thingfal road section, Lunglei district, Mizoram	Govt. of Mizoram
8		Meso-scale (1:10000) Landslide susceptibility mapping along NH-06 (Aizawl-Champhai Road) between Seling and Keifang, Aizawl district, Mizoram	Govt. of Mizoram
9		Seismic microzonation of Udaipur City, Gomati district, Tripura.	Govt. of Tripura
10		Seismic microzonation of Tinsukia City, Assam	ASDMA, Govt. of Assam
11	Eastern Region	Assessment of Low grade Chromite and associated Nickel in the stabilized Mine dumps of Sukurangi Chromite Mines of Odisha Mining Corporation, Jajpur district, Odisha (Research Project)	Govt. of Odisha
12		Seismic microzonation of Puri - Konark Development Area in the East coast of Odisha	Govt. of Odisha
13		Meso scale (1:10000) landslide susceptibility zonation and slope stability study between Sukhia Pokhri and Rimbick along Sukhia Pokhri-Manebhanjan-Dhotery Rimbick road, Darjeeling District, West Bengal	WBSEDCL
14	Southern Region	Meso-scale (1:10,000) Landslide Susceptibility Mapping in Galibeedu and Onchalla Hill Township Area, Kodagu district, Karnataka	Govt. of Karnataka
15		Meso-scale (1:10,000) Landslide Susceptibility Mapping in Kalache and Kodashalli dam site Area, Uttara Kannada district, Karnataka	Govt. of Karnataka
16		Meso-scale (1:10,000) Landslide Susceptibility Mapping in Thodikana area, Dakshina Kannada District, Karnataka	Govt. of Karnataka
17		Meso-scale (1:10,000) landslide susceptibility mapping along Sakleshpur to Yedakumari rail corridor, Hassan District, Karnataka	HMRDC
18		Meso-scale (1:10,000) landslide susceptibility mapping from Kallar to 9 th Mile, Nilgiri District, Tamil Nadu	Govt. of Tamil Nadu



19	Meso-scale (1:10,000) landslide susceptibility mapping from 9th mile to Panthalur, Nilgiri District, Tamil Nadu	Govt. of Tamil Nadu
20	Seismic Hazard Micro-zonation (SHMZ) study in and around proposed Amaravati Capital Region, Guntur District, Andhra Pradesh	APSDMA/Govt. of Andhra Pradesh

TABLE VI: Number of Programmes proposed under Collaboration/ Sponsored in FS 2023-24

1	National Institute, Agency collaboration	18
2	Sponsored Geotechnical Projects	19
	Total	37

TABLE VII: Details of the programmes with collaborations/sponsors proposed in FS 2023-24

National Institute, Agency collaboration: 18 programmes		
1	Assessment of suitability of four lower Formations of Sahyadri Group, Deccan Volcanic Province for CO2 sequestration using multi-thematic approach.	IIT Bombay
2	Assessment of Low grade Chromite and associated Nickel in the stabilized Mine dumps of Sukurangi Chromite Mines of Odisha Mining Corporation, Jajpur district, Odisha (RP)	Department of Steel & Mines, Govt. of Odisha
3	Assessment of fluoride contamination in surface and groundwater and its management in southern parts of Garhwa District, Jharkhand	Govt. of Jharkhand, CGWB
4	Organic petrology and geochemistry of Permo-Carboniferous Gondwana coal from Pranhita-Godavari Valley Basin using stable isotopes and lipid biomarker - implications for palaeoclimatic and paleoenvironmental reconstruction along with an assessment of REE and trace elements	CEOAS, University of Hyderabad
5	Study on Uranium, Lead, Arsenic, Fluoride and Mercury Contamination of Ground Water in the industrial areas of North Guwahati, Kamrup, Assam: A collaborative study by GSI and CGWB	CGWB
6	Development and validation of experimental regional landslide forecast in Uttarakhand and Himachal Pradesh.	UKSDMA, Govt. of Uttarakhand
7	Development and validation of experimental regional landslide forecast in Sikkim and West Bengal.	SDMA of Govt. of Sikkim and SDMA of Govt. of West Bengal



8	Development and validation of experimental regional landslide forecast in Kerala, Karnataka and Tamil Nadu. [7th TAC on Landslide Mitigation and Management in India]	KSDMA, Govt. of Kerala
9	Detailed Geological and Geotechnical Investigation of the 13th Mile landslide on JN road, East Sikkim district, Sikkim and Gayabari (14th Mile) landslide on NH-55, Darjeeling district, West Bengal [5th TAC on Landslide Mitigation and Management in India]	DGRE (DRDO)
10	Optical Luminescence Dating (OSL) dating of Quaternary sediments and archaeological artifacts from cultural mounds in the Haryana plains and Great Rann of Kutch for a better insight of Holocene climate change and its impact on decline and dispersal of the Indus valley civilization	ASI
11	Cretaceous fauna from marine and terrestrial strata of peninsular India: biostratigraphic, paleobiogeographic and paleoenvironmental implications in a geodynamic context	IIT Roorkee
12	Long term monitoring of Mass Balance of Hamtah glacier, Lahaul and Spiti District, Himachal Pradesh (On expedition basis).	NRSC, ISRO
13	15th Course in Geographic Information System under ITEC program by MEA, New Delhi	ITEC/MEA, Govt. of India
14	13th Course in Remote Sensing and Digital Image Processing for Geoscientists under ITEC Programme of MEA, New Delhi	ITEC/MEA, Govt. of India
15	17th Course on Application of Geo-informatics for Disaster Management under NNRMS Program of ISRO	ISRO, Govt. of India
16	21st Course on Application of Remote Sensing and GIS in Mineral Exploration under NNRMS program of ISRO	ISRO, Govt. of India
17	Deep seated mineral prognosis by Geophysical Techniques: Lithospheric structure and relationship with Gold and Kimberlite clusters of Kalyandurg-Timmasamudram-Chigicherla, Ananthapur District, Andhra Pradesh	CSIR-NGRI
18	Geo-environmental appraisal in parts of Anantapur district, Andhra Pradesh with special emphasis on uranium and other elemental contamination in water.	CGWB



Sponsored Geotechnical Items: 19 Items		
Central Region		
1	Geotechnical evaluation of water resources development projects, inter basin water transfer, power projects and transport & communication projects in Madhya Pradesh	WRD, Govt. of Madhya Pradesh
2	Geotechnical evaluation of water resources, inter basin water transfer, power projects and transport & communication projects of Maharashtra and Chhattisgarh.	NWDA, Ministry of Jal Shakti, WRD, Govt. of Maharashtra
Eastern Region		
3	Geotechnical evaluation of Water Resources Development Projects in Jharkhand and Bihar	WRD of Bihar and Jharkhand, CWC, WAPCOS
4	Geotechnical evaluation of Water Resources Development Projects in West Bengal and Andaman and Nicobar Islands	WBSEDCL, NTPC
5	Geotechnical evaluation of Communication and Transport Projects in Bihar, Jharkhand, West Bengal, Andaman & Nicobar Islands	ECR, RVNL, NFR (subject to receipt of request)
6	Geotechnical evaluation of Water Resources Development Projects in Odisha	Department of Water Resource, Govt. of Odisha
North-Eastern Region		
7	Geotechnical Evaluation of Transport and Communication Projects in North Eastern Region.	NHIDCL-MoRTH, MBMA-Govt. of Meghalaya, Indian Air Force (subject to receipt of request)
8	Geo-technical Evaluation of Water Resource Development Projects in North Eastern Region.	MePGCL and CWC (subject to receipt of request)
Sothern Region		
9	Geotechnical Evaluation of Water Resources Development and other miscellaneous projects in Tamil Nadu	TANGEDCO, TNEB, PWD, Govt. of Tamil Nadu
10	Geotechnical Evaluation of Power and Water Resources Development Projects in Kerala.	KSEL, KWA, Irrigation Dept,



		PWD, Govt. of Kerala
11	Geotechnical Evaluation of Water Resources Development Projects, Inter Basin Water Transfer, Power Projects and Transport & Communication Projects in Andhra Pradesh and Telangana.	I&CADD of Telangana & WRD of AP, APGENCO, TSGENCO
Northern Region		
12	Geotechnical Evaluation of water resources development projects in Himachal Pradesh, Haryana & Punjab.	HPPCL, SJVNL, IPHP-Govt. of Himachal Pradesh, HSHDB
13	Geotechnical Evaluation of Communication and transportation projects in Punjab and HP.	HPPCL, SJVNL, IPHP, HSHDB
14	Geotechnical evaluation of Water Resources Development Project in UT: Jammu and Kashmir and UT: Ladakh	CVPP, CWC and JKSPDC
15	Geotechnical Evaluation of Water Resource Development Projects in Uttar Pradesh	NWDA
16	Geotechnical evaluation of Water Resources Development Project in Uttarakhand.	UJVNL, UPDCC THDC, NTPC, KCL
17	Geotechnical evaluation of communication and transportation projects, stability of slopes and geological feasibility of artificial lakes, major and minor civil structures in Uttarakhand.	RVNL, MoRTH BRO, PWD, CPWD
Western Region		
18	Geotechnical Evaluation of Water Resources Development Projects in Rajasthan& Gujarat.	WRD, RUIDP, Govt. of Rajasthan and Govt. of Gujarat
19	Geotechnical evaluation of transportation and communication projects in Rajasthan and Madhya Pradesh.	PWD, Govt. of Rajasthan, NW Railway

List of abbreviations:

HSHDB	Haryana Sarasvati Heritage Development Board
NRSC	National Remote Sensing Centre
MEA	Ministry of External Affairs
ISRO	Indian Space Research Organisation
WRD	Water Resource Department
ECR	East Central Railway
NFR	Northeast Frontier Railway
MePGCL	Meghalaya Power Generation
CWC	Central Water Commission
BRO	Border Roads Organisation
HPPCL	Himachal Pradesh Power Corporation Limited



SJVNL	Satluj Jal Vidyut Nigam Ltd,
JKSPDC	Jammu and Kashmir State Power Development Corporation
PWD	Public Works Department
UJVNL	Uttarakhand Jal Vidyut Nigam Ltd.
UPDCC	Uttarakhand Project Development And Construction Corporation
RVNL	Railway Vikash Nigam Ltd.
KCL	Kishau Corporation Limited
KSEBL	Kerala State Electricity Board Limited
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
NWDA	National water Development Agency
I&CADD	Irrigation & Command Area Development Department
CEOAS	Centre for Earth, Ocean and Atmospheric Sciences
BARC	Bhabha Atomic Research Centre
ASI	Archeological Survey of India
IIT	Indian Institute of Technology
SDMA	State Disaster Management Authorities
ASDMA	Assam Disaster Management Authority
WAPCOS	Water and Power Consultancy Services (India)
WSEDCL	West Bengal State Electricity Distribution Company Limited
NTPC	National Thermal Power Corporation
NHIDCL	National Highways and Infrastructure Development Corporation
MBMA	Meghalaya Basin Management Agency
IPHP	Irrigation and Public Health Department
CVPP	Chenab Valley Power Project
THDC	Tehri Hydro Power Complex
MoRTH	Ministry of Road Transport & Highways
CPWD	Central Public Works Department
ITEC	Indian Technical and Economic Cooperation Programme
DRDO	Defence Research and Development Organisation
DGRE	Defence Geoinformatics Research Establishment
KSDMA	Kerala State Disaster Management Authority
HMRDC	Hassan Mangalore Rail Development Company
APSDMA	Andhra Pradesh State Disaster Management Authority
CGWB	Central Ground Water Board
UKSDMA	Uttarakhand State Disaster Management Authority
TNEB	Tamil Nadu Electricity Board
APGENCO	Andhra Pradesh Power Generation Corporation
TSGENCO	Telangana State Power Generation Corporation
RUIDP	Rajasthan Urban Infrastructure Development Project



3.1 Survey and Mapping

Mission – IA: Baseline Geoscience Data generation [Ground Survey & Marine Survey] & Mission-IB: Remote Sensing & Aerial Survey (RSAS)

Baseline geoscience data generation through carrying out mapping using cutting edge geoscientific techniques is the most important activity for follow up targeting and taking up mineral exploration activity.

During the FS 2023-24, a total of **298 standard items** (excluding service items) have been proposed under **Mission – IA & IB** (Baseline Geoscience Data generation & RSAS) [including programmes of Marine & Coastal Survey items]. **NGCM** tops the list with **147** projects, followed by **STM** and **NGPM** with **86** and **34** programmes respectively. The rests are of hyperspectral survey/multispectral survey/remote sensing/data integration (**12**) and marine surveys (**19**).

The proposed physical targets during the year **2023-2024** are as follows: The target set for **NGCM: 1,43,110** sq. km; **NGPM: 1,15,600** sq. km; **STM: 27,110** sq. km.

The details of State wise/ Region wise number of items and targets under Mission-IA are presented in **Annexure-IA, IB, IC & II**.

3.2 Mineral Exploration

Mission – II: Natural Resources Assessment

Keeping in view the demand of the nation, GSI will be taking up mineral exploration programmes for different commodities and coal, lignite programmes during the field season 2023-24.

A total of **318** [Mineral resources assessment, Natural energy resources, marine mineral investigation and R&D] standard items are proposed under **Mission-II (Annexure III & V)**.

Amongst **290** M-IIA items proposed in FS 2023-24, **183** items are of G4 stage, **74** items are of G3 and **11** items are of G2 stage as per MEMC Rule, 2015, **7** R&D/RP Item and **15** RMT item. Out of **16** items of M-IIB, **6** items are of G3 stage, **6** items are of G4 stage, **3** item of Geothermal and **1** item of Research item. State-wise distribution of G4, G3, G2 items are shown in **TABLE VIII**.

The target set for M-IIA (Mineral resource assessment) during FS 2023-24:

- **LSM- 16,658** sq. km.; **Drilling – 1,15,230** m [Annexure IV].

The target set for M-IIB (Natural energy resources) during FS 2023-24:

- **LSM: 282** sq. km.; **Drilling – 27,600** m [Annexure IV].

The target set for M-II (Natural Resource Assessment)

- **DM– 210** sq. km, **PT- 11,455** (Cu.m), **Reconnaissance Survey-4540** Sq. Km

Besides, GSI has also proposed **12 marine mineral exploration items (Annexure V)**.



TABLE VIII: Summary of Region-wise State-wise G4, G3, G2 items, FS 2023-24

State	M - IIA ITEMS				M - IIB ITEMS			
	G4	G3	G2	Total	G4	G3	G2	Total
West Bengal	8	1	-	9	1	-	-	1
Jharkhand	12	2	1	15	-	-	-	-
Bihar	3	1	-	4	-	-	-	-
Odisha	12	10	-	22	-	2	-	2
Total: ER	35	14	1	50	1	2	-	3
Maharashtra	9	2	-	11	-	1	-	1
Madhya Pradesh	15	7	-	22	1	1	-	2
Chhattisgarh	9	9	3	21	-	2	-	2
Total: CR	33	18	3	54	1	4	-	5
Rajasthan	32	18	1	51	-	-	-	-
Gujarat	2	2	1	5	-	-	-	-
Total: WR	34	20	2	56	-	-	-	-
Andhra Pradesh	16	2	2	20	-	-	-	-
Karnataka & Goa	15	3	2	20	-	-	-	-
Tamil Nadu & Puducherry	8	3	1	12	-	-	-	-
Telangana	4	1	-	5	1	-	-	1
Kerala	5	1	-	6	-	-	-	-
Total: SR	48	10	5	63	1	-	-	1
Uttar Pradesh	8	2	-	10	-	-	-	-
Uttarakhand	4	-	-	4	-	-	-	-
Himachal Pradesh	1	1	-	2	-	-	-	-
Ladakh (UT)	1	-	-	1	-	-	-	-
Haryana	1	2	-	3	-	-	-	-
Jammu & Kashmir (UT)	3	-	-	3	-	-	-	-
Total: NR	18	5	-	23	-	-	-	-
Arunachal Pradesh	4	1	-	5	-	-	-	-
Assam	3	2	-	5	-	-	-	-
Meghalaya	8	1	-	9	-	-	-	-
Nagaland	-	2	-	2	1	-	-	1
Sikkim	-	1	-	1	-	-	-	-
Total: NER	15	7	-	22	1	-	-	1
Central Facility	-	-	-	-	2*	-	-	2
Grand Total	183	74	11	268	6	6	-	12

*NEnR, CHQ

The details of Commodity wise **standard items** of the States and Regions along with quantum of different target components under the different items of **Mission-II** are presented in **Annexure-III, IV, V**.

Seventy four (**74**) mineral exploration programmes in FS 2023-24 have been proposed as spin off from Mission-I programmes. State wise and stream wise spin off items in FS 2023-24 are given **TABLE-IX**.



TABLE IX: Mineral exploration programmes (M-IIA) proposed in FSP 2023-24 as spin off from previous Mission-I programmes

Region	STATE	STM	NGCM	NGPM	STM + NGCM	NGCM+ NGPM	RMT	PGRS	NAGMP
ER	Bihar	-	-	-	2	-	-	-	-
	West Bengal	5	3	-	-	-	-	-	-
CR	Chhattisgarh	1	3	-	-	-	-	-	-
	Maharashtra	1	2	-	-	-	-	-	-
	Madhya Pradesh	1	2	-	-	-	1	-	-
WR	Rajasthan	9	3	-	-	1	-	1	8
	Gujarat	1	1	-	-	-	-	-	-
SR	Andhra Pradesh	1	6	-	-	-	-	-	-
	Karnataka & Goa	1	1	-	-	-	4	-	-
	Telangana		2	-	-	-	-	-	-
	Kerala		2	-	-	-	-	-	-
	Tamil Nadu and Puducherry	1	-	-	-	-	-	-	-
NR	Haryana	-	-	-	-	-	-	-	-
	Ladakh (UT)	-	-	-	-	-	-	-	-
	Uttar Pradesh	-	2	-	-		1		2
NER	Assam	-	1	-	-	-	-	-	-
	Arunachal Pradesh	-	1	-	-	-	-	-	-
	Nagaland	-	-	-	1	-	-	-	-
	Meghalaya	-	-	-	-	-	3	-	-
Total		21	29	0	3	1	9	1	10
Grand Total of Spin off M-I items		74							

3.3 Information / Dissemination

Mission – III: Geoinformatics

Geoinformation management or geoinformatics in GSI facilitates access, integration, and processing of multidisciplinary data for producing outputs directly usable by a wide variety of stakeholders, conforming to the National Mineral Exploration Policy, 2016, which states that baseline geoscience data comprising geology, geochemistry, and geophysics will be generated as a public good and will be made available in public domain for free access.

Total **55 M-III (Geoinformatics)** projects have been proposed during the FS 2023-24 which include **30** items are of Mission-IIIC (Map, Data Integration, Geoinformatics) followed by **18** item under Mission-IIIB (Publication & library) and **7** numbers of Mission-IIIA (Data repository and management, IT infrastructure, etc.). Major thrust of activity in Mission-IIIC includes i) Creation of National Geoscience Data



Repository (NGDR) in GSI, ii) Synthesis and collation of All India National Geochemical Map data (NGCM) and National Geophysical Map data (NGPM) on 1:50K scale for uploading in BhuKosh GeoPortal of OCBIS, iii) Updation and preparation of Metallogenic Map of India (1:2M) on Geospatial Platform, iv) Vetting and scrutiny of compiled geodatabase on 1:25k scale using STM data, from different regions, v) Compilation Of Geological District Resource Maps, vi) Creation of GIS database in respect of Base metals, precious metals, PGE and Diamond etc., vii) Compilation and preparation of Geological and Mineral Resource map of different states etc. while major thrust of activity in publication include i) Special Publication on Coal fields of Central India; ii) Gold mineralization in Jharkhand, iii) Special Publication on North Singhbhum Mobile Belt (NSMB), iv) Special Publication on Geology of the Cuddapah Basin, India and v) Geology and Mineral Resources of the States of Uttar Pradesh, Miscellaneous Publications No. 30, Pt.XIII, the third revised edition (a 2020 publication in Hindi). Under M-IIIA majority of the items are based on creation of Legacy Borehole Data Repository (LBDR).

The details of Region wise (along with Central Facilities) items of Mission-III are presented in **Annexure-VI**.

3.4 Specialised Investigations

Mission – IV: Multidisciplinary Geoscience

GSI carries out investigations to take up many societal issues amenable to solution using geoscientific or geotechnical tools. GSI as a generator of geospatial data and as an agency with an all-India presence will contribute to the larger public interest on a large number of parameters relating not only to geotechnical, landslides and earthquakes, but also other public-health and public good issues having a geospatial dimension. As per the mandate, during FS 2023-24 also, GSI will be involved in a number of water resource, communication and infra-structure developmental projects across the country.

GSI being the Nodal organization for Landslide study in the country, is developing the prototype Rainfall induced Landslide Early Warning System (LEWS) which is under development in collaboration with British Geological Survey (BGS) under the project LANDSLIP and is being validated in Darjeeling district of West Bengal and Nilgiri district of Tamil Nadu. During FS 2023-24, in regard to LEWS, GSI has taken up the project i) Development and validation of experimental regional landslide forecast in Uttarakhand and Himachal Pradesh, ii) Development and validation of experimental regional landslide forecast in Sikkim and West Bengal, iii) Development and validation of experimental regional landslide forecast in Kerala, Karnataka and Tamil Nadu and iv) Development and validation of experimental regional landslide forecast in Assam, Meghalaya, Mizoram and Nagaland.

Apart from that GSI has taken up the project on i) Seismic site response studies and resistivity survey around Mon town area, Mon District, and Wokha-Doyang road



corridor, Wokha District Nagaland and ii) Study of active tectonics along the Tista river in parts of the Darjeeling-Sikkim Himalaya with the campaign mode GPS and MEQ surveys during FS 2023-24.

GSI will be carrying out activities on multi-disciplinary fields during FS 2023-24 and the total number of standard items: \approx **111 nos. (Annexure VII)**:

Mission – IV: Fundamental Geoscience and Research & Development

Mapping and mineral search activities in GSI is accompanied with fundamental research in different domains of geoscience which is a vital activity for development of the subject of geoscience. A number of modern analytical facilities are inducted in the department, such as, Laser Ablation Multi-Collector ICPMS, Laser Ablation Quadrupole ICPMS, Raman Spectroscopy; besides, GSI is already having a number of modern laboratory facilities such as, stable isotope facility, radiocarbon dating facility, electron probe micro analyser, a number of XRF, XRD, CL microscope, laser particle size analyser etc. During FS 2023-24, Total of **29** standard programmes have been formulated under Fundamental Geoscience and Research & Development consisting programmes of Himalayan Geology, Petrology, Palaeontology, experimental petrology etc.

Thrust will be given in the following theme in FS 2023-24:

- Metallogenic evolution of Pb-Zn-Cu-Au bearing quartz-sericite-magnetite rocks of Gorubathan deposit as well as other potential areas within Gorubathan Formation around Darjeeling and Kalimpong district, West Bengal.
- Comparative study of mineralized and non-mineralized veins in parts of Purulia district around North Purulia Shear Zone in relation to Paleo-stress of the area: Application in exploration targeting.
- Study of the graphite and base metal mineralization in mineralized zones of Kerala Khondalite Belt (KKB) in southern Kerala.
- Study of REE & RM minerals in bedrock and regolith in Khuntapada-Arkhapalli Block, Nayagarh Districts, Odisha.
- Detailed Petro-mineralogy, Fluid inclusion micro analysis and Sulphur isotopic characterization of basemetal and associated mineralization around Askot - Barigaon- Thal area, Pithoragarh district, Uttarakhand.
- Genesis of Rare Metals (RM) mineralization in Sibagaon area, Sirohi district, Rajasthan.

The details of Region wise and Central Facilities programmes of Multidisciplinary and Fundamental Geosciences under the different items of **Mission-IV (Total 140 items)** are presented in **Annexure-VII**.



3.5 Human Resource Development

Mission – V: Training & Capacity Building

With the aspiration to develop GSI into a world-class institution, human resources need to continuously be exposed through training and interaction to the latest technologies and practices. Besides, GSI is catering to the need for capacity building of other Central Institutions, State Governments, PSUs, Private Sectors and Academia.

The Field Season Programme for the year 2023-24 has been formulated keeping in view the need of the organization while focusing on the future thrust areas. Accordingly, more training courses on mineral exploration, GIS-based data integration etc. have been proposed to cater to the need of the department & other stakeholders.

A total of **155** courses are proposed for the FS 2023-24 and fall into the following broad categories.

1. Induction-level (Orientation) Courses – 40
2. International Courses (Thematic) – 2
3. Sponsored programmes (Thematic) – 2
4. Basic courses (Thematic) – 27
5. Refresher courses (Thematic) – 38
6. Advanced courses (Thematic) - 15
7. Administrative Courses - 31

The number of courses for the Training and Capacity Building Programmes for the different Regional Training Divisions and Training Institute Headquarters is presented in **Annexure-VIII**.

3.6 Support Systems

It has already been stated that the three Support Systems e.g., Scientific & Technical Support System (STSS); Administrative Support System (Ad.SS), and Policy Support Systems (PSS) are providing the requisite support to the Missions and delivering co-ordination amongst the different Missions and Regions.

3.7 Service Items

Apart from the Standard Coded items, a good number of Service Items are regularly taken up in the Annual Programme for which officers are engaged sometimes in full time or part time basis. Service Items are mainly those items which give valuable input to standard items for its execution or some other items of maintenance, operation, monitoring and other miscellaneous services. Example of such items, *inter alia*, include monitoring of geochemical mapping/ compilation of degree sheet wise

geochemical maps/ upgradation of GCM reports from interim to final, assistance in remote sensing/ petrological/ paleontological studies, miscellaneous services of map, publication and map production, maintenance of IT infrastructure/LAN/WAN, gem testing, maintenance of cores of core library, work for parks and museums, geophysical logging of boreholes, operation of seismic observatories, post disaster survey of landslide, macroseismic survey of earthquake for assigning intensity, technical consultancy, quantitative assessment of geotechnical properties of rock/ soil, Analytical service by SEM-EDS Automated Mineralogical Solutions, digital image processing for remote sensing, preparation of geospatial data structure, acquisition, processing and analysis of Real time Seismo-Geodetic data and maintenance of observatories, Geochronology and Isotope Geology Division inputs to programmes of different Regions and Missions, miscellaneous services of all Laboratories, technical co-ordination, curatorial work etc. in State Units/ Regions/CHQ etc. A tentative distribution of Service Items (**Total 228**) expected (excluding the service items of three support system i.e. PSS, Ad.SS and STSS) in FS 2023-24 is presented below in Fig. 3:

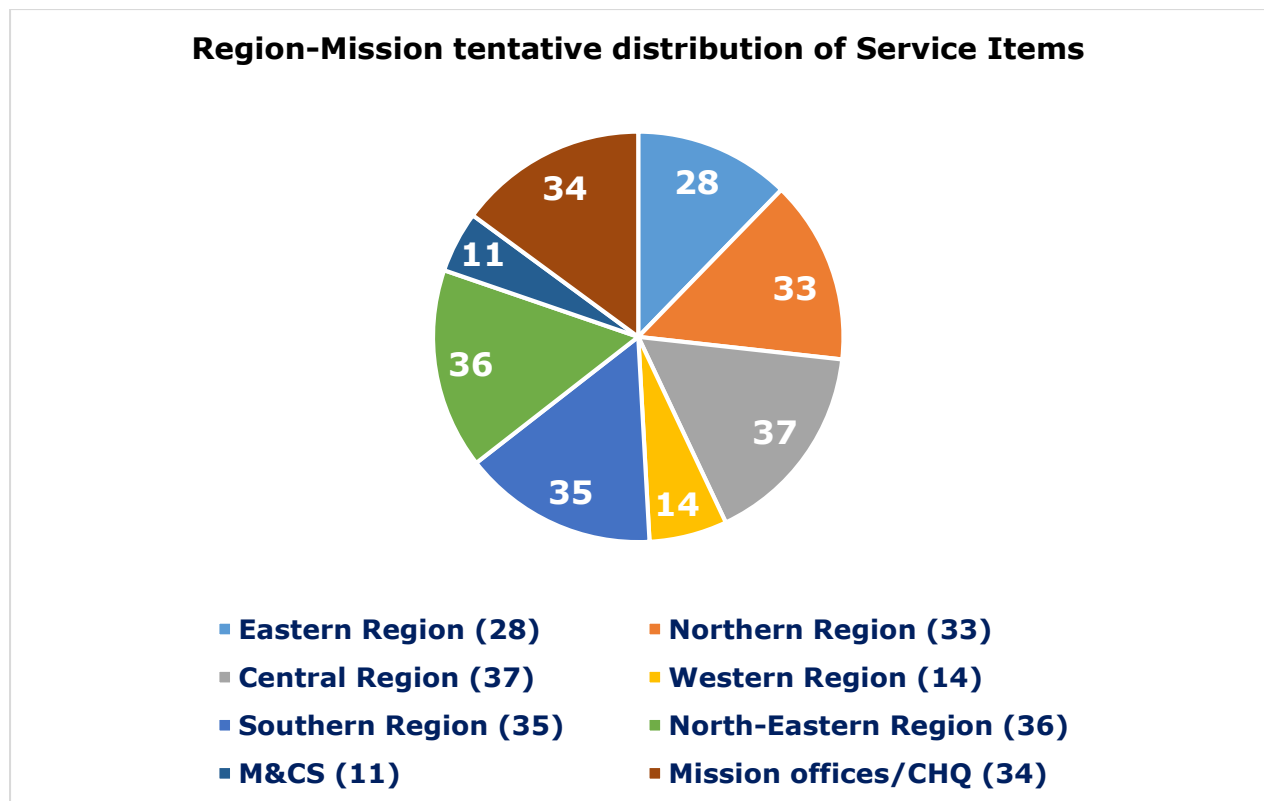


Fig. 3. Region-Mission tentative distribution of Service Items for FS 2023-24

⊕ Some of the officers will also be assigned to standard programmes on part time basis. Some of the Service items may also involve fieldwork.

3.8 A Brief on Mission wise Items Proposed for FS 2023–2024

A total of **966 regular coded items** (Mission I –Mission V) including 25 cruises are planned to be taken up during FS 2023-24. The break-up details on Mission / Scheme -wise items proposed for FS 2023-24 are presented below in **TABLE-X** and Fig. 4.

TABLE X: Mission wise proposed programmes for FS 2023-24

Sl. No.	Mission	Scheme / Activity	Total
1.	Mission – I: Baseline Geoscience Data generation	Survey & Mapping	298 [#]
2.	Mission – II: Natural Resource Assessment	Mineral Exploration	318*
3.	Mission – III: Geoinformatics	Information Dissemination	55
4.	Mission – IV: Fundamental and Multidisciplinary Geoscience	Specialised Investigation Research & Development & other Exploration (Polar studies)	140
5	Mission – V: Training & Capacity Building	Human Resource Development	155
		Grand Total	966

includes 19 marine survey items; * includes 12 marine mineral investigation items

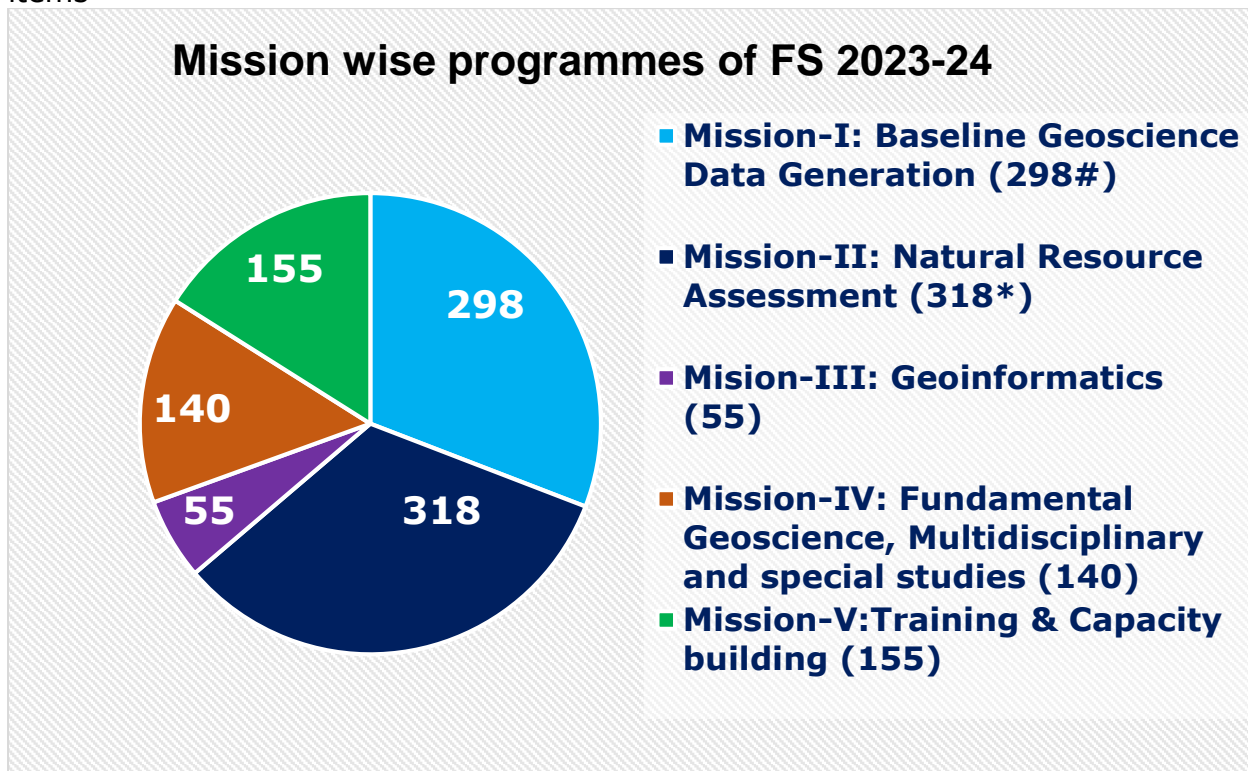


Fig. 4. Mission wise proposed programmes for FS 2023-24

includes 19 marine survey items; * includes 12 marine mineral investigation items



The present geoscientific strength of GSI is given in **TABLE XI** (including JAG, SAG and HAG level officers).

TABLE XI: STATUS OF SANCTIONED & FILLED IN STRENGTH OF VARIOUS STREAMS IN GSI AS ON 31.01.2023

S & T	Stream	Sanctioned strength				Filled Strength				Vacant			
		Gr-A	Gr-B (incl. N/G)	Gr-C	Total	Gr-A	Gr-B (incl. N/G)	Gr-C	Total	Gr-A	Gr-B (incl. N/G)	Gr-C	Total
S & T	Geology	2337	500	75	2912	1924	314	54	2292	413	186	21	620
	Geophysics	440	180	50	670	303	39	21	363	137	141	29	307
	Chemistry	384	250	90	724	326	106	64	496	58	144	26	228
	Engineering	102	380	675	1157	69	114	212	395	33	266	463	762
	TOTAL (a)	3263	1310	890	5463	2622	573	351	3546	641	737	539	1917
Other Streams	Stores	3	143	152	298	3	117	46	166	0	26	106	132
	Survey	34	235	0	269	23	68	0	91	11	167	0	178
	Drawing	0	100	12	112	0	45	6	51	0	55	6	61
	Transport	0	28	532	560	0	31	104	135	0	-3	428	425
	Finance	33	50	0	83	14	8	0	22	19	42	0	61
	Personnel	78	680	498	1256	41	464	336	841	37	216	162	415
	Stenography	8	154	22	184	2	84	15	101	6	70	7	83
	IT	3	17	0	20	0	0	0	0	3	17	0	20
	Misc.	19	137	1000	1156	6	112	761	879	13	25	238	276
	TOTAL (b)	178	1544	2216	3938	89	929	1268	2286	89	615	948	1652
	TOTAL (a+b) (*)	3441	2854	3106	9401	2711	1502	1619	5832	730	1352	1487	3569

(*) The Ministry vide letter dated 18/08/2022 has conveyed revised Sanctioned Strength of GSI.



ANNEXURE-IA

MISSION –I (BASELINE GEOSCIENCE DATA GENERATION) REGION WISE AND STATE WISE BREAK-UP OF PROPOSED WORK DURING FS 2023-2024

		GROUND SURVEY (M-IA)		
STATE / REGION		Geological Mapping	NGCM	NGPM
		(sq. km)	(sq. km)	(sq. km)
		STM		
Eastern Region	West Bengal	920	-	-
	Jharkhand	1750	312	7000
	Bihar	700	-	-
	Odisha	2100	-	-
	Total	5470	312	7000
Central Region	Maharashtra	1400	27716	3500
	Madhya Pradesh	2000	19888	14000
	Chhattisgarh	1050	-	21000
	Total	4450	47604	38500
Western Region	Rajasthan	3850	-	14000
	Gujarat	1050	11306	7000
	Total	4900	11306	21000
Southern Region	Andhra Pradesh	1059	2203	7200
	Karnataka & Goa	2800	8044	3600
	Tamil Nadu & Puducherry	1750	11508	-
	Telangana	1431	5467	18000
	Kerala	350	3891	-
	Total	7390	31113	28800
Northern Region	Haryana	-	-	7000
	Uttar Pradesh	1050	-	10500
	Uttarakhand	660	720	-
	Himachal Pradesh	880	1240	-
	Punjab	-	-	-
	Ladakh (UT)	440	9008	-
	Jammu & Kashmir (UT)	220	-	-
Total	3250	10968	17500	
North Eastern Region	Arunachal Pradesh	440	624	-
	Assam	220	9857	2800
	Manipur	-	11970	-
	Nagaland	220	3255	-
	Meghalaya	440	-	-
	Sikkim	330	-	-
	Mizoram	-	16101	-
	Tripura	-	-	-
Total	1650	41807	2800	
Grand Total		27,110	1,43,110	1,15,600

STM: Specialised Thematic Mapping; NGCM: National Geochemical Mapping; NGPM: National Geophysical Mapping.



ANNEXURE-IB

MISSION –IA (Ground Survey)

(Number of Items with Region wise and State wise break-up proposed during FS 2023-24)

	REGION/ STATE	STM/RP	GCM	GPM
Eastern Region	West Bengal	3	-	-
	Jharkhand	5	1	2
	Bihar	2	-	-
	Odisha	6	-	-
	Total	16	1	2
Central Region	Chhattisgarh	3	-	6
	Maharashtra	4	19	1
	Madhya Pradesh	7	14	4
	Total	14	33	11
Western Region	Rajasthan	11	-	4
	Gujarat	3	6	2
	Total	14	6	6
Southern Region	Andhra Pradesh	3	4	2
	Karnataka & Goa	8	9	1
	Tamil Nadu & Puducherry	5	9	-
	Telangana	4	7	5
	Kerala	1	5	-
	Total	21	34	8
Northern Region	Haryana	-	-	2
	Uttar Pradesh	3	-	3
	Uttarakhand	3	1	-
	Himachal Pradesh	4	2	-
	Punjab	-	-	-
	Jammu & Kashmir (UT)	1	-	-
	Ladakh (UT)	2	11	-
	Total	13	14	5
North Eastern Region	Arunachal Pradesh	2	1	-
	Assam	1	13	2
	Manipur	-	17	-
	Meghalaya	2	-	-
	Sikkim	2	-	-
	Nagaland	1	5	-
	Mizoram	-	23	-
	Total	8	59	2
Grand Total		86	147	34

MISSION -IA (MARINE & COASTAL SURVEY) NUMBER OF ITEMS & TARGETS IN M& CSD PROGRAMME DURING FS 2023-24

MARINE SURVEYS BY RV SAMUDRA RATNAKAR (beyond TW within EEZ)								
Regions	Number of Items	Bathymetry (l. km)	Magnetic (l. km)	Swath Bathymetry (sq. km)	Seismic (l. km)	Gravity (l. km)	Sub bottom profiling (l. km)	Systematic coverage within EEZ and beyond
ER	0	0	0	0	0	0	0	0
SR	2	3500	1200	5000	2300	3500	1200	5000
International Waters	2	0	6500	45500	0	6500	6500	45500
Total	4	3500	7700	50500	2300	10000	7700	50500
MARINE SURVEYS BY RV SAMUDRA SHAUDHIKAMA (within TW)								
SR	4	2320	320	0	2320	0	0	1400
MARINE SURVEYS BY RV SAMUDRA KAUSTUBH (within TW)								
ER	1	700	0	0	700	0	0	0
SR	1	815	815	0	0	0	0	0
Total	2	1515	815	0	700	0	0	0
MARINE SURVEYS BY MECHANISED BOAT								
ER	0	0	0	0	0	0	0	0
SR	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Grand Total	10	7335	8835	50500	5320	10000	7700	51900

MARINE MINERAL INVESTIGATION BY RV SAMUDRA RATNAKAR (beyond TW within EEZ)										
Regions	Number of Items	Bathymetry (l. km)	Magnetic (l. km)	Swath Bathymetry (sq. km)	Back Scatter (sq.km)	Seismic (l. km)	Gravity (l. km)	Sub bottom profiling (l. km)	Preliminary Mineral Investigation within EEZ	Close Grid Mineral Invest. within EEZ
ER	1	0	2000	2950	2950	0	2500	2500	2950	0
SR	2	3560	300	0	0	0	3560	3560	14000	514
Total within EEZ	3	3560	2300	2950	2950	0	6060	6060	16950	514
MARINE MINERAL INVESTIGATION BY RV SAMUDRA SHAUDHIKAMA (within TW)										
SR	3	515	0	0	0	515	0	0	730	0
MARINE MINERAL INVESTIGATION BY RV SAMUDRA KAUSTUBH (within TW)										
ER	2	160	0	0	0	0	0	0	0	96
SR	3	574	0	0	0	435	0	0	781	0
Total	5	734	0	0	0	435	0	0	781	96
MARINE MINERAL INVESTIGATION BY MECHANISED BOATS										
SR	1	125	0	0	0	0	0	0	125	0
MARINE MINERAL INVESTIGATION (within TW)										
Total within TW	9	1374	0	0	0	950	0	0	1636	96
Grand total (TW+EEZ)	12	12269	11135	53450	53450	6270	16060	13760	18586	610

Total M&CSD Items wherein cruise/boat are involved (SR-8+ST-7+SD-7+Boat-3) =25

MISSION-I (BASELINE GEOSCIENCE DATA GENERATION)

Number of programmes in Regions and CHQ (Central Facilities) under various activities of work in Mission -I in Field Season 2023-2024

Items of work	NER	ER	NR	CR	SR	WR	CENTRAL FACILITY	Total
	Items	Items	Items	Items	Items	Items	Items	
Specialised Thematic Mapping (STM)	8	16	13	14	21	14	-	86
National Geophysical Mapping (NGPM)	2	6 [#]	5	7	8	6	-	34
National Geochemical Mapping (NGCM)	59	1	14	30	37	6	-	147
Hyperspectral/Multispectral Survey/ Remote Sensing/DI	2	1	1	2	1	1	4	12
Marine Surveys beyond TW within EEZ	-	1	-	-	3	-	-	4
Marine Surveys in Territorial Water	-	1	-	-	4	-	-	5
Marine Survey in shallow water by mechanized boat	-	-	-	-	1	-	-	1
Marine Survey RP Items	-	-	-	-	2	-	-	2
Marine-Map & publication	-	3	-	-	4	-	-	7
Total Mission-I item including 19 M&CD M-I							=	298

4-GPM items to be taken up by ER in CR involving 14000 sq. km; @ Total M&CSD programmes: 31 [Break-up: In M-I: 12 items, Marine Mineral Exploration: 12 (included under M-II) items and Map & Publication: 7 items]

ANNEXURE III

STATE-WISE AND REGION-WISE MISSION-II PROGRAMMES FOR DIFFERENT COMMODITIES PROPOSED IN FS 2023-24

State/Region	Strategic (Tin, Tungsten, Lithium Silver, Molybdenum, Nickel, Vanadium, Titanium, REE, RM, Cobalt, Niobium, Scandium)	Ferrous (Iron ore, Manganese Ore, Chromite)	Non Ferrous / Base metal (Copper, Lead, Zinc, Bauxite, Antimony)	Precious (Gold, Diamond, Emerald, Heavies, PGE, Silver, Chrysoberyl)	Industrial (Limestone, Baryte, Silliminite, Kyanite, Asbestos, Andalusite, Dunite, Magnesite, Graphite, Pyrophyllite)	Fertiliser (Potash, Apatite, Glauconite, Gypsum, Phosphorite)	Coal /Lignite/Shale Gas	Geothermal	Multi Metal Mineralization /R&D/RP	RMT	Total
West Bengal	6	-	-	3	-	-	1	-	-	-	10
Jharkhand	4	2	3	3	3	-	-	-	-	2	17
Bihar	2	-	2	-	-	-	-	-	-	-	4
Odisha	3	5	5	6	3	-	2	2@	1	2	29
Total: ER	15	7	10	12	6	0	3	2	1	4	60
Maharashtra	4	-	6	-	1	-	1	-	1	0	13
Madhya Pradesh	3	3	3	2	9	2	2	-	-	1	25
Chhattisgarh	3	-	4	1	6	7	2	-	-	-	23
Total: CR	10	3	13	3	16	9	5	0	1	1	61
Rajasthan	14	-	19	4	10	4	-	-	-	4	55
Gujarat	4	-	-	1	-	-	-	-	1	-	6
Total: WR	18	0	19	5	10	4	0	0	1	4	61
Andhra Pradesh	6	4	-	4	6	-	-	-	2&	2	24
Karnataka & Goa	6	-	3	8	2	-	-	-	1	1	21
Tamil Nadu	4	1	1	4	2	-	-	-	-	1	13
Telangana	2	-	2	-	1	-	1	-	-	-	6
Kerala	1	-	2	2	1	-	-	-	-	-	6
Total: SR	19	5	8	18	12	0	1	0	3	4	70
Uttar Pradesh	6	1	-	-	2	1	-	-	-	-	10
Uttarakhand	-	-	2	-	-	1	-	-	1	-	4
Himachal Pradesh	1	-	1	-	-	-	-	-	-	-	2
Haryana	1	1	1	-	-	-	-	-	-	1	4
J & K (UT)	1	-	1	-	-	-	-	-	1	-	3
Ladakh (UT)	-	-	-	-	-	-	-	1	1	-	2
Total: NR	9	2	5	0	2	2	0	1	3	1	25
Arunachal Pradesh	2	-	-	-	2	1	-	-	-	-	5
Assam	3	-	-	1	1	-	-	-	-	-	5
Meghalaya	4	-	1	-	4	-	-	-	-	-	9
Nagaland	1	1	-	-	-	-	1	-	1	-	4
Sikkim	-	-	-	-	1	-	-	-	-	-	1
Total: NER	10	1	1	1	8	1	1	0	1	0	24
Central Facility	-	-	-	-	-	-	3*	-	1	1\$	5
Grand Total	81	18	56	39	54	16	13	3	11#	15	306^

@ project to be executed from CR, RHQ, Nagpur; * project to be executed from CHQ, NEnR, M-IIB; # includes RP items taken by ER (1), NER (1), WR (1), SR (2), CR (1) and PSS-CHQ, CF (1); \$ project to be executed from CHQ, NM-II, Nagpur; & includes 1-RP to be executed from RM-II, SR, RHQ and 1-RP on Deep seated mineral prognosis by Geophysical Techniques...(NMET Funded, 2022-25, in collab. with CSIR-NGRI); ^ excludes 12-offshore exploration programme

ANNEXURE - IV

REGION WISE BREAK UP OF QUANTUM OF WORK IN THE PROPOSED PROGRAMMES OF MISSION-II DURING FS 2023-2024

Region	LSM (sq. km)	LSM (sq. km)	Total LSM (sq. km)	DM (sq. km)	P-T (cu. m)	REC Survey (sq. Km)	Drilling MIIA (m)	Drilling MIIB (m)	Total Drilling (m)
	M-IIA	M-IIB							
ER	3184	34	3218	30	3325	1080	18700	6000	24700
SR	4840	120	4960	32	3925	2260	20755	2500	23255
CR	3408	78	3486	72	1405	1200	14225	14300	28525
NER	750	50	800	16	765	-	3400	200	3600
NR	1100	-	1100	12	400	-	5800	-	5800
WR	3376	-	3376	48	1610	-	52350	-	52350
CHQ	-	-	-	-	25	-	-	4600	4600
Total	16,658	282	16940	210	11,455	4540	1,15,230	27,600	1,42,830

LSM: LARGE SCALE MAPPING; DM: DETAILED MAPPING; P-T: PITTING AND TRENCHING; REC: - Reconnaissance Survey in Kimberlite/Lamproite; M-IIA: Mineral Resources Assessment; M-IIB: Natural Energy Resources (Coal, Lignite, Shale Gas & Geothermal)

ANNEXURE-V

Number of programmes under Mission II during FS 2023-2024

Items of work	NER	ER	NR	CR	SR	WR	CENTRAL FACILITY	TOTAL
	Items	Items	Items	Items	Items	Items	Items	Items
Mineral Resources Assessment	23	55	24	56	69	61	2	290*
Natural Energy Resources	1	3	--	5	1	-	3 [@]	13
Geothermal	--	--	1	2	----	----	---	3
TOTAL	24	58	25	63	70	61	5	306[#]
Total Mission-II items including 12 Off-shore exploration item = 318								

@: Includes item being taken up from M-IIB, NEnR, CHQ; * Includes 15 Regional Mineral Targeting (RMT) items (4-ER, 1-CR, 1-NR, 4-WR, 4-SR, 1-CHQ being taken up from O/o NMH-II) and RP items of ER (01), NER (01), WR (01), SR (02), CR (1) and Central Facility, CHQ (01); # excluding 12 marine mineral exploration items

DETAILS OF MARINE MINERAL EXPLORATION PROGRAMMES IN FS 2023-24:

Fe-Mn Nodules	Phosphorite	Lime Mud	Offshore Placer Minerals	Total
1	1	1	9	12

MISSION-III (GEOINFORMATICS)

ANNEXURE-VI

Number of programmes under various schemes of work in Mission III during FS 2022-2023

Sub-Mission	Items of work	NER	ER	NR	CR	SR	WR	CENTRAL FACILITY	TOTAL
		Items	Items	Items	Items	Items	Items	Items	Items
Mission-IIIA	Data repository and management, IT infrastructure & Connectivity, OCBIS (Geodata)	1	2	1	1	1	1	-	7
Mission-IIIB	Information delivery (Publication & library)	1	2	3	2	4	2	4	18
Mission-IIIC	Map, Geo-informatics & Data Integration	4	4	5	7	4	2	4	30
	Total	6	8	9	10	9	5	8	55

ANNEXURE-VII

MISSION IV (FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCE)

Number of programmes under various activities of Mission IV during FS 2023-2024

Sub-Missions	Activities	NER	ER	NR	CR	SR	WR	Central Facilities	TOTAL
		Item	Item	Item	Item	Item	Item	Item	Item
Multidisciplinary Geoscience	Geotechnical studies	2	4	7	2	4	3		22
	Landslide studies	13	1	16	3	6		5	44
	Seismic/earthquake studies	2	2	1	3	1	3	2	14
	Climate Change Impact, Geodynamics,	2	8	9	3	1	-	2	25
	Glaciology, Medical and Environmental Geology								
Polar Studies									6
Fundamental Geoscience and Research & development	Petrology, Palaeontology, Geochronology & Isotope Geology, Meteorite & Planetary Studies, Experimental Petrology etc	3	3	3	2	1	3	14	29
Total :		22	18	36	13	13	9	23	140

MISSION V (TRAINING AND CAPACITY BUILDING)**Number of courses during FS 2023-2024**

	NER	ER	NR	CR	WR	GSITI HQ	TOTAL
No. of Courses	11	24	15	22	18	65	155

The Geological Survey of India executes the programmes of different Missions through 6 geographically distributed Regions, Central (CR), Eastern (ER), North Eastern (NER), Northern (NR), Southern (SR) and Western (WR), with Headquarters at Nagpur, Kolkata, Shillong, Lucknow, Hyderabad and Jaipur respectively. GSI has its Central Headquarters (CHQ) in Kolkata and has State Unit offices in most of the States.

The proposal of the Annual Programme of Geological Survey India, Field Season 2023-24 is presented before the 62nd Central Geological Programming Board (CGPB) for discussion with all the stakeholders. The region wise/ state wise list of all the project proposals are listed below.

Central Region (CR):

Central Region of the Geological Survey of India headquartered at Nagpur, covers the states of Chhattisgarh, Madhya Pradesh and Maharashtra. The State Unit offices of GSI, CR are located at Raipur, Bhopal, Jabalpur, Nagpur and Pune.

The State/Mission wise distribution of programmes are tabulated below.

CENTRAL REGION		
MISSION IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA– Specialized Thematic Mapping /Research Project		
Chhattisgarh		
1	Specialised Thematic mapping around Maldongri-Bicharpur-Keshokhairi area in parts of Toposheet nos. 64D/05, 09 & 13 of Rajnandgaon district, Chhattisgarh to characterise and classify various felsic and mafic magmatic phases of Nandgaon Group.	2023-24
2	Specialised Thematic mapping in parts of Surguja & Jashpur Districts of T.S. 64N/5, 6, 9, 10 & M12, Chhattisgarh area to understand tectono-thermal evolution of northwestern segment of Chhotanagpur Gneissic Complex (CGC) and its relation with associated metasedimentary rocks.	2023-24
3	Specialised thematic mapping to study tectono-thermal evolution of Chhotanagpur Gneissic Complex (CGC) and Bilaspur-Raigarh-Surguja (BRS) metamorphic belt, to search for presence of REE, gemstones and other associated mineralisation in and around Jatga, Makhurpani and Katghora areas of Korba district, Chhattisgarh in parts of Toposheet Nos. 64J/06, 10 and 11.	2023-24
Madhya Pradesh		
4	Specialized Thematic Mapping around Sajewada, Bhabra, and Choti Juwari areas to study migmatites and find out the basement for metasedimentaries in Alirajpur district, MP and Dahod district, Gujarat.	2022-24
5	Specialised Thematic Mapping of Aravalli Supergroup of rocks and migmatite around Rambhapur-Meghnagar-Dhekal Badi area in parts of Jhabua District, Madhya Pradesh and Dahod District, Gujarat to determine the proper stratigraphic positions of Meghnagar Group of rocks	2022-24

6	Specialized Thematic Mapping of Gwalior Group of rocks to map the gap areas and study of disposition pattern, sedimentological aspects and mineral potential of Gwalior sediments.	2023-24
7	Specialized Thematic Mapping to study petrogenesis of various magmatic phases of Bundelkhand Granitoid Complex around Nandgaon and Dadgaon area, covering parts of Tikamgarh and Chhatarpur districts, Madhya Pradesh.	2023-24
8	Specialized Thematic Mapping to characterize various magmatic phases of Bundelkhand Granitoid Complex and mafic-ultramafic enclaves, if any, around Pahari Buzurg-Nowgong area in Chhatarpur and Tikamgarh districts, Madhya Pradesh.	2023-24
9	Specialized Thematic Mapping in Mahakoshal Group along southern part of Son Narmada North Fault (SNNF) around Teori, Jhalwara, Barhi and Beldi area, Katni and Umariya District, Madhya Pradesh, to establish the lithostratigraphy, metamorphic and deformation history of Mahakoshal Group and to search possible mineralization if any. \$	2022-24
10	Study of Granitoids and gneiss-schists-migmatites to understand, their petro-tectonics, geochemistry and geochronology, their interrelation with Mahakoshal Group and to characterize the shear-zone to decipher its relation with Son-Narmada South Fault in Silondi-Barauda-Umaria areas in parts of Jabalpur, Katni and Umaria districts, M.P. \$	2023-24

\$ Project to be executed from GSI, SU:MP, Jabalpur

Maharashtra

11	Specialized thematic mapping in Arjuni-Khairlanji-Gajpur area, Gondia District, Maharashtra and Balaghat District, Madhya Pradesh for deciphering Tectono-metamorphic evolution and possible mineralization of the terrane.	2023-24
12	Specialized thematic mapping of Mardi-Wanoja-Palsoni area in Yavatmal and Chandrapur districts of Maharashtra to establish the stratigraphy, depositional environment and deformation structures of the sedimentary sequence.	2023-24
13	Specialized Thematic Mapping of the Deccan lava sequence and associated intrusive exposed in Dahanu- Chatoti Naka area in parts of Palghar district, Maharashtra. #	2022-24
14	Identification of causative bodies of Vanadium and associated minerals in the area around Bharja river, Ratnagiri Dist, Maharashtra. #	2023-24

Project to be executed from GSI, SU:MH, Pune

Mission IA– Geochemical Mapping

Madhya Pradesh

1	Geochemical Mapping in Toposheet Nos. 55I/08 and 55I/12 covering parts of Raisen and Narshinghpur districts of Madhya Pradesh.	2023-24
2	Geochemical Mapping in Toposheet No. 54J/10 & 54J/14 covering parts of Morena & Bhind districts of Madhya Pradesh and Agra & Etawah districts of Uttar Pradesh.	2023-24

3	Geochemical mapping in toposheets 55E/10, 55E/12 and 55E/14 covering parts of Raisen, Vidisha and Bhopal districts of Madhya Pradesh.	2023-24
4	Geochemical Mapping in Toposheet nos. 55I/01 & 55I/02 covering parts of Vidisha, Raisen and Sagar districts of Madhya Pradesh.	2023-24
5	Geochemical Mapping in Toposheet nos. 55A/03 & 55A/04 covering parts of Dewas, Ujjain and Shajapur districts of Madhya Pradesh.	2023-24
6	Geochemical Mapping in Toposheet No. 54G/01 and G/02 covering parts of Sheopur district of Madhya Pradesh.	2023-24
7	Geochemical Mapping in Toposheet No. 54J/11 & 54J/15 covering parts of Bhind, Datia and Gwalior districts of Madhya Pradesh.	2023-24
8	Geochemical Mapping in Toposheet No. 54J/02 & 54J/06 covering parts of Morena & Bhind districts of Madhya Pradesh and Dhaulpur district of Rajasthan.	2023-24
9	Geochemical Mapping in Toposheet 64B/11 and 64B/12 in parts of Balaghat and Mandla Districts, Madhya Pradesh. \$	2023-24
10	Geochemical Mapping in Toposheet 64B/15 & 64B/16 in parts of Mandla and Balaghat districts, Madhya Pradesh and Rajnandgaon, Kawardha districts, Chattisgarh. \$	2023-24
11	Geochemical Mapping in Toposheet no. 55F/03 & 55F/07 in parts of Harda, Hosangabad and Betul districts, Madhya Pradesh. \$	2023-24
12	Geochemical Mapping in Toposheet no. 55F/02 & 55F/06 in parts of Harda, Devas, Hosangabad and Sehore districts, Madhya Pradesh. \$	2023-24
13	Geochemical Mapping in Toposheet 64A/16 & 64E/4 in parts of Shahdol and Mandla Districts, Madhya Pradesh. \$	2023-24
14	Geochemical Mapping in Toposheet 64A/11 & 55N/8 in parts of Shahdol, Mandla, Jabalpur, Seoni & Chindwara Districts, Madhya Pradesh. \$	2023-24
\$ project to be executed from GSI, SU:MP, Jabalpur		
Maharashtra		
15	Geochemical mapping in toposheet nos. 55H/11 and 55H/12 covering parts of Yavatmal and Washim districts of Maharashtra.	2023-24
16	Geochemical mapping in toposheet Nos. 55H/7 and 55H/8 covering parts of Akola, Washim and Yavatmal Districts of Maharashtra.	2023-24
17	Geochemical mapping in Toposheet Nos. 55H/01 and 55H/02 covering parts of Akola and Amravati districts of Maharashtra.	2023-24
18	Geochemical mapping in Toposheet Nos. 55H/03 and 55H/04 covering parts of Akola and Washim districts of Maharashtra.	2023-24
19	Geochemical mapping in Toposheet Nos. 55H/05 and 55H/06 covering parts of Akola and Amravati districts of Maharashtra.	2023-24
20	Geochemical mapping in Toposheet Nos. 56A/3 and 56A/4 covering parts of Jalna and Beed districts of Maharashtra.	2023-24

21	Geochemical mapping in Toposheet Nos. 56A/05 and 56A/06 covering parts of Parbhani, Jalna and Buldhana districts of Maharashtra.	2023-24
22	Geochemical mapping in Toposheet Nos. 56A/01 and 56A/02 covering parts of Jalna and Buldhana Districts of Maharashtra.	2023-24
23	Geochemical Mapping in Toposheet nos. 47E/10, 47E/13 and 47E/14 in Ahmednagar, Nashik and Thane districts of Maharashtra.	2023-24
24	Geochemical Mapping in Toposheet nos. 47G/01, 47G/02, 47G/03 and 47G/04 in Raigad and Ratnagiri districts of Maharashtra.	2023-24
25	Geochemical Mapping in Toposheet nos. 47F/10, 47F/11, 47F/15 and 47F/16 in Pune and Satara districts of Maharashtra. #	2023-24
26	Geochemical Mapping in toposheet nos. 47E/11, 47E/12 and 47E/16 in Thane, Pune, Raigad and Ahmednagar districts of Maharashtra. #	2023-24
27	Geochemical mapping in toposheet nos. 47E/3, 47E/7 and 47E/8 of Thane & Raigad Districts of Maharashtra. #	2023-24
28	Geochemical Mapping in Toposheet nos. 47F/09 & 47F/13 in Pune and Raigad Districts of Maharashtra. #	2023-24
29	Geochemical Mapping in toposheet nos. 47F/04 and 47F/08 in Raigad and Ratnagiri districts of Maharashtra #	2023-24
30	Geochemical Mapping in toposheet nos. 47F/01, 47F/02 & 47F/03 in Raigad and Thane districts of Maharashtra. #	2023-24
31	Geochemical Mapping in Toposheet No. 56C/1 and 56C/2 in parts of Osmanabad and Solapur districts, Maharashtra. ^	2023-24
32	Geochemical Mapping in Toposheet No. 56C/3 and 56C/6 in parts of Osmanabad and Solapur districts of Maharashtra, Bijapur and Gulbarga districts of Karnataka. ^	2023-24
33	Geochemical Mapping in Toposheet No. 56C/5 and 56C/9 in parts of Osmanabad district of Maharashtra, Gulbarga and Bidar districts of Karnataka. ^	2023-24
# project to be executed from GSI, SU: MH, Pune		
^ project to be executed from GSI, SU: Andhra Pradesh		

Mission IA – Geophysical Mapping

Chhattisgarh

1	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 64K/02, 05, 06 and 64O/02, 03 covering (parts of Mahasamund, Raipur, Bilaspur, Janjgir-Champa and Raigarh) districts of Chhattisgarh.	2023-24
2	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 64C/15, 16, 64G/04, 64H/01 and 03 covering in the parts of Rajnandgaon, Durg and Kanker districts of Chhattisgarh.	2023-24
3	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 64J/13,14,15, 64N/2 and N/3 covering parts of Surajpur, Surguja, Korba, Raigarh districts of Chhattisgarh. @	2023-24

4	Ground Gravity-Magnetic Survey under Geophysical Mapping Programme in Toposheet Nos. 64M/16, 64N/7, 11, 13 & 14 covering parts of Jashpur and Raigarh districts of Chhattisgarh@	2023-24
5	Ground Gravity-Magnetic Survey under Geophysical Mapping Programme in Toposheet Nos. 64 I/1, 5 & 64M/1, 2 & 05, parts of Sidhi, Singrauli Districts of Madhya Pradesh, Surguja, Raigarh & Balrampur District of Chhattisgarh and Sonbhadra District of Uttar Pradesh. @	2023-24
6	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 64F/12 and 64G/01,05,08 & 12 covering parts of Kawardha, Durg and Raipur Districts of Chhattisgarh. @	2023-24
@ to be executed by GSI, ER, RHQ, Kolkata		
Madhya Pradesh		
7	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 54P/15, 16, 55M/02, 10 and 13 covering (parts of Damoh, Chhatarpur Panna and Jabalpur) districts of Madhya Pradesh.	2023-24
8	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 63D/03, 04, 07, 08 and 64A/01 covering (parts of Panna, Satna and Jabalpur) districts of Madhya Pradesh.	2023-24
9	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 63D/06, 10, 11, 15 and 63H/02 covering (parts of Panna and Satna) districts of Madhya Pradesh.	2023-24
10	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 64C/02, 06, 07, 10 and 11 covering (parts of Balaghat and Bhandara) districts of Madhya Pradesh and Maharashtra.	2023-24
Maharashtra		
11	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet nos. 47H/06, 07, 09, 10, 11 and 12 covering (parts of Ratnagiri and Sindhudurg) districts of Maharashtra.	2023-24
Mission IB – Remote Sensing and Aerial Survey		
1	Spectral Geological/Surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Maharashtra & Chhattisgarh states.	2023-24
2	Spectral Geological/Surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Maharashtra, Madhya Pradesh & Chhattisgarh states.	2023-24

MISSION II: NATURAL RESOURCES ASSESSMENT

Mission IIA– Mineral Resource Assessment

Chhattisgarh

1	General exploration for Phosphorite and associated mineralization in Sambalpur Block, Balod District, Chhattisgarh. (G2)	2023-24
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2	General exploration for Phosphorite and associated mineralization in Bhedi Block, Balod District, Chhattisgarh. (G2)	2023-24
3	General exploration for bauxite ore and associated mineralization in North of Rouni block, Jashpur district, Chhattisgarh. (G2)	2023-24
4	Preliminary exploration for limestone in Sitadabri block, Rajnandgaon district, Chhattisgarh. (G3)	2023-24
5	Preliminary exploration for gold and associated basemetal in Tulsidipa-Remratola block, Mahasamund district, Chhattisgarh. (G3)	2023-24
6	Preliminary exploration for gold and associated basemetal in Karankhol-Rachpalpur block, Mahasamund district, Chhattisgarh. (G3)	2023-24
7	Preliminary exploration for limestone around Matra and Gota areas of Durg district, Chhattisgarh. (G3)	2023-24
8	Preliminary Exploration for Limestone in Khilora Kalan Block, Durg District, Chhattisgarh. (G3)	2023-24
9	Preliminary exploration for limestone in Medesara block, Durg District, Chhattisgarh. (G3)	2023-24
10	Preliminary exploration for limestone in Bundeli Block, Rajnandgaon district, Chhattisgarh. (G3)	2023-24
11	Reconnaissance survey for Glauconitic sandstone in and around Pairaguda and Jhalpani, Baloda Bazar district, Chhattisgarh. (G4) Spin-off: NGCM	2023-24
12	Reconnaissance survey for Glauconitic sandstone in and around Kotera, Reghai and Kohangatola, Balod District, Chhattisgarh. (G4) Spin-off: STM	2023-24
13	Reconnaissance survey for Phosphorite and associated mineralization in Khaira Nawagaon area, Durg and Balod districts, Chhattisgarh. (G4)	2023-24
14	Reconnaissance survey for Phosphorite and associated mineralization in Latabor-Devinawagaon area, Balod and Durg districts, Chhattisgarh. (G4)	2023-24
15	Reconnaissance Survey for Glauconite and associated mineralization around Putpura and Asnid area, Baloda Bazar district, Chhattisgarh. (G4)	2023-24
16	Reconnaissance survey for REE in Gondwana Supergroup around Sardab - Ganjaipali area, Raigarh district, Chhattisgarh. (G4) Spin-off: NGCM	2023-24
17	Reconnaissance survey for lithium and associated rare metals in Raha and Ramakachhar area, Korba district, Chhattisgarh. (G4) Spin-off: NGCM	2023-24
18	Reconnaissance survey for tungsten and associated mineralization in and around Adhaura area, Balrampur District, Chhattisgarh. (G4)	2023-24

19	Reconnaissance survey for gold and associated sulphide mineralization in Chandranagar and Kavtapali area, Raipur and Mahasamund district, Chhattisgarh. (G4)	2023-24
20	Preliminary exploration for copper and associated mineralization in Pathratola-Pateltola Block, District Kawardha, Chhattisgarh. (G3)	2023-24
21	Preliminary exploration for graphite around Tolkipara area, Surguja District, Chhattisgarh. (G3)	2023-24
Madhya Pradesh		
22	Reconnaissance survey for base metal and associated mineralization in Burera Tal and Nayagaon areas covering parts of T.S. No.54L/1 Shivpuri district, Madhya Pradesh. (G4) Spin-off: STM	2023-24
23	Reconnaissance survey for glauconite and associated mineralization around Agra, Dubera and Magarda area in parts of T.S. No. 54G/5, Sheopur district, Madhya Pradesh.(G4)	2023-24
24	Reconnaissance Survey for REE and associated mineralization in and around Gohrsa-Barkachh-Tihki-Sota and Kalleh area, Shahdol District, Madhya Pradesh. (G4) Spin-off: NGCM	2023-24
25	Reconnaissance survey for vanadium and Rare Earth Elements in carbonate dykes in Bomia-Kathora-Kospur area, Barwani district, Madhya Pradesh. (G4)	2023-24
26	Reconnaissance Survey for Graphite, Vanadium and associated mineralisation in Warlipara-Sajeli-Umradara-Jamuri area in Jhabua District, Madhya Pradesh. (G4)	2023-24
27	Reconnaissance survey to search for limestone of Nagod and Lameta Formation in Garhakota and Pathria area, Sagar and Damoh District, Madhya Pradesh. (G4) Spin-off: NGCM	2023-24
28	Reconnaissance survey for Manganese mineralization in Bhagoli, Hrapur, Payali and Servi area of Balaghat district, Madhya Pradesh. (G4)	2023-24
29	Reconnaissance survey for Manganese mineralization in Kanki, Chatera, Birusa and Mohgaon area of Balaghat district, Madhya Pradesh. (G4)	2023-24
30	Reconnaissance survey for Nickel, Niobium, REEs and associated mineralization in Laterite from Katni District, Madhya Pradesh. (G4)	2023-24
31	Regional mineral targeting for gold, basemetal and critical minerals in Mahakoshal belt around Jabalpur, Katni, Umariya, Rewa, Shahdol, Satna, Sidhi, districts, Madhya Pradesh. (RMT) \$	2021-24
32	Preliminary exploration for limestone in Dandi block, Satna District, Madhya Pradesh. (G3) \$	2023-24
33	Preliminary exploration for limestone in Maheba block, Panna District, Madhya Pradesh. (G3) \$	2023-24
34	Preliminary exploration for limestone in Khajuri-Deora area block, Satna and Rewa District, Madhya Pradesh. (G3) \$	2023-24
35	Preliminary exploration for limestone in Hati - Bamhauri block, Satna District, Madhya Pradesh. (G3) \$	2023-24

36	Preliminary exploration for limestone in Kothi - Lokharia block, Satna District, Madhya Pradesh. (G3) \$	2023-24
37	Preliminary exploration for limestone in Chhipta block, Satna District, Madhya Pradesh. (G3) \$	2023-24
38	Preliminary exploration for Limestone in Narsingarh Block, Patharia Tehsil, Damoh District, Madhya Pradesh (Parts of Toposheet No. 55M/05). (G3) \$	2023-24
39	Reconnaissance survey for manganese in Sausar Group of rocks in Piparwani, Agri and Koylari areas, Seoni and Balaghat district, Madhya Pradesh. (G4) \$	2023-24
40	Reconnaissance survey for base metal and gold mineralization in Dhandhokui and Karahi area Shahdol District Madhya Pradesh. (G4) \$	2023-24
Spin-off: RMT		
41	Reconnaissance Survey for Cu and associated mineralization in Baigatola - Chakarwahi area, Balaghat District, Madhya Pradesh. (G4) \$	2023-24
42	Reconnaissance survey for Phosphorites of Bijawar Group of rocks in and around Chopra-Panchhi-Padro area, Chhatarpur District, Madhya Pradesh. (G4) \$	2023-24
43	Reconnaissance survey for Bauxite and aluminous laterite mineralization around Dadargaon and Chauradadar areas, Dindori District, Madhya Pradesh. (G4) \$	2023-24
44	Reconnaissance survey for primary source rocks of diamond in Malthone, Niwar, and Pali blocks in parts of Ashok Nagar, Chhatarpur, Damoh and Sagar districts, Madhya Pradesh, and Lalitpur district of Uttar Pradesh. (G4) \$	2022-24
\$ project to be executed from GSI, SU:MP, Jabalpur		
Maharashtra		
45	Preliminary exploration for Rare Earth Elements and Rare Metal mineralization in Kawalapur block, Nagpur district, Maharashtra. (G3)	2023-24
46	Preliminary exploration for copper and associated mineralisation in Chamorshi Block, Gadchiroli District, Maharashtra.(G3)	2023-24
47	Reconnaissance survey for Cu and associated mineralization in Silli- Makardhokra- Vaghabori area, Bhandara District, Maharashtra. (G4)	2023-24
48	Reconnaissance survey for base metal and associated mineralisation in Palasgaon - Wadhona area, Chandrapur district, Maharashtra. (G4)	2023-24
49	Reconnaissance Survey for pyrophyllite and kyanite in schistose units in Khapa - Nawargaon area, Bhandara District, Maharashtra. (G4)	2023-24
50	Reconnaissance survey for Rare Earth Elements (REE) mineralisation in Chionda-Kanhargaon area, Chandrapur District, Maharashtra. (G4)	2023-24
Spin-off: NGCM		
51	Reconnaissance survey for Rare Earth Elements (REE) mineralisation in Dabha-Chakbapur area, Chandrapur District, Maharashtra. (G4)	2023-24
Spin-off: NGCM		

52	Reconnaissance survey for bauxite, aluminous laterite in Hardoli Gondikhari area, Tumsar, Bhandara District, Maharashtra. (G4)	2023-24
53	Reconnaissance survey for bauxite and aluminous laterite in Achra area, Sindhudurg District, Maharashtra. (G4) #	2023-24
54	Reconnaissance Survey for REE mineralisation in granitic intrusives and regolith developed over it in Mangaon-Kumbharwada area, Sindhudurg District, Maharashtra. (G4) # Spin-off: STM	2023-24
55	Reconnaissance survey for bauxite and aluminous laterite in Phanasgaon area, Sindhudurg District, Maharashtra. (G4) #	2023-24
56	Regional assessment of laterite and ferricrete developed over the western Dharwar sequence in parts of Sindhudurg, Ratnagiri and Kolhapur districts, Maharashtra. (RP) #	2022-24
#project to be executed from GSI, SU:MH, Pune		
Mission IIB– Natural Energy Resources (Coal and Lignite)		
Chhattisgarh		
1	Preliminary Exploration for coal in Jampali West sector, Mand-Raigarh Coalfield, Raigarh district, Chhattisgarh. (G3)	2023-24
2	Preliminary Exploration for coal in Aklasarai Sector, Sonhat Coalfield, Koriya District, Chhattisgarh. (G3)	2023-24
Madhya Pradesh		
3	Reconnaissance survey for coal in Gorakhghat Area, Kanhan Valley Coalfield, Chhindwara district, Madhya Pradesh. (G4)	2023-24
4	Preliminary exploration for coal in Khirda sector, Pench Valley Coalfield, Chhindwara district, Madhya Pradesh. (G3)	2022-24
Maharashtra		
5	Preliminary exploration for Coal in Lathi-Purad sector, Wardha Valley Coal Field, Yavatmal district, Maharashtra. (G3)	2022-24
MISSION III : GEOINFORMATICS		
Mission IIIA– Geodata		
1	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS.	2023-24
Mission IIIB– Publication and Library		
1	Special Publication on Coal fields of Central India.	2022-24
2	Publication of GSI Records, Vol. 157, Part 6, Extended Abstracts of Progress Reports of FS 2022-23 of the Central Region.	2023-24
Mission IIIC– Map & Cartography		
1	Updating of a geodatabase of Central Region on 1:25K scale by adding additional STM data	2023-24
2	Compilation and preparation of Geological and Mineral Resource map of Chhattisgarh on 1: 1 M scale in GIS platform.	2023-24
3	Compilation of District Resource Maps of Guna, Tikamgarh, Sagar, Vidisha and Bhopal districts of MP in ArcGIS printable layout Format	2023-24
4	Compilation of Geological District Resource maps of Balaghat, Bhind, Datia, Gwalior, and Seoni districts of mp on 1:250000 scale in GIS platform.	2023-24
5	Creation of GIS database in respect of Base metals, precious metals, PGE and Diamond pertaining to Madhya Pradesh.	2023-24

6	Creation of GIS database of Ferrous & Non-Ferrous Minerals, Base metal, Industrial & Fertilizer Minerals, Precious Metals & Minerals and Strategic Minerals pertaining to Maharashtra state.	2022-24
7	Creation of GIS database in respect of Precious metal and minerals and Basemetal of minerals mainly for diamond, gold and basemetal in Chhattisgarh state.	2023-24
MISSION IV: FUNDAMENTAL AND MULTI-DISCIPLINARY GEOSCIENCE AND SPECIAL STUDIES		
Mission IV - Geotechnical Studies		
1	Geotechnical evaluation of water resources, inter basin water transfer, power projects and transport & communication projects of Maharashtra and Chhattisgarh.	2023-24
2	Geotechnical evaluation of water resources development projects, inter basin water transfer, power projects and transport & communication projects in Madhya Pradesh.	2023-24
Mission IV– Landslide Studies		
Maharashtra		
1	Identification of vulnerable inhabited hill slopes in parts of Satara District, Maharashtra	2023-24
2	Meso-scale (1:10,000) landslide susceptibility mapping along Mahabaleshwar-Kelghar and Mahabaleshwar-Tapola Road Sectors, District Satara, Maharashtra.	2023-24
3	Meso-scale (1:10,000) landslide susceptibility mapping along Amba-Sakharpa-Dabhole and Sakharpa-Vanzole Road Sectors, District Ratnagiri, Maharashtra.	2023-24
Mission IV– Seismic Studies		
1	GPS measurements of present day strain across active transverse tectonic elements along the West Coast fault and Chiplun fault zones of the western Maharashtra.	2022-25
2	Active Fault Mapping and Neotectonic studies in Narmada Valley and Seismotectonic study around Barwani and Seoni in parts of Harda, Hoshangabad, Narsinghpur, Jabalpur, Seoni and Barwani districts of Madhya Pradesh.	2022-25
3	GPS measurements of present-day strain across the active transverse tectonic elements along Son Narmada North & South Faults in Central Indian Tectonic Zone in Madhya Pradesh.	2023-26
Mission IV– Environmental Geology		
1	Geo-environmental study of fluoride contamination in the sub-surface water of Jhabua, Alirajpur and Dhar districts in Madhya Pradesh.	2022-24
2	Geo-environmental assessment of soil, surface water and groundwater contamination in Singrauli and Rihand area of Madhya Pradesh and Uttar Pradesh, respectively with emphasis on fluoride toxicity and heavy metal accumulation.	2022-24
3	Assessment of suitability of four lower Formations of Sahyadri Group, Deccan Volcanic Province for CO ₂ sequestration using multi-thematic approach.	2022-26
Mission IV– Fundamental Geoscience		
1	Detailed study on variation of micro and mega biota content in the Deccan volcanic Intertrappean sediments within Mandleshwar Formation of Malwa Group in south-western parts	2022-24

	of Madhya Pradesh and determination of palaeoecology, palaeoclimate and depositional environment.	
2	A Review of the stratigraphic status and origin of the BIF enclaves within basement gneiss of Jawli-Taka-Doma area, Chandrapur and Bhndara districts, Maharashtra.	2022-24
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Course on Geostatistics using NGCM data and its interpretation.	2023-24
2	Basic course on Mineral Prospecting and Exploration, Resource estimation techniques, UNFC, Ammended MMDR Act 2015, NMEP and NMP.	2023-24
3	Course on G3 to G2 Stages of Mineral Exploration.	2023-24
4	Course on Igneous Petrology and its Applications in Mineral Exploration.	2023-24
5	Course on Techniques of G4 stage of Mineral Exploration.	2023-24
6	Refresher Course on Geological Mapping in Shear Zones and its Metallogeny of Central India.	2023-24
7	Training on Basics of GIS and its Applications.	2023-24
8	Training on Sub-surface Geology and Mineral Prognostication beneath the Deccan Volcanic Province.	2023-24
9	Course on Water Chemistry-Analyses and Interpretation.	2023-24
10	Course on PFMS, BHAVISYA and Income Tax calculations.	2023-24
11	Course on Self Defence, Gender Sensitisation and Gender Budgeting.	2023-24
12	Course on Use of Word Processing and Spreadsheet programmes for office work.	2023-24
13	Training on Administration, Personnel Management, Finance and Vigilance for JTS/STS including Group-B Gazetted Officers.	2023-24
14	Training on Office Procedure, Administration, Finance, GeM, Vigilance and Roster Management for Group B and C officials.	2023-24
15	Training on Use of Hindi as Rajbhasha.	2023-24
16	Course on Geological Mapping and Mineral Exploration for Industrial and Fertilizer Minerals for "47 th Orientation Course for Geologists (OCG)".	2023-24
17	Course on Geological Mapping and Mineral Exploration for Industrial and Fertilizer Minerals for "47 th Orientation Course for Geologists (OCG)".	2023-24
18	Course on Geological Mapping and Mineral Exploration for Industrial and Fertilizer Minerals for "47 th Orientation Course for Geologists (OCG)".	2023-24
19	Course on Proterozoic Sedimentary Mapping in Singhora Basin and adjoining Chhattisgarh Basin.	2023-24
20	Course on Geological Mapping in Sonakhan Granite-Greenstone Belt.	2023-24
21	Refresher Course on Mineral Exploration for Industrial and Fertilizer Minerals.	2023-24
22	Refresher Course on Igneous geochemistry.	2023-24

Eastern Region (ER):

Eastern Region of the Geological Survey of India headquartered at Kolkata, covers the states/UTs of West Bengal, Andaman & Nicobar Islands, Bihar, Jharkhand and Odisha. The State Unit offices of GSI, ER are located at Kolkata, Patna, Ranchi and Bhubaneswar.

The State /Mission wise distribution of programmes are tabulated below.

EASTERN REGION		
Mission IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA– Specialized Thematic Mapping / Research Project		
Bihar		
1	Specialised Thematic Mapping around Gaya district of Bihar and Hazaribagh district of Jharkhand to study the petro-tectonic evolution of various granitoid suites and associated metasedimentaries and metabasic-metaultrabasic suites of rocks of CGC and BMB along with search for any possible mineralisation.	2022-24
2	Specialized Thematic Mapping in parts of Kachhua-Jamui-Lachhuar areas of Lakhisarai and Jamui districts of Bihar for a reappraisal of the stratigraphic status of the Munger Group and the Bihar Mica Belt with respect to the Chhotanagpur Gneissic Complex.	2023-24
Jharkhand		
3	Specialized Thematic Mapping of Chhotanagpur Granite Gneissic Complex in and around Hosir – Konchi - Simariya area (Heastu-Belbathan Polymetallic belt) in parts of Chatra, Latehar and Palamau districts, Jharkhand, in parts of toposheet nos. 72D/12 and 72D/16.	2022-24
4	Specialized Thematic Mapping of Chhotanagpur Granite Gneissic Complex in and around Tukipur-Jango-Narainpur (Hesatu-Belbathan Polymetallic Belt), in parts of Giridih, Deoghar, Jamtara & Dhanbad Districts, Jharkhand, in parts of T.S. no. 72L/8 & 72L/12.	2022-24
5	Specialized Thematic Mapping of Chhotanagpur Granite Gneissic Complex in and around Thiliya-Jhagru-Chainpur, in parts of Dhanbad, Jamtara & Giridih Districts, Jharkhand.	2022-24
6	Specialized Thematic Mapping of Chhotanagpur Granite Gneissic Complex in and around Padumpur Pathalgora Phusri area (Hesatu Belbathan Polymetallic belt) in parts of Chatra and Hazaribagh districts, Jharkhand, in parts of Toposheet No. 72D/16, 72H/04, 73A/13 and 73E/01.	2023-24
7	Specialised Thematic Mapping in and around Bukru- Ichak- Arra areas, Chhatra and Hazaribagh districts, Jharkhand to unravel the structural setup, tectono-stratigraphy and to appraise economic mineral potentiality of the area.	2023-24
Odisha		
8	Specialised Thematic Mapping of Gangpur Mobile Belt, Chhotnagpur Granite Gneissic Complex & Iron Ore Group in Panposh-Umrei area, Sundargarh District, Odisha and Ranaburu area, Simdega & West Singhbhum districts of Jharkhand.	2022-24

9	Specialised Thematic Mapping of Basin sediments in Ampani area of Nabarangpur and Kalahandi districts, Odisha to decipher the nature of contact with Bastar Craton and search for economic mineral, if any.	2023-25
10	Specialised Thematic Mapping of Indravati sediments and associated basement rocks in Papadahandi-Nabarangpur area of Nabarangpur and Koraput districts, Odisha to decipher stratigraphic sequence, depositional environment, nature of basement-cover relation in east and search for economic mineral, if any.	2023-24
11	Specialised thematic mapping for establishing the extension of Gorumahisani-Badampahar Group, Singbhum Granite and mafic-ultramafic rock in east with special emphasis on associated mineralisation around Sarat- Nuasahi-ChirupadaBaleswar-Mayurbhanj district, Odisha	2023-25
12	Specialised thematic mapping of Malayagiri Group Deogarh Schist Belt, Malangtoli basalt and Mankarhachua Group in and around Barkote–Autal area, Angul-Deogarh-Sundergarh district, Odisha.	2023-25
13	Specialised Thematic Mapping of Khondalite Group and Migmatite Group of Eastern Ghat Super Group to delineate litho-stratigraphic sequence including nature of contact, deformational history and mineral potentiality around Jhiripani- Tumudibandh area, Kandhamal District, Odisha.	2023-24
West Bengal		
14	Specialised Thematic Mapping of Gneiss-migmatite and associated supra-crustal rocks of Rangmetya-Hatirampur-Indpur area, Bankura & Purulia District, West Bengal with special reference to gold mineralization.	2022-24
15	Specialized thematic mapping of Chhotanagpur Granite Gneissic Complex (CGC) and northern contact of Raniganj Coalfield in parts of toposheet 73I/13 around Damagoria - Baradang - Jilpur - Udalbani area, Jamtara and West Bardhaman districts in parts of Jharkhand and West Bengal.	2023-24
16	Delineation of the Siwalik Gap along parts of the Darjeeling Himalaya, West Bengal in light of stratigraphy, structure and tectonics.	2023-25
Mission IA – Geochemical Mapping		
Jharkhand		
1	Regional geochemical mapping in parts of Toposheet no. 72H/11 in Koderma district of Jharkhand.	2023-24
Mission IA – Geophysical Mapping		
Jharkhand		
1	Ground Gravity-Magnetic Survey under Geophysical Mapping Programme in Toposheet Nos. 72O/8, 72 P/5, 72P/6, 72P/7 and 72P/11 Covering Parts of Bhagalpur District of Bihar, Godda, Sahibganj, Pakur and Dumka Districts of Jharkhand and Birbhum, District of West Bengal.	2023-24
2	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 64M/06, 10, 11, 64N/05 & 64O/07 covering parts of Surguja, Ranigarh, Mahasamund	2023-24

	districts of Chhattisgarh; Baragarh district of Odisha & Garhwa district of Jharkhand.	
Mission IA – Marine and Coastal Surveys		
Marine Survey		
1	Systematic shallow seismic surveys within the territorial waters in the shelf area off Dhamra River Mouth, Bay of Bengal (ST-301)	2023-24
Marine Mineral Investigation		
2	Preliminary investigation for Fe-Mn nodules/crust in the seamounts of northern part of Sewell Rise and Invisible Bank, Andaman Sea (SR-084)	2021-25
3	Preliminary mineral exploration in search of Limemud/Limesand in the continental shelf off Gujarat and Maharashtra coast (SR-085)	2023-24
4	Close grid mineral exploration for placer mineral resources in the innershelf within the Territorial Waters off Chilka Lake, Odisha (Block-2) (ST-299)	2023-24
5	Close grid mineral exploration for placer mineral resources in the Territorial Waters off Chilka Lake, Odisha (Block-1) (ST-300)	2023-24
Map & Publication		
6	Occurrences of Ferromanganese nodules and crust within EEZ off Andaman sea: Mineralogy, Geochemistry and Genesis.	2023-24
7	Compilation of occurrences and distribution of Palaeo-strand lines and palaeo-channels in the continental shelf of Bay of Bengal within TW of East Coast of India.	2023-24
8	Limemud occurrences and resources within EEZ of India.	2023-24
Mission IB– Remote Sensing and Aerial Survey		
1	Spectral Geological/Surface Mineral Mapping using space borne multispectral ASTER data on 1: 50,000 scale in Obvious Geological Potential (OGP) areas of Bihar, Jharkhand, Odisha and West Bengal.	2023-25

MISSION II: NATURAL RESOURCES ASSESSMENT		
Mission IIA– Mineral Resource Assessment		
Bihar		
1	Reconnaissance Survey for Basemetal Mineralization in Baghmari–Ambakola – Bhorsar – Phaga - Chandaipati areas of Hesatu- Belbathan Polymetallic Belt, Jamui and Banka Districts, Bihar (G4).	2023-24
2	Preliminary exploration for base metal mineralization in Dhawa-Biharbari area of Hesatu-Belbathan Polymetallic Belt, Banka District, Bihar (G3).	2023-24
3	Reconnaissance survey for REE and RM in and around Betiah and Barmasiya areas, Jamui district, Bihar (G4). Spin-off: NGCM & STM	2023-24
4	Reconnaissance survey for REE and RM in and around Dumakola and Paharpur areas, Jamui district, Bihar (G4). Spin-off: NGCM & STM	2023-24

Jharkhand		
5	Regional Mineral Targeting across the North Singhbhum Mobile Belt (NSMB) in and around West Singhbhum, Khunti, Simdega districts, Jharkhand. (RMT)	2022-24
6	Regional Mineral Targeting in and around Raniyan- Tamar-Murhu-Hesadih-Ichadih areas, along Lungtu-Parasi- Tamar and Babaikundi-Birgaon gold axes, North Singhbhum Mobile belt, Simdega, Khunti, Ranchi, Saraikela Kharsawan and West Singhbhum districts, Jharkhand targeting mainly gold mineralisation. (RMT)	2023-24
7	Reconnaissance survey for gold and associated minerals in Birdih area, Ranchi & Saraikela-Kharsawan District, Jharkhand. (G4)	2023-24
8	Reconnaissance survey for gold and associated minerals in Harat area, Ranchi & Saraikela-Kharsawan District, Jharkhand. (G4)	2023-24
9	Reconnaissance survey for gold and associated mineralisation around Itihasa-Rolamarcha areas, West Singhbhum, Jharkhand (G4)	2023-24
10	Reconnaissance survey for base metals (Pb-Zn-Cu) and associated minerals in and around Kusmarja-Gobindpur area, Giridih District, Jharkhand. (G4)	2023-24
11	Reconnaissance survey for copper, nickel, gold and associated minerals in Singpura-Angarpara area, East Singhbhum district, Jharkhand. (G4)	2023-24
12	Reconnaissance survey for Chromite and associated minerals (Cr, Cu, Ni and PGE etc.) in and around Mahaburu-Sardia area, West Singhbhum District, Jharkhand (G4).	2023-24
13	Reconnaissance survey for Manganese and associated minerals in and around Kambakera-Kulamara area, Simdega District, Jharkhand (G4).	2023-24
14	Reconnaissance survey of REE and Rare metals in and around Duha area, Giridih District, Jharkhand. (G4)	2023-24
15	Reconnaissance survey for REE and Rare metals in and around Bodisera-Ramrekha area, Simdega District, Jharkhand. (G4)	2023-24
16	Reconnaissance survey for REE and Rare metals in and around Chanchal-Jhalakdiha area, Koderma and Giridih districts, Jharkhand. (G4)	2023-24
17	Reconnaissance survey for REE and RM minerals in Chhotonagpur Gneissic Complex in and around Dargaon-Nawatoli area, Gumla District, Jharkhand. (G4)	2023-24
18	General Exploration for Graphite and Vanadium in Karma Block, Palamu District, Jharkhand. (G2)	2023-24
19	Preliminary Exploration for Graphite and Vanadium in Gurha-Manasoti Block, Palamu District, Jharkhand. (G3)	2023-24
20	Preliminary Exploration for Graphite and Vanadium in the Nawadih-Hanumanr-Gaura Block, Palamu District, Jharkhand. (G3)	2023-24
21	Reconnaissance survey for base metals (Pb-Zn-Cu) and associated minerals in and around Bhikhodih Phaphundi-Aurangaro area, Giridih District, Jharkhand. (G4)	2023-24

Odisha		
22	Preliminary exploration for manganese and graphite in Babja North Block, Balangir District, Odisha. (G3)	2023-24
23	Preliminary exploration for iron ore in Gadadharpur Block, Kendujhar district, Odisha. (G3)	2023-24
24	Preliminary exploration for manganese ore in Jhirpani-Panchra block, Sundargarh district, Odisha. (G3)	2023-24
25	Preliminary exploration for gold and associated precious metals in Suriagora block, Mayurbhanj district, Odisha. (G3)	2023-24
26	Preliminary exploration to assess the potentiality of REE & RM in Khuntapada- Arkhapal Block, Nayagarh district, Odisha. (G3)	2023-24
27	Preliminary exploration for copper and associated precious metals in the Eastern extension of Kesharpur East - Dudhiasol East block, Mayurbhanj district, Odisha. (G3)	2023-24
28	Preliminary exploration for copper and associated metals in the western extension of Adash Block, Deogarh district, Odisha. (G3)	2023-24
29	Preliminary exploration for copper and associated precious metals in Kusumbari block, Mayurbhanj district, Odisha. (G3)	2023-24
30	Preliminary exploration for graphite in Tumandi East Block, Nayagarh district, Odisha. (G3)	2023-24
31	Preliminary exploration for graphite in Tumandi West Block, Nayagarh district, Odisha. (G3)	2023-24
32	Reconnaissance survey for chromite and nickel in Tungeisuni Block, Sukinda Ultramafic Complex, Jajpur district, Odisha. (G4)	2023-24
33	Reconnaissance survey for manganese ore and graphite in Dumerjharan, Banipali blocks, Balangir district, Odisha. (G4)	2023-24
34	Reconnaissance survey for Gold and associated mineralization in and around Sargipali- Tangarpali- Khamarimunda area, Sundergarh district, Odisha. (G4)	2023-24
35	Reconnaissance survey for gold and associated minerals in Daitari- Alutama area of Kendujhar and Jajpur districts, Odisha. (G4)	2023-24
36	Reconnaissance survey for Nickel and PGE mineralization within the mafic-ultramafic enclaves of Bonai Granitoid Complex around Roxy area, Sundargarh District, Odisha. (G4)	2023-24
37	Reconnaissance survey for primary source rock for diamond around Umerkote area, Nabarangpur District, Odisha. (G4)	2023-24
38	Reconnaissance survey for primary source rocks for Kimberlite Clan of Rocks (KCRs) around Beltukri-Kurlapali-Jagdulpur sector of Nuapara and Bargarh Districts, Odisha. (G4)	2023-24
39	Reconnaissance survey for copper and associated metals in Iswarpali- Gundiapali- Brahmanipali area, Deogarh district, Odisha (G4).	2023-24
40	Reconnaissance survey for base metal and associated precious metals in Bhuasuni- Kripaduma area, Mayurbhanj district, Odisha (G4).	2023-24
41	Reconnaissance Survey for REE mineralization in Debinagar area, Angul District, Odisha. (G4)	2023-24
42	Reconnaissance survey for REE and RM mineralization around Kumbharajholi-Borada area, Ganjam District, Odisha. (G4)	2023-24

43	Reconnaissance survey for Graphite mineralization around Dangarigan area, Kalahandi District, Odisha. (G4)	2023-24
44	Assessment of Low grade Chromite and associated Nickel in the stabilized Mine dumps of Sukurangi Chromite Mines of Odisha Mining Corporation, Jajpur district, Odisha (RP)	2023-24
45	Predictive mineral potential mapping in Patnagarh-Titlagarh area through geoscience data integration and spatial modeling to identify prospective zones of REE and base metal mineralisation in Balangir and Kalahandi districts, Odisha. (RMT)	2022-24
46	Regional Mineral Targeting in Kunjar-Jharmunda-Bamra sector for greenstone hosted gold mineralization, epigenetic hydrothermal Ni, Cu, Pb & Zn and conglomerate hosted gold and REE mineralization in Sundargarh, Jharsuguda and Sambalpur districts of Odisha. (RMT)	2023-25
West Bengal		
47	Preliminary exploration for REE & RM around Golamara-Baruadih block, Purulia district, West Bengal. (G3)	2023-24
48	Reconnaissance Survey for Gold mineralization in and around Sirisgora, Laupal and Kalapati area, Purulia, Bankura and Jhargram districts, West Bengal. (G4) Spin-off: STM	2023-24
49	Reconnaissance survey for Au and Basemetal in and around Chatarma-Malti-Burudih area of Purulia district, West Bengal. (G4) Spin-off: STM	2023-24
50	Reconnaissance survey for Tungsten and REE-RM mineralization in and around Tepra- Mashak Pahar-Baghalkhulia area, Bankura district, West Bengal. (G4) Spin-off: STM	2023-24
51	Reconnaissance survey for REE around Ukma-Noahatu-Bhandhhat area, Purulia district, West Bengal. (G4) Spin-off: GCM	2023-24
52	Reconnaissance Survey for Au and REE mineralization in and around Pargela and Dandudih area, Purulia district, West Bengal. (G4) Spin-off: STM	2023-24
53	Reconnaissance Survey for Nb, REE and other rare metal mineralization within nepheline syenite and associated fenitised rock in and around Shusina area, Purulia district, West Bengal. (G4) Spin-off: STM	2023-24
54	Reconnaissance survey for REE and RM in Kathaldiha-Bhabanipur-Bhangra area, Purulia districts, West Bengal. (G4) Spin-off: NGCM	2023-24
55	Reconnaissance survey for REE and RM Mineralisation around Kanadungri-Chauniya-Pakhi Pahar area, Purulia district, West Bengal. (G4) Spin-off: NGCM	2023-24

Mission IIB: Natural Energy Resources (Coal, Lignite and Geothermal)		
Odisha		
1	Preliminary exploration for coal by drilling in Chadachadi south Sector, Talcher Coalfield, Angul & Deogarh district, Odisha. (G3)	2023-24
2	Preliminary exploration for coal by drilling in Panchaburia sector, Ib-River Coalfield, Sundargarh District, Odisha. (G3)	2023-24
3	Evaluation of geothermal energy resources in Attri geothermal manifestation area, Mahanadi Valley Geothermal Province, Khordha district, Odisha. (GT) @	2023-24
4	Evaluation of geothermal energy resources in Tarabalo geothermal manifestation area, Mahanadi Valley Geothermal Province, Nayagarh district, Odisha. (GT) @	2023-24
@ project to be executed from RHQ, GSI, CR Nagpur		
West Bengal		
5	Reconnaissance survey for Gondwana coal in Madianpur Sector, Birbhum Coalfield, Rajmahal Group of Coalfields, Birbhum district, West Bengal (G4).	2023-24

MISSION III: GEOINFORMATICS		
Mission IIIA– Geodata		
1	Creation of Geodatabase of mineral commodities of Jharkhand state.	2023-24
2	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS, Eastern Region.	2022-25
Mission IIIB– Publication and Library		
1	Gold mineralization in Jharkhand	2023-24
2	Publication of " Records of GSI, Vol.157, Part-3, Extended Abstracts of Eastern Region for FS: 2022-23"	2023-24
Mission IIIC – Map, Geoinformatics and Data Integration		
1	Preparation of District Resource Map on 1:2,50,000 scale of Simdega, Khunti, Latehar, Ramgarh, Saraikela Kharsawan districts of Jharkhand based on 1:50K geodatabase.	2023-24
2	Preparation of 2nd edition of District Resource Map of Sundergarh, Mayurbhanj, Jharsuguda, Sambalpur, Deogarh, Keonjhar, Bargarh, Sonapur, Boudh, Angul, Bolangir, Dhenkanal, Nayagarh, Bhadrak, Jajpur, Baleswar, Kendrapada, Cuttack, Jagatsinghpur, Khurdha, Puri, Ganjam, Gajapati, Kalahandi, Khandhamal, Nabarangpur, Rayagada, Koraput, Malkangiri, Nuapada, Odisha based upon 50K GMS database on 1:2,50,000 scale in GIS platform.	2023-25
3	Preparation of 2nd edition District Resource Maps of Araria, Arwal, Aurangabad, Banka, Begusarai, Bhagalpur, Bhojpur, Buxar, Darbhanga, East Champaran, Gaya, Gopalganj, Jamui, Jehanabad, Kaimur, Katihar, Khagaria, Kishanganj, Lakhisarai, Madhepura, Madhubani, Munger, Muzaffarpur, Nalanda, Nawada, Patna, Purnea, Rohtas, Saharsa, Samastipur, Saran, Shiekhpura, Sheohar, Sitamarhi, Siwan, Supaul, Vaishali and West Champaran districts of Bihar on 1:2,50,000 scale in GIS platform.	2023-25
4	Preparation of District Resource Map of Purulia and Bankura district of West Bengal and Nicobar, North and Middle Andaman,	2023-24

	South Andaman districts of Andaman and Nicobar Islands on 1:2,50,000 scale in GIS platform.	
MISSION IV: FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV– Geotechnical Studies		
1	Geotechnical Evaluation of Water Resources Development Projects in West Bengal and Andaman and Nicobar Islands.	2023-25
2	Geotechnical Evaluation of Water Resources Development Projects in Jharkhand and Bihar.	2023-25
3	Geotechnical evaluation of Communication and Transport Projects in Bihar, Jharkhand, West Bengal, Andaman & Nicobar Islands.	2023-25
4	Geotechnical evaluation of Water Resources Development Projects in Odisha.	2023-24
Mission IV– Seismic Studies		
1	Geodetic survey by DGPS in and around Cooch Behar and Alipurduar, North Bengal, the foreland areas of Bhutan Himalayas.	2021-24
2	Seismic microzonation of Puri - Konark Development Area in the East coast of Odisha.	2022-24
Mission IV– Landslide Studies		
1	Meso scale (1:10000) landslide susceptibility zonation and slope stability study between Sukhia Pokhri and Rimbick along Sukhia Pokhri-Manebhanjan-Dhotery Rimbickroad, Darjeeling District, West Bengal.	2023-25
Mission IV– Environmental, Medical and Quaternary Geology		
1	Coastal morphodynamics of Odisha from Brahmani River in the North to Mahanadi in the south in the Kendrapara district in order to understand the coastline and related land cover-land use over the next 50 years.	2023-26
2	Integrated geomorphic, sedimentary and palaeoclimate studies of Subarnarekha River in the middle and lower reaches in parts of Jharkhand, West Bengal and odisha states from Jamshedpur town to the river mouth at Bay of Bengal.	2022-24
3	Evaluation of Environmental impacts caused due to E-Waste materials in and around the informal dumping sectors and to evaluate the sediment / soil, water quality through chemical data values in parts of Howrah, Hugli, Nadia, Purba Medinipur, North & South 24 parganas and Kolkata districts of West Bengal in toposheet no. 79B/3, 4, 5, 6, 7 & 8.	2023-24
4	Assessment of fluoride contamination in groundwater and geo-hydrological study of Khatra, Ranibandh blocks of Bankura district, West Bengal, India.	2023-24
5	Geo-environmental appraisal for assessment of river migration, river bank erosion and vulnerability of flood associated with Bhagirathi river stretch offrom Mirzapur in Murshidabad to Palassey in Nadia district West Bengal.	2023-25
6	Geological Assessment of incidence of Arsenic in groundwater in Samastipur district, Bihar.	2023-24
7	Geo-environmental assessment of incidences of Fluoride, Lead & Radioactive elements in surface and groundwater in parts of Gaya district, Bihar.	2023-24

8	Assessment of fluoride contamination in surface and groundwater and its management in southern parts of Garhwa District, Jharkhand.	2022-24
Mission IV– Fundamental Geoscience		
1	Multiproxy study of Archipelago Group of Andaman Nicobar Islands in view of climatic optimum and cooling during Miocene.	2022-24
2	The Study of response through fossilised shells of modern foraminiferal assemblage to pollution and Ocean acidification in Hooghly estuary to Chandipur coast.	2022-24
3	Metallogenic evolution of Pb-Zn-Cu-Au bearing quartz-sericite-magnetite rocks of Gorubathan deposit as well as other potential areas within Gorubathan Formation around Darjeeling and Kalimpong district, West Bengal.	2023-24
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Refresher Course on Shear Zone Microstructures and Deformation Mechanisms.	2023-24
2	Refresher Course on Structural Geology and Mapping of Precambrian Terrane.	2023-24
3	Refresher course on Exploration for Base metals and associated minerals.	2023-24
4	Refresher course on Exploration for Ferrous Group of Minerals.	2023-24
5	Refresher course on REE and RM exploration (G4 Stage).	2023-24
6	Refresher Course on Igneous Petrography.	2023-24
7	Refresher Course in Metamorphic Petrography.	2023-24
8	Refresher Course on Geohazards and Mitigation Strategies (Title to be updated by TI as suggested).	2023-24
9	Refresher Course on Instrumental Techniques in Petrology and Geochronology (Title to be modified).	2023-24
10	Refresher course on Phase Equilibria Modelling in Petrology.	2023-24
11	Course on Early Warning System on Landslides.	2023-24
12	Course on Coal Geochemistry for Chemists.	2023-24
13	Course on Water Chemistry-Analysis and Interpretation.	2023-24
14	Course on Use of Word Processing and Spreadsheet programmes for office work.	2023-24
15	Training on Use of Hindi as Rajbhasha.	2023-24
16	Course on Self Defence, Gender Sensitisation and Gender Budgeting.	2023-24
17	e-Training on Administration, Personnel Management, Finance and Vigilance for JTS/STS including Group-B Gazetted Officers.	2023-24
18	e-Training on Office Procedure, Administration, PFMS, BHAVISYA, GeM, Vigilance, E-Bill and Roster Management for Group B and C officials.	2023-24
19	Geological mapping in Gondwanas and Coal exploration for 47 th Orientation course for Geologists (OCG).	2023-24
20	Geological mapping in Gondwanas and Coal exploration for 47 th Orientation course for Geologists (OCG).	2023-24
21	Geological mapping in Gondwanas and Coal exploration for 47 th Orientation course for Geologists (OCG).	2023-24
22	Refresher Course on Gold Exploration.	2023-24
23	Refresher course on geological mapping in sedimentary terrain with emphasis on sedimentary facies analysis.	2023-24
24	Course on Coal Resource Estimation for Geologists.	2023-24

North-Eastern Region (NER):

North-Eastern Region of the Geological Survey of India headquartered at Shillong, covers the states of Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The State Unit offices of GSI, NER are located at Agartala, Dimapur, Guwahati, Gangtok, Itanagar and Shillong.

The State /Mission wise distribution of programmes are tabulated below.

NORTH EASTERN REGION		
Mission IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA– Specialized Thematic Mapping		
Arunachal Pradesh		
1	Specialized Thematic Mapping to establish lithostratigraphy, tectonic setting, geochemistry and geochronology of Pari Mountain Gneiss, Bomdila Group and Dibang Group of rocks and assess economic potentiality in Lalpani-Tidding-Wakro areas, Lohit district Arunachal Pradesh.	2023-24
2	Specialized Thematic Mapping to establish tectonic setting, geochemistry and geochronology of Lumla Formation with respect to Se La and Bomdila groups and assess economic potentiality in Tawang-Lumla areas, Tawang District, Arunachal Pradesh.	2022-24
Assam		
3	Specialized Thematic Mapping in Kaphitali-Daboka-Parokhuwa areas of Karbi Anglong district, Assam to establish igneous complex and to bring out the structural implication of Kaliyani shear zone for possible mineralization.	2023-24
Meghalaya		
4	Specialised Thematic Mapping around Phutamati-Jangrapara-Dandarigiri area to unravel the tectono-metamorphic evolution in northwestern part of AMGC, West Garo Hills district, Meghalaya.	2022-24
5	Specialized Thematic Mapping in parts of the Palaeogene Sediments of Jaintia and Garo Group, in parts of West Khasi Hills and South Garo Hills district in toposheet no. 78K/11, 12, 15 & 16.	2023-24
Nagaland		
6	Specialised thematic mapping to resolve the conundrum of Disang-Barail contact around Kohima-Viswema-Kezoma area, Nagaland.	2023-24
Sikkim		
7	Specialized Thematic Mapping of Rangit Window and to demarcate the geometry & kinematics of associated duplex system vis a vis characterization of the alkaline ultra-potassic syenite/Lamprophyres patches in the area of South and West Districts (Namchi, Gyalshing and Soreng Districts) of Sikkim.	2023-24
8	Specialised Thematic Mapping for characterization of Darjeeling Gneiss and study of magmatic emplacement history of Granitoids in the area between Thangu and Lohnak lake section in parts of North Districts, Sikkim on Expedition basis.	2023-24

Mission IA– Geochemical Mapping		
Arunachal Pradesh		
1	Geochemical mapping in toposheet nos. 83N/5 & 83N/9 covering parts of Longding, Tirap and Changlang districts of Arunachal Pradesh.	2023-24
Assam		
2	Geochemical mapping in Toposheet No. 83G/06 covering parts of Karbi Anglong East and Dima Hasao Districts, Assam & Peren District, Nagaland.	2023-24
3	Geochemical mapping in Toposheet No. 83G/07 covering parts of Dima Hasao District, Assam and Peren District, Nagaland & Tamenglong district, Manipur.	2023-24
4	Geochemical mapping in Toposheet No. 83J/03 covering parts of Jorhat & Golaghat Districts, Assam and Wokha District, Nagaland.	2023-24
5	Geochemical mapping in Toposheet No. 83J/06 covering parts of Jorhat District, Assam and Mokochung District, Nagaland.	2023-24
6	Geochemical mapping in Toposheet No. 83D/11 covering parts of Hailakandi and Aizwal districts, Assam and Mizoram respectively.	2023-24
7	Geochemical mapping in Toposheet No. 83D/10 covering parts of Cachar, Hailakandi and Karimganj districts, Assam.	2023-24
8	Geochemical mapping in Toposheet no. 83F/01 and 83F/05 covering parts of Biswanath District of Assam and Pekka Kessang and Papum Pare Districts of Arunachal Pradesh	2023-24
9	Geochemical mapping in toposheet no. 83H/01 covering parts of Cachar, North Cachar districts of Assam & Tamenglong, Jiri Imphal East districts of Manipur.	2023-24
10	Geochemical mapping in toposheet no. 83D/14 covering parts of Cachar and Hailakandi district of Assam.	2023-24
11	Geochemical mapping in Toposheet No. 83D/9 & part of toposheet no 83D/5 covering parts of Cachar, Hailakandi and Karimganj districts, Assam.	2023-24
12	Geochemical mapping in toposheet no. 83F/9 covering parts of Sonitpur, Lakhimpur, and Sibsagar districts of Assam and East Kameng district of Arunachal Pradesh.	2023-24
13	Geochemical mapping in parts of Toposheet No. 83D/05 & 06 covering parts of Cachar, Karimganj and Hailakandi Districts, Assam.	2023-24
14	Geochemical mapping in Toposheet No. 83D/07 covering parts Karimganj and Hailakandi districts of Assam and North Tripura District of Tripura.	2023-24
Manipur		
15	Geochemical mapping in T.S. No. 83G/11 in parts of Peren District, Nagaland and Tamenglong District, Manipur.	2023-24
16	Geochemical mapping in Toposheet No. 83G/8 in parts of Tamenglong District, Manipur and Cachar District, Assam.	2023-24
17	Geochemical mapping in Toposheet no. 83G/12 in parts of Perendistrict, Nagaland and Tamenglong district, Manipur.	2023-24
18	Geochemical mapping in toposheet no. 83H/02 in parts of Jiribam, Pherzawl, Noney, and Tamenglong districts of Manipur and Cachar district of Assam	2023-24

19	Geochemical mapping in T.S. No. 83H/03 in parts of Pherzawl district, Manipur, Kolasib district, Mizoram and Silchar district, Assam.	2023-24
20	Geochemical mapping in Toposheet no. 83H/4 in and around of Tipa Imukh, Manipur South District, Manipur	2023-24
21	Geochemical mapping in Toposheet No. 83H/05 in parts of Noney and Tamenglong districts of Manipur.	2023-24
22	Geochemical mapping in Toposheet No. 83H/6 in parts of Tamenglong, Noney, Pherzawl and Churachandpur districts in Manipur.	2023-24
23	Geochemical mapping in Toposheet No. 83H/7 in parts of Pherzawl and Churachandpur districts of Manipur.	2023-24
24	Geochemical mapping in parts of Noney and Tamenglong districts of Manipur in T.S. No. 83H/09.	2023-24
25	Geochemical mapping in parts of Noney, Churachandpur, Kangpokpi and Bishnupur districts of Manipur in T.S. No. 83H/10.	2023-24
26	Geochemical mapping in T.S. No. 83H/11 in parts of Churachandpur and Bishnupur districts of Manipur.	2023-24
27	Geochemical mapping in Toposheet no. 83H/12 and 84E09 in parts of Churachandpur district of Manipur.	2023-24
28	Geochemical mapping in parts of Imphal West, Imphal East and Kangpokpi districts of Manipur in T.S. No. 83H/13.	2023-24
29	Geochemical mapping in parts of Imphal West, Imphal East, Thoubal, Bishnupur, Kakching and Senapati districts of Manipur in T.S. No. 83H/14.	2023-24
30	Geochemical mapping in T.S. No. 83L/6 in parts of Kamjong & Tengnoupal districts of Manipur.	2023-24
31	Geochemical mapping in parts of Tengnoupal and Chandel districts of Manipur in parts of T.S. No. 83L/7, 84E/13 and 84I/1.	2023-24
Nagaland		
32	Geochemical mapping in Toposheet No. 83G/13 covering parts of Golaghat district of Assam and Dimapur, Kohima and Wokha districts of Nagaland*	2023-24
33	Geochemical mapping in Toposheet No. 83G/10 in parts of Peren and Chumukedima districts, Nagaland and Karbi Anglong district, Assam.	2023-24
34	Geochemical mapping in toposheet no. 83G/14 in parts of Kohima, Chumukedima and Peren districts of Nagaland and Senapati district of Manipur.	2023-24
35	Geochemical mapping in Toposheet no. 83J/07 in parts of Mokokchung, Wokha districts of Nagaland and Sibsagar District of Assam.	2023-24
36	Geochemical mapping in Toposheet No. 83J/10 in parts of Mokokchung, and Longleng districts of Nagaland and Sibsagar district of Assam.	2023-24
*project to be executed from GSI, SU: Assam		
Mizoram		
37	Geochemical mapping in Toposheet no.83H/08 in parts of Pherzawl and Churachandpur districts, Manipur and Champhai District, Mizoram.	2023-24

38	Geochemical mapping in toposheet no. Parts of 84E/05 & 84E/06 covering parts of Champhai & Khawzawl districts of Mizoram.	2023-24
39	Geochemical mapping in parts of toposheet no. in 84A/7 ,84A/8 and 84B/5 covering parts of Lunglei and Mamit districts of Mizoram.	2023-24
40	Geochemical mapping in parts of toposheet no. of 84E/07 & 84E/08 covering parts of Champhai & Khawzawl districts of Mizoram.	2023-24
41	Geochemical mapping in toposheet no. 84A/12 covering parts of Lunglei, and Serchhip districts of Mizoram.	2023-24
42	Geochemical Mapping in toposheet no.84A/05, covering parts of North Tripura district, Tripura & Mamit district, Mizoram.	2023-24
43	Geochemical mapping in toposheet no. 84A/16 covering parts of Lunglei, Serchhip and Hnahthial districts of Mizoram.	2023-24
44	Geochemical Mapping in parts of Toposheet no.84A/06 & 84A/07, covering parts of Mamit district, Mizoram.	2023-24
45	Geochemical mapping in toposheet no. 84B/09 covering parts of Lunglei, district of Mizoram.	2023-24
46	Geochemical Mapping in toposheet no.78P/15 and 83D/03, covering parts of Unnakoti, North Tripura district, Tripura & Karimganj district, Assam.	2023-24
47	Geochemical Mapping in toposheet no 84B/12and 84B/16, covering parts of Saiha and Lawngtlai Districts of Mizoram.	2023-24
48	Geochemical mapping in toposheet no. 84E/3 covering parts of Champhai and Serchhip districts of Mizoram.	2023-24
49	Geochemical Mapping in toposheet no 84E/01, covering parts of Aizawl and Champai Districts of Mizoram.	2023-24
50	Geochemical Mapping in toposheet no 84F/03 and 84F/04, covering parts of Saiha Districts of Mizoram.	2023-24
51	Geochemical Mapping in toposheet 84B/11& B/12, covering parts of Lawngtlaidistrict of Mizoram.	2023-24
52	Geochemical mapping in toposheet no. 84E/4 covering parts of Hnahthial, Serchhip Champhai and Khawzawl districts of Mizoram.	2023-24
53	Geochemical Mapping in toposheet no. 84B/15, covering parts of Lawngtlai & Saiha Districts of Mizoram.	2023-24
54	Geochemical Mapping in toposheet 84F/01 & 02, covering parts of Hnahthial, Lawngtlai& Saiha Districts of Mizoram.	2023-24
55	Geochemical mapping in parts of toposheet no. in 84D/15 covering parts of Aizawl and Kolasib districts of Mizoram and Cachar district of Assam.	2023-24
56	Geochemical mapping in toposheet no. 84B/10 covering parts of Lunglei and Lawngtlai of Mizoram.	2023-24
57	Geochemical mapping in toposheet no. 84B/13 covering parts of Lunglei and Saiha districts of Mizoram.	2023-24
58	Geochemical mapping in toposheet no. 84B/14 covering parts of Lunglei, Saiha and Lawngtlai districts of Mizoram.	2023-24
59	Geochemical mapping in toposheet no. 84E/2 covering parts of Champhai and Khawzawl districts of Mizoram.	2023-24

Mission IA– Geophysical Mapping		
Assam		
1	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 78K/11 (Part), 78K/12, 78G/14,78G/15 covering parts of South, East Garo Hills districts, Meghalaya, Dhubri District, Assam.	2023-24
2	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 78O/4,78O/12,83C/6 covering parts of East Khasi Hills, East Jaintia hills districts of Meghalaya, Karbi Anglong district of Assam.	2023-24
Mission IB– Remote Sensing and Aerial Survey		
Meghalaya		
1	Spectral Geological/Surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Assam Meghalaya Gneissic Complex, Shillong Group, Alkaline complexes	2023-24
Sikkim		
2	Spectral Geological/Surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Sikkim Himalayan Belt, Assam Meghalaya Gneissic Complex, Syllhet traps.	2023-24

MISSION II: NATURAL RESOURCE ASSESSMENT		
Mission IIA– Natural Mineral assessment		
Arunachal Pradesh		
1	Preliminary exploration for vanadium, graphite and associated minerals around Kugitao - Miya areas, Lower Subansiri district, Arunachal Pradesh. (G3)	2023-24
2	Reconnaissance survey for REE in Techipu area, Kurung Kumey District, Arunachal Pradesh. (G4)	2023-24
Spin-off: NGCM		
3	Reconnaissance survey for limestone of Chilliepam Formation of Bomdila Group in and around Hugu and Sakehugu area Kurung Kumey district, Arunachal Pradesh. (G4)	2023-24
4	Reconnaissance survey for limestone in and around Puding-Paling-Janbo-Likor areas, Upper Siang district, Arunachal Pradesh. (G4)	2023-24
5	Reconnaissance survey for phosphorite mineralisation in Lower Gondwana rocks in Garu-Gensi area, Lower Siang District, Arunachal Pradesh. (G4)	2023-24
Assam		
6	Preliminary exploration for REE and associated minerals in Krawgaon block, Jashora Alkaline Complex, West Karbi Anglong district, Assam. (G3)	2023-24
7	Preliminary exploration for limestone in Krungming Block, Dima Hasao district, Assam. (G3)	2023-24
8	Reconnaissance survey for REE and associated mineralisation in Chelear -Rongpham area, West Karbi Anglong District, Assam. (G4)	2023-24
Spin-off: NGCM		

9	Reconnaissance survey for placer gold in and around Dikrang River basin, Lakhimpur and Sonitpur districts, Assam. (G4)	2023-24
10	Reconnaissance survey for REE and associated minerals in coal and associated clay beds in and around Lido Tikok-Tipangpani area, Tinsukia District, Assam. (G4)	2023-24
Meghalaya		
11	Reconnaissance survey for re-appraisal for base metal in the Shillong group of rocks around Mawlong block, East Khasi Hills District, Meghalaya. (G4)	2023-24
12	Reconnaissance survey of REE, Li and associated mineralisation in central parts of South Khasi Batholith near Pariong, Sohma areas in South West Khasi Hills district, Meghalaya. (G4) Spin-off: RMT	2023-24
13	Reconnaissance survey of REE, Sn, Li and associated mineralization around Mawphir area of South Khasi Batholith in South West Khasi Hills district, Meghalaya. (G4) Spin-off: RMT	2023-24
14	Reconnaissance survey for REE, lithium and associated mineralization around Kyllang Nongthymmai and Mawjasksaw, West Khasi Hills district, Meghalaya. (G4) Spin-off: RMT	2023-24
15	Reconnaissance survey for REE, basemetal and associated mineralization in and around Umling area, Ri-Bhoi district, Meghalaya. (G4)	2023-24
16	Reconnaissance Survey for limestone to the west of Siju Area, South Garo Hills District, Meghalaya. (G4)	2023-24
17	Reconnaissance survey of limestone around Chokpot Area, South Garo Hills District, Meghalaya. (G4)	2023-24
18	Preliminary Exploration for Limestone in Khunti Block, Litang Valley, East Jaintia Hills District, Meghalaya. (G3)	2023-24
19	Reconnaissance survey for lithium and associated mineralisation in Darang area, South Garo Hills and East Garo Hills District, Meghalaya. (G4)	2023-24
Nagaland		
20	Petrogenesis of gold bearing mafic-ultramafic rocks of Naga Hills Ophiolite (NHO) around Sutsu-Washello, Phek District, Nagaland: Constrain from mineral chemistry, geochemistry and isotopic studies. (RP) Spin-off: STM, NGCM	2023-24
21	Preliminary investigation of iron ore around Purr-Sutsu, Phek District, Nagaland. (G3)	2023-24
22	Preliminary exploration for nickeliferous laterite in Naga Hills Ophiolite near Mollen, Phek, Nagaland. (G3)	2023-24
Sikkim		
23	Preliminary exploration for graphite, vanadium and associated minerals around Uttrey area, West District (Soreng and Gyalshing Districts), Sikkim. (G3)	2023-24
Mission IIB: Natural Energy Resources (Coal & Lignite)		
Nagaland		
1	Reconnaissance survey for coal around Lakhuti Akuk and Mekola, Wokha District, Nagaland. (G4)	2023-24

MISSION III: GEOINFORMATICS		
Mission IIIA– Geodata		
1	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS, North-Eastern Region.	2023-24
Mission IIIB– Publication and Library		
1	Publication of Records of GSI – Vol. 157 pt. 4 (Extended Abstracts of Reports for the F.S 2022-23, NER)	2023-24
Mission IIIC– Map, Geoinformatics and Data Integration		
1	Compilation and updation of District Resource Maps (DRM's) of East Garo Hills, West Garo Hills, North Garo Hills, South Garo Hills, South West Garo Hills, East Khasi hills, West Khasi Hills, Ri Bhoi, South West Khasi hills, East Jaintia Hills, West Jaintia Hills Districts of Meghalaya on 1:250,000 scale in GIS Platform.	2023-24
2	Compilation and preparation of District Resource Maps (DRM's) of Siang, East Siang, West Siang, Leparada, Lower Siang, Kamle Districts of Arunachal Pradesh on 1:250,000 scale in GIS Platform.	2023-24
3	Compilation and updation of District Resource Map (DRM's) of Kamjong, Kangpokpi, Jiribam, Kakching and Noney Districts of Manipur on 1:250,000 scale in GIS Platform	2023-24
4	Compilation & preparation of 2nd Edition of District Resources Map of 11 newly created districts i.e., West Karbi Anglong, Kamrup (M), Dima Hasao, Hojai, Biswanath, Majuli, Charaideo, Chirang, South Salmara Mankachar, Udalguri & Bajali Districts, Assam on 1:250,000 Scale from the Districts of Karbi Anglong, Kamrup & North Cachar Hills.	2022-24
MISSION IV: FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV– Geotechnical Studies		
1	Geo-Technical Evaluation of water resource development projects in North Eastern Region.	2023-24
2	Geotechnical evaluation of transport and communication projects in NER.	2023-24
Mission IV– Landslide Studies		
Arunachal Pradesh		
1	Meso-scale (1:10,000) landslide susceptibility mapping along Itanagar-Hollongi Roadsector part of NH-415, Itanagar Capital Complex and Papum Pare districts, Arunachal Pradesh.	2023-24
2	Detailed Geological Investigation of the Renging Village Landslide, East Siang District, Arunachal Pradesh.	2023-24
Assam		
3	Meso-scale (1:10,000) landslide susceptibility mapping in Japorigog-Hengrabari area, Kamrup Metro, Assam.	2023-24
4	Meso-scale (1:10,000) landslide susceptibility mapping in Sonaighuli-Udayachal area, Kamrup Metro, Assam	2023-24
Manipur		
5	Mesoscale (1:10,000) landslide susceptibility mapping along Kasom Khullen-Hongbei-Yairipok road (NH102A) in Kamjong and Thoubal districts, Manipur.	2023-24

Mizoram		
6	Meso-scale (1:10000) Landslide susceptibility mapping of Tawipui N II to Thingfal road section, Lunglei district, Mizoram.	2023-24
7	Meso-scale (1:10000) Landslide susceptibility mapping along NH-06 (Aizawl-Champhai Road) between Seling and Keifang, Aizawl district, Mizoram.	2023-24
Nagaland		
8	Mesoscale (1:10,000 scale) landslide susceptibility mapping around Mon Town area, Mon District, Nagaland	2023-24
9	Mesoscale (1:10,000 scale) landslide susceptibility mapping along Wokha-Doyang road corridor, Wokha District, Nagaland.	2023-24
Sikkim		
10	Meso Scale (1:10,000) Landslide Susceptibility Mapping along Toong-Shipgyer-Mangan road corridor, Mangan District, Sikkim.	2023-24
11	Detailed site-specific landslide investigation of the Passingdang Slide zone, Mangan-Dzongu Road, Mangan District, Sikkim.	2023-24
Meghalaya		
12	Meso-scale (1:10000) landslide susceptibility mapping allong Seven Mile Kynshi along parts of road sector of NH-44(E) East Khasi Hills & West Khasi Hills Districts, Meghalaya.	2023-24
13	Meso-scale (1:10000) landslide susceptibility mapping along Umlympung-Sohra-Laittyra road sector of East Khasi Hills and West Khasi Hills Districts, Meghalaya.	2023-24
Mission IV– Seismic Studies		
1	Seismic microzonation of Udaipur City, Gomati district, Tripura.	2023-24
2	Seismic microzonation of Tinsukis City, Assam.	2022-24
Mission IV– Environmental Geology		
1	Study on Uranium, Lead, Arsenic, Fluoride and Mercury Contamination of Ground Water in the industrial areas of North Guwahati, Kamrup, Assam: A collaborative study by GSI and CGWB.	2023-25
2	Geo-environmental hazard study of flood and erosion-prone river banks areas of Brahmaputra river at Dibrugarh and Tinsukia District of Assam.	2023-25
Mission IV– Fundamental Geoscience		
1	Taxonomic study of sauropods from the Upper Cretaceous Mahadek Formation of Meghalaya.	2022-24
2	Systematic Mineralogical and Micro-Geochemical Characterization of the Laterites / Lateritic Bauxite of East Garo Hills, West Khasi Hills and Ri-Bhoi districts, Meghalaya.	2023-25
3	Petrological characterisation and petrogenesis of Early Cretaceous Dyke Swarm emphasizing lamprophyre dykes of Garo Hills areas, Shillong Plateau, North East India.	2022-24
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Mapping techniques in granite-granulite terrain and site specific landslide studies for "47 th Orientation Course for Geologists (OCG)".	2023-24
2	Mapping techniques in granite-granulite terrain and site specific landslide studies for "47 th Orientation Course for Geologists (OCG)".	2023-24

3	Mapping techniques in granite-granulite terrain and site specific landslide studies for "47 th Orientation Course for Geologists (OCG)".	2023-24
4	Training on Neotectonics and active fault studies.	2023-24
5	Refresher course on Mesoscale landslide susceptibility mapping and site specific Landslide Investigations.	2023-24
6	Basic course on Geochemical data handling.	2023-24
7	Training on exploration for Critical minerals in Northeast Himalayas.	2023-24
8	Advance course on GIS for natural hazards management	2023-24
9	Training on Administration, Personnel Management, Finance and Vigilance for JTS/STS including Group-B Gazetted Officers.	2023-24
10	Training on Noting and drafting in Hindi.	2023-24
11	Training on Office Procedure, Administration, Finance, GeM and Vigilance for Group B and C officials.	2023-24

Northern Region (NR):

Northern Region of the Geological Survey of India headquartered at Lucknow, covers the states/UTs of Chandigarh, Delhi, Jammu & Kashmir, Haryana, Himachal Pradesh, Ladakh, Punjab, Uttarakhand and Uttar Pradesh. The State Unit offices of GSI, NR are located at Lucknow, Faridabad, Chandigarh, Dehradun, Jammu and Srinagar.

The State /Mission wise distribution of programmes are tabulated below.

NORTHERN REGION		
MISSION IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA– Specialized Thematic Mapping		
Ladakh (UT)		
1	Specialized thematic mapping of ophiolite suite and associated lithounits in Yagulung-Biagdong-Turtuk areas, Leh district, UT: Ladakh (On expedition basis).	2022-24
2	Specialized Thematic mapping of Giamchu/ Rupshu Granites and alluvial deposits of Hanle-Namgole-Zarser area, Leh District, SE Ladakh, Ladakh to identify REE bearing granite zones in Giamchu/ Rupshu Granites (On expedition basis).	2023-24
Jammu and Kashmir (UT)		
3	Specialized thematic mapping to establish tectono-stratigraphic status of Panjal Thrust in relation to Kulu Thrust and Vaikrita Thrust of H.P covering parts of Doda and Rajouri districts of UT: J&K.	2023-24
Himachal Pradesh		
4	Specialised thematic mapping to establish the stratigraphic status and structural evolution of Kulu Group of rocks in parts of Kullu district, Himachal Pradesh.	2022-24
5	Specialised thematic mapping to study the structural evolution of Simla Group and its correlation with Jaunsar Group, in parts of Shimla, Solan and Sirmaur districts, Himachal Pradesh.	2022-24
6	Specialised thematic mapping to establish the stratigraphic status of Manjir-Katarigali formations and to study the paleo-environment, depositional setting and evaluation of metallogenic potential of carbonaceous phyllite in Katarigali Formation in parts of Mandi, Kangra and Kullu districts, Himachal Pradesh.	2022-24
7	Specialised thematic mapping to study the tectono-magmatic evolution of granite bodies within Jutogh Group of rocks in parts of Shimla District, Himachal Pradesh.	2023-24
Uttarakhand		
8	Specialized Thematic Mapping in the Chaukhatiya - Bironkhal transect across the Almora Group of rocks in the Pauri, Chamoli and Almora district, Uttarakhand to understand the tectono-metamorphic evolution of the Almora Group of rocks and their relationship with surrounding Garhwal Group and Jaunsar Group of rocks.	2022-24
9	Specialized Thematic Mapping in parts of Chamoli and Bageshwar districts, Uttarakhand to understand the tectonometamorphic emplacement of Baijnath Crystalline nappe and its relationship with surrounding Berinag Formation of the Lesser Himalaya rocks.	2022-24

10	Specialized Thematic Mapping to characterise Munsiyari Thrust (MCT-I) and the Vaikrita Thrust (MCT-II) and to establish the stratigraphic relation between Garhwal Group, Wazri Formation and Central Crystallines along Bhagirathi Valley, Uttarakashi and Rudraprayag district, Uttarakhand.	2022-24
Uttar Pradesh		
11	To study the Carbonaceous/Black shales horizons of Vindhyan Supergroup of rocks for reconstruction of paleoenvironmental setting and associated mineral potential and its metallogenic processes in parts of Uttar Pradesh.	2023-24
12	Specialised thematic mapping in parts of Lalitpur district, Uttar Pradesh and Tikamgarh district, Madhya Pradesh to study emplacement history and differentiation vector within Bundelkhand Granitoid Complex with special emphasis to assess the fertility of REE and other mineralization.	2023-24
13	Specialised thematic mapping of Vindhyan Supergroup of rocks in parts of Mirzapur district of Uttar Pradesh and Rewa district of Madhya Pradesh to delineate the lateral continuation of glauconitic horizons in Rewa Group of rocks.	2022-24
Mission IA- Geochemical Mapping		
Ladakh (UT)		
1	Geochemical Mapping in parts of Toposheet Nos. 52C/13 (Part) and 52C/14 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
2	Geochemical Mapping in parts of Toposheet Nos. 52C/15 (Part) and 52G/03 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
3	Geochemical Mapping in parts of Toposheet Nos. 52G/01 (Part), 52G/02 (Part) and 52G/05 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
4	Geochemical Mapping in parts of Toposheet Nos. 52G/04 (Part) and 52G/08 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
5	Geochemical Mapping in parts of Toposheet Nos. 52G/06 (Part), 52G/07 (Part) & 52G/10 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
6	Geochemical Mapping in parts of Toposheet Nos. 52G/09 (Part) and 52G/13 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
7	Geochemical Mapping in parts of Toposheet Nos. 52G/11 (Part) and 52G/15 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
8	Geochemical Mapping in parts of Toposheet Nos. 52G/12 (Part) and 52G/16 (Part) in Leh district of Ladakh (On Expedition Basis only).	2023-24
9	Geochemical Mapping in parts of Toposheet Nos. 52G/14 (Part) and 52K/02 (Part) in Leh district of Ladakh (On Expedition Basis only)	2023-24
10	Geochemical Mapping in parts of Toposheet Nos. 52K/04 (Part) & 52K/08 (Part) in Leh district of Ladakh (On Expedition Basis only).	2023-24

11	Geochemical Mapping in parts of Toposheet Nos. 52K/10 (Part) & 52K/11 (Part) in Leh district of Ladakh. (On Expedition Basis only)	2023-24
Himachal Pradesh		
12	Geochemical mapping in toposheet No. 52 D/3 in parts of Chamba and Kangra districts, Himachal Pradesh.	2023-24
13	Geochemical mapping in toposheet No. 52D/01 in parts of Chamba district, Himachal Pradesh and Doda district, of Union Territory Jammu and Kashmir.	2023-24
Uttarakhand		
14	Geochemical mapping in Toposheet No. 53F/13, 53I/04, 53J/05 covering parts of Uttarakhand.	2023-24
Mission IA- Geophysical Mapping		
Haryana		
1	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 53C/16 & 53D/10, 11, 12, & 13 covering in parts of Gurgaon, Jhajjar, Panipat, Rewari, Rohtak and Sonipat districts of Haryana and Delhi.	2023-24
2	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 53D/1, 2, 3, 4 & 7 covering in parts of Bhiwani Jhajjar, Mahendergarh, Rewari and Rohtak districts of Haryana and Alwar and Jhunjhunu districts of Rajasthan.	2023-24
Uttar Pradesh		
3	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 54N/3, 7, 8, 11 and 12 covering in parts of Auraiya, Kanpur Dehat, Jalaun and Hamirpur districts of Uttar Pradesh and Bhind district of Madhya Pradesh.	2023-24
4	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 63C/9, 13, 14, 15 & 63G/1 covering in parts of Fatehpur, Raibareli, Banda and Chitrakoot districts of Uttar Pradesh.	2023-24
5	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 63G/2, 5, 6, 9 & 10 covering in parts of Fatehpur, Kaushambi, Pratapgarh, Raibareli, and Chitrakoot districts of Uttar Pradesh.	2023-24
Mission IB- Remote sensing and Photogeology		
1	Spectral geological/surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Northern Region.	2023-25
MISSION II: NATURAL RESOURCES ASSESSMENT		
Mission IIA- Mineral Resource Assessment		
Himachal Pradesh		
1	Preliminary exploration for vanadium in Khil block, Sirmaur district, Himachal Pradesh. (G3)	2023-24
2	Reconnaissance survey for re-appraisal of Lead-Zinc in Chamri-Anyar- Ambota- Khamiara area, Tons valley, Sirmaur district, Himachal Pradesh. (G4)	2023-24
Haryana		
3	Regional Mineral Targeting for assessment and characterising the nature of mineralization and search for base metal potential areas	2022-24

	in parts of North Delhi Fold Belt, Mahendragarh, Bhiwani districts Haryana and Jhunjhunu district Rajasthan. (RMT)	
4	Preliminary exploration for iron ore prospect in Jainpur area, Mahendragarh district, Haryana. (G3)	2023-25
5	Preliminary exploration for copper and associated mineralization in Said Alipur, Donkhera, Doholera and Begopur block, Mahendragarh district, Haryana. (G3)	2023-24
6	Reconnaissance survey for Tin, Tungsten, copper and associated mineralisation in Tosham-Khanak-Jamalpur-Dulhera-Ratera areas, Bhiwani district, Haryana. (G4)	2023-24
Jammu & Kashmir (UT)		
7	Reconnaissance survey for base metal, rare metal and REEs mineralization in and around Dedni and Chinta granites and its surrounding rocks in Bhaderwah and Thathri areas of Doda district of Jammu & Kashmir (UT). (G4)	2023-24
8	Reconnaissance survey for lithium, vanadium and associated RM and REEs mineralization in Subathu Formation, Jammu, Ramban, Reasi, Rajouri and Udhampur districts, UT: J&K. (G4)	2023-25
9	Reconnaissance survey for Ni, Cr, Au, PGEs and other associated minerals in mafic and ultramafic bodies Kyun-Tso-Taklung-Tograle La area. (G4)	2023-25
Ladakh (UT)		
10	Reconnaissance survey for chromite, nickel, PGE & associated minerals in ultramafic bodies of Thasgam area, Kargil district of Ladakh (UT). (G4) (On expedition basis)	2023-24
Uttarakhand		
11	Reconnaissance Survey for Phosphorite and associated Rare Metal (RM) mineralisation in Manjgoan blocks, Dehradun and Tehri Garhwal Districts, Uttarakhand. (G4)	2023-24
12	Reconnaissance Survey for basemetal and associated mineralization in Asena, Dharkot and Bagori areas, Tehri Garhwal District, Uttarakhand. (G4)	2023-24
13	Reconnaissance survey for base metal and associated mineralization in Odgaon, Pali, Mald and Khurgad area, Pauri Garhwal district, Uttarakhand. (G4)	2023-24
14	Reconnaissance survey for base metal, gold and graphite mineralisation around Niti area, Chamoli District, Uttarakhand. (G4)	2023-24
Uttar Pradesh		
15	Reconnaissance survey of quartz veins for tungsten mineralization in the surrounding areas of Garapathar-Kurkuti-Semada areas in parts of Toposheet nos. 63L/15, Sonbhadra, Uttar Pradesh. (G4)	2023-24
16	Reconnaissance survey for REE mineralization in Ramnagar-Gangora area, Lalitpur district, Uttar Pradesh. (G4)	2023-24
Spin-off: RMT		
17	Reconnaissance survey to delineate and assess the potentiality of flux grade dolomitic limestone and associated mineralization in Sidhpur-Kolgadhiya-Rehutiya-Koh areas, Chitrakoot districts of Uttar Pradesh. (G4)	2023-24

18	Preliminary exploration for potash in Vindhyan Supergroup, Chitikipurwa area, Sonbhadra district, Uttar Pradesh. (G3)	2023-24
19	Reconnaissance survey for Heavy mineral studies in the pediment-pediplain areas of Dudhi Gneissic Complex (DGC) in parts of Sonbhadra district, Uttar Pradesh. (G4) Spin-off: NGCM	2023-24
20	Reconnaissance survey for REE-RM mineralization in Intrusive granite with in Mahakoshal belt, Sonbhadra district, Uttar Pradesh. (G4) Spin-off: NAGPM	2023-24
21	Reconnaissance survey for Vanadium, Titanium and associated Rare metal mineralization in Dhandraul Sandstone of Kaimur Group, Lalitpur district, Uttar Pradesh. (G4)	2023-24
22	Reconnaissance survey for magmatic Ni-Cu mineralization in Intrusive concealed westerly extension of Sonrai basin under the Vindhyan sediments in Lalitpur district of Uttar Pradesh and Sagar district of Madhya Pradesh. (G4) Spin-off: NAGPM	2023-25
23	Reconnaissance survey for molybdenum mineralization in parts of Banda district of Uttar Pradesh and Satna district of Madhya Pradesh. (G4) Spin-off: NGCM	2023-24
24	Preliminary exploration for iron ore in Mahakoshal Group, in Block 'D' near Sobna and Chakariya area, Bharhari, Sonbhadra district, Uttar Pradesh. (G4)	2023-24
Mission IIB– Natural Energy Resources (Geothermal Energy)		
Ladakh (UT)		
1	Assessment of geothermal manifestations in and around Demchok and Rongdo River of Ladakh Region, Leh District, Ladakh Union Territory, India (On expedition basis).	2023-24
MISSION III: GEOINFORMATICS		
Mission IIIA– Geodata		
1	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS, Northern Region.	2023-24
Mission IIIB– Publication and Library		
1	Geology and Mineral Resources of the States of Uttar Pradesh, Miscellaneous Publications No. 30, Pt. XIII, the third revised edition, a 2020 publication in Hindi.	2023-24
2	Geology and Mineral Resources of the States of Uttarakhand, Miscellaneous Publications No. 30, Pt. XIIA, 2 nd edition.	2023-24
3	Records of GSI, Vol. 157, Part 8, Extended Abstracts of Progress Reports for the Annual Programme 2022-23 of Northern Region	2023-24
Mission IIIC– Map, Geoinformatics and Data Integration		
1	Compilation and updation of District Resource Maps (DRM's) of Agra, Ballia, Bijnor, Fatehpur, Jalaun, Jaunpur, Jhansi, Kanpur Dehat, Lucknow, and Mathura districts of UP on 1: 250,000 scale in GIS platform.	2023-24
2	Compilation and updation of Geological Quadrangle Map (GQM) of degree sheet nos. 54E, 54O & 63P on 1:250,000 scale in GSI platform.	2023-24

3	Compilation and updation of pre-existing District Resource Maps of Charkhi Dadri of Haryana and Patiala, Fatehgarh Sahib, Sahibzada Ajit Singh (SAS) Nagar, Malerkotla and Roopnagar of Punjab on 1:250,000 scale in GIS platform.	2023-24
4	Compilation and updation of District Resource Maps of Doda, Kishtwar, Rajouri, Ramban, Kulgam and Pulwama Districts, UT: Jammu & Kashmir on 1:2,50,000 scale in GIS platform.	2023-24
5	Compilation and updation of District Resource Map of Rudraprayag, Bageshwar and Nainital districts of Uttarakhand on 1:250,000 scale in GIS platform.	2023-24
MISSION IV: FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV– Geotechnical Studies		
1	Geotechnical Evaluation of water resources development projects in Himachal Pradesh, Haryana & Punjab.	2023-24
2	Geotechnical Evaluation of Communication and transportation projects in Punjab and HP.	2023-24
3	Geotechnical evaluation of Water Resources Development Project in UT: Jammu and Kashmir and UT: Ladakh.	2023-24
4	Geotechnical evaluation of communication and transportation projects, stability of slopes, major and minor civil structures in UT: Jammu and Kashmir and UT: Ladakh.	2023-24
5	Geotechnical evaluation of Water Resources Development Project in Uttarakhand.	2023-24
6	Geotechnical evaluation of communication and transportation projects, stability of slopes and geological feasibility of artificial lakes, major and minor civil structures in Uttarakhand.	2023-24
7	Geotechnical Evaluation of Water Resource Development Projects in Uttar Pradesh.	2023-24
Mission IV– Landslide Studies		
Himachal Pradesh		
1	Meso Scale (1:10,000 scale) Landslide Susceptibility Mapping along Dadahu-Ambaon-Sataun-Barwas Road Corridor, Sirmaur District, Himachal Pradesh.	2023-24
2	Meso Scale (1:10,000) Landslide Susceptibility Mapping along Ladhu- Jamta- Dadahu- Renuka Ji- Sangrah Road Corridor, Sirmaur District, Himachal Pradesh.	2023-24
3	Meso Scale (1:10,000) Landslide Susceptibility Mapping along Mandi-Padhar- Guma-Jogindernagar Road Corridor on NH-154, Mandi district, Himachal Pradesh.	2023-24
4	Earthquake-Induced Landslide Susceptibility Studies on 1:25,000 scale of areas falling between Ioseismal Zones VI and IX of 19 January 1975 earthquake (Ms 6.8) covering Ribba-Nako-Chango-Sumdo-Tabo areas along NH-5 and NH-505 in Kinnaur and Lahaul & Spiti districts, Himachal Pradesh.	2023-24
5	Meso-scale (1:10,000) landslide susceptibility mapping along parts of rim of Bhakra reservoir and adjoining areas, Una and Hamripur districts, Himachal Pradesh.	2023-24
6	Meso-scale (1:10,000) landslide susceptibility mapping along parts of rim of Bhakra reservoir and adjoining areas, Una, Hamirpur and Bilaspur districts, Himachal Pradesh.	2023-24

7	Meso-scale (1:10,000) landslide susceptibility mapping for McLeod Ganj Township and adjoining areas, Kangra district, Himachal Pradesh.	2023-24
8	Meso scale (1:10,000) Landslide Susceptibility Mapping along Sumdo-Tabo-Mane Bridge Road corridor, National Highway-5, Lahul & Spiti and Kinnaur Districts, Himachal Pradesh.	2023-24
Jammu & Kashmir (UT)		
9	Meso scale (1:10000) landslide susceptibility mapping of Peer ki Gali – Shopian road stretch of Mughal Road, Shopian District, Jammu and Kashmir.	2023-24
10	Meso scale (1:10000) landslide susceptibility mapping of link road from Nachlana to Mohu, Ramban District, UT: Jammu and Kashmir.	2023-24
11	Meso scale (1:10000) landslide susceptibility mapping of Chingam (Kishtwar) – Sintahntop – Daksum (Anatanag), Kishtwar and Anatanag Districts, UT: Jammu and Kashmir.	2023-24
12	Detailed Site-specific Investigation near Samroli along Jammu Srinagar National Highway (NH-44), District Udhampur, Jammu and Kashmir.	2023-24
Uttarakhand		
13	Meso scale (1:10,000) landslide susceptibility mapping of Chiriyali-Ram Gaon Road sector, Tehri Garhwal district, Uttarakhand.	2023-24
14	Meso scale (1:10,000) landslide susceptibility mapping of Tiwar Gaon- Dharwal Gaon road sector, Tehri Garhwal & Uttarkashi district, Uttarakhand.	2023-24
15	Meso scale (1:10,000) landslide susceptibility mapping of Nakuri - Lata Road sector, Uttarkashi district, Uttarakhand.	2023-24
16	Meso scale (1:10,000) landslide susceptibility mapping of Munikirethi-Agrakhal road sector, Tehri Garhwal & Pauri Garhwal district, Uttarakhand.	2023-24
Mission IV– Seismic Studies		
1	Active Fault Study along Himalayan Frontal Thrust (HFT), Main Boundary Fault (MBF) and associated faults in Nahan Salient of the Outer Himalayan belt, Panchkula district, Haryana, Solan district, Himachal Pradesh, Rupnagar district, Punjab and Chandigarh.	2022-24
Mission IV– Environmental and Medical Geology		
1	Geo-environmental appraisal of Uranium and Fluoride contamination in surface and ground water of Mathura, Hathras and Aligarh districts, Uttar Pradesh.	2022-24
2	Geo-environmental appraisal of Arsenic contamination in ground water with special emphasis on analysis of solid phase arsenic in sub surface sediments, Sant Kabir Nagar district, Uttar Pradesh.	2022-24
3	A multi-proxy geochemical and sedimentological approach to characterize the paleoenvironment of P-T boundary at Spiti Valley, Himachal Pradesh, India	2022-24
4	Geoenvironmental appraisal study of flood and erosion-prone river bank of the Ramganga River between Moradabad and Kannauj district, U.P.	2022-24

5	Geo-environmental appraisal of Fluoride containing ground waters in Sangrur and Mansa districts of Punjab and Fatehabad, Jind and Hissar districts of Haryana, India	2023-24
6	Geo-environmental studies of trace element and heavy metal contamination in the groundwater of Punjab and Haryana.	2023-25
Mission IV– Climate Change (Glaciology)		
1	Long term monitoring of Mass Balance of Hamtah glacier, Lahaul and Spiti District, Himachal Pradesh (On expedition basis).	2018-24
2	Study of recessional pattern of the glaciers of Zaskar Basin, Ladakh, Baspa Basin, Himachal Pradesh and Vishnuganga Basin of Uttarakhand (On expedition basis)	2022-25
3	Study of recessional pattern of glaciers in Jhelum Basin, Jammu & Kashmir (On expedition basis)	2022-25
Mission-IV -Himalayan Geology		
1	A preliminary account of porphyry Cu-Au-Mo mineral potentiality in the Ladakh Batholith, around Kargil, Batalik, Garkhone Dah area, Kargil and Leh district, J&K (On expedition basis).	2023-25
Mission IV– Fundamental Geoscience		
1	Detailed Petro-mineralogy, Fluid inclusion micro analysis and Sulphur isotopic characterization of basemetal and associated mineralization around Askot - Barigaon- Thal area, Pithoragarh district, Uttarakhand.	2022-24
2	Study of Estherids and Palynological assemblage from the Gondwana Supergroup of Singrauli Coalfield, Sonbhadra, Uttar Pradesh.	2022-24
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Course on Geological Mapping (Himalayan Geology) and Engineering Geology for "47 th Orientation Course for Geologists (OCG)".	2023-24
2	Course on Geological Mapping (Himalayan Geology) and Engineering Geology for "47 th Orientation Course for Geologists (OCG)".	2023-24
3	Course on Geological Mapping (Himalayan Geology) and Engineering Geology for "47 th Orientation Course for Geologists (OCG)".	2023-24
4	Advanced Course on Engineering Geology.	2023-24
5	Course on collision tectonics and subduction related magnetism along the ITSZ Ladakh.	2023-24
6	Course in Geostatistics and its application.	2023-24
7	Refresher course on landslide studies.	2023-24
8	Training on transect mapping techniques in NW Himalaya.	2023-24
9	Advanced Course on Modern Analytical Techniques (EPMA, LA-ICPMS, Fluid Inclusion, SEM-EDX).	2023-24
10	Advanced Course on TL-OSL Dating Techniques in Quaternary Geology.	2023-24
11	Course on Water Chemistry Analysis and its Interpretation.	2023-24
12	Training on use of Hindi as Rajbhasha.	2023-24
13	Course on Self Defence, Gender Sensitisation and Gender Budgeting.	2023-24
14	Training on Administration, Finance and Vigilance for the JTS/STS and Group B (Gazetted) Officers of GSI, NR.	2023-24

15	Training Course on Office Procedure, Computer application, Administration, Finance, GeM, Vigilance and Roster Management for Gr-B and C officials.	2023-24
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Southern Region (SR):

Southern Region of the Geological Survey of India headquartered at Hyderabad, covers the states/UTs of Puducherry, Goa, Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu. The State Unit/Mission offices of GSI, SR are located at Hyderabad, Bangalore, Chennai, Mangalore, Vishakhapatnam and Kochi.

The State /Mission wise distribution of programmes are tabulated below.

SOUTHERN REGION		
Mission IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA– Specialized Thematic Mapping		
Andhra Pradesh		
1	Specialized thematic mapping to elucidate tectono-metamorphic history in parts of southern EGMB around Buttayagudem-Kannapuram-Dondapudi area, Eluru and East Godavari District, Andhra Pradesh along with search for vanadium, graphite, REE, tungsten and manganese in metasedimentary lithopackage.	2023-24
2	Specialized Thematic Mapping of Banganapalle-Pasupula area, NW of Cuddapah Basin, Nandyal district, Andhra Pradesh to study the tectono-magmatic activity and to search for associated mineralization.	2023-24
3	Specialized Thematic Mapping in Dronadula-Ramakuru area of Bapatla District, Andhra Pradesh to elucidate the magmato-metamorphic evolution of the EGMB and EDC rocks in the area and to search for possible REE mineralization.	2023-24
Karnataka & Goa		
4	Specialized Thematic Mapping to characterize the high grade supracrustals and associated granitoids in the Eastern Dharwar Craton with an aim to evaluate late Archean tectonothermal history, in parts of Tumkur, Bangalore rural and Chikballapur district, Karnataka.	2023-24
5	Specialized thematic mapping in parts of Kodagu and South Kannada districts to elucidate the tectonic evolution of Mercara Shear Zone and Balehonnur Shear Zone and its mineralization potential.	2023-24
6	Specialized thematic mapping in parts of Hungund-Kushtagi Schist Belt with special emphasis on characterizing the litho-assemblages, tectonostratigraphy of Kalmangi Groups of rocks, in and around northeast of Tawargiri and Karatagi, Koppal and Bagalkot district, Karnataka.	2023-24
7	Specialized thematic mapping to characterize and classify the different supracrustals, associated granitoids and pegmatites between Melkote and Pandavapura, Mandya district, Karnataka with an emphasis on rare metal mineralization.	2023-24
8	Specialized thematic mapping to characterize and classify the Sargur equivalent supracrustals associated with host granitoids and intrusive granites to assess the litho - tectonic evolution of the area, in and around H D Kote, Mysore district, Karnataka.	2023-24
9	Specialised Thematic Mapping in the Kurubenal-Vajrabandi area, HKSB to delineate various phases of granitoids and geochemical evaluation of fertility for intrusion-related mineralization	2023-24

10	Specialized Thematic Mapping to study the inter-relationship of high grade supracrustals, PGC and younger intrusives around Shrirangapatna and Mysore area, Mysore district, Karnataka and search for Au, REE and PGE mineralization.	2023-24
11	Specialized Thematic Mapping to study the Proterozoic Bhima Group to understand the basin evolution with special emphasis on glauconite and other mineralization potential in Yadgir and Vijayapura districts of Karnataka.	2023-24
Tamil Nadu		
12	Specialized thematic mapping to study the tectonic framework of Mettur shear zone and Moyar-Bhavani Attur Lineament in Biligiri Rangan Block, Mettur area, Salem and Erode districts, Tamil Nadu.	2023-24
13	Specialized thematic mapping to bring out the relationship of migmatite and granulite rocks in Acharapakkam-Vandavasi area, Kancheepuram District, Tamil Nadu.	2023-24
14	Specialized thematic mapping to study the shear kinematics of Salem-Attur Shear Zone (SASZ) in Talaivasal area with special reference to shears / faults zones, Northern Granulite Terrain, Tamil Nadu.	2023-24
15	Specialized Thematic Mapping to trace and study the Tenmala and associated parallel shear zones to the south of Achenkovil shear and to characterize the intrusive bodies emplaced along shear zone for REE and RM mineralization.	2023-24
16	Specialized Thematic mapping of southern extension of Arakkonam shear zone across Palar lineament in and around Kaveripakkam to study the structure, tectonomagmatic and metamorphic evolution, Vellore District of Tamil Nadu.	2023-24
Telangana		
17	Specialised Thematic Mapping to delineate south-eastern segregated milieu of Karimnagar Granulite Terrane (KGT) in and around Odela Jammikunta area, Peddapalli and Karimnagar districts, Telangana.	2023-24
18	Specialized thematic mapping in northern part of Kunduluru Alkaline Complex around Kunduluru, Bhadradi Kothagudem district of Telangana and West Godavari district of Andhra Pradesh.	2023-24
19	Specialised thematic mapping for exposition of contact relationship and tectono-magmatic-metamorphic evolution between Transition zone and Eastern ghat belt in the Bottugudem-Konta-Devarapalle sector in parts of Bhadradi-Kothagudem district of Telangana, East-Godavari district of Andhra Pradesh and Sukma District of Chattishgarh.	2023-24
20	Specialised Thematic Mapping to elucidate the relationship of various litho-assemblages of Bastar Craton and its tectonic evolution in and around Chaudampalli-Rampur Mahagaon Budurk, Kumurambheem Asifabad District of Telangana and Chandrapur District, Maharashtra.	2023-24

Kerala		
21	Specialized thematic mapping on Karur-Kambam-Painavu-Trichur Shear zone, its geological implications and associated mineralization, Idukki District, Kerala.	2023-24
Mission IA– Geochemical Mapping		
Andhra Pradesh		
1	Geochemical Mapping in Toposheet No. 65J/15 in parts of Alluri Sitharama Raju district, Andhra Pradesh and parts of Koraput district, Orissa	2023-24
2	Geochemical Mapping in Toposheet No. 65K/6 in parts of Alluri Sitharama Raju and Ankapalle districts, Andhra Pradesh	2023-24
3	Geochemical Mapping in Toposheet Nos. 57 I/15 in parts of Prakasam and Kurnool District in Andhra Pradesh.	2022-24
4	Geochemical Mapping in Toposheet No. 65K/10 in parts of Visakhapatnam and East Godavari Districts, Andhra Pradesh.	2022-24
Karnataka & Goa		
5	Geochemical mapping in toposheet no. 47L/13 in parts of Belgavi District of Karnataka and Sangli Districts of Maharashtra	2023-24
6	Geochemical mapping in toposheet no. 48K/13 and southern parts T.S No 48J/12 in parts of Udupi ,North Kanara and Shimoga district	2023-24
7	Geochemical mapping in toposheet no. 48O/03& 08 in parts of Udupi, Shimoga, Chikmangalur & Dhakshin Kannada districts of Karnataka	2023-24
8	Geochemical mapping in toposheet no. 58E/1 & 58E/5 in parts of Chamrajanagar districts of Karnataka and Coimbatore district of Tamil Nadu.	2023-24
9	Geochemical mapping in toposheet no. 47L/06 in parts of Belgavi District of Karnataka and Kolhapur Districts of Maharashtra	2023-24
10	Geochemical mapping in toposheet no. 48I/5 and 47L/8 in parts of Belgavi District of Karnataka and Kolhapur Districts of Maharashtra	2023-24
11	Geochemical mapping in toposheet no. 48J/1, 48J/2 & 48J/5 in parts of South Goa and Uttar Kannada districts of Karnataka	2023-24
12	Geochemical mapping in toposheet no. 48J/11 and northern parts of T.S No 48J/12 in parts of Uttara Kannada and Shimoga districts of Karnataka	2023-24
13	Geochemical mapping in toposheet no. 57H/12 in parts of Mysore district of Karnataka and Krishnagiri district of Tamil Nadu.	2023-24
Kerala & Lakshadweep		
14	Geochemical mapping in Toposheet No. 58D/09 in Kollam district of Kerala.	2023-24
15	Geochemical mapping in parts of Toposheet Nos. 58G/2 and 58H/2 in Idukki & Thiruvananthapuram districts of Kerala and Teni & Tirunelveli districts of Tamil Nadu.	2023-24
16	Geochemical mapping in parts of Toposheet Nos. 58G/1 and 58F/4 in Idukki and Ernakulam districts of Kerala and Teni district of Tamil Nadu.	2023-24
17	Geochemical mapping in parts of toposheet Nos. 58G/03, 58G/04 & 58H/01 in Pathanamthitta, Idukki, Kollam and	2023-24

	Thiruvananthapuram district of Kerala and Thirunelveli district of Tamil Nadu	
18	Geochemical mapping in parts of Toposheet Nos. 58B/11 & 58B/16 in Thrissur, Palakkad and Ernakulam districts of Kerala and Coimbatore district of Tamil Nadu.	2023-24
Tamil Nadu		
19	Geochemical Mapping in Toposheet No. 58K/14, 58O/1, O/2 and 58O/3 in parts of Ramanathapuram, Thanjavur districts of Tamil Nadu.	2023-24
20	Geochemical Mapping in Toposheet No. 58N/1 in parts of Thanjavur & Tiruchirappalli districts of Tamil Nadu.	2023-24
21	Geochemical Mapping in Toposheet No. 58N/2 in parts of Thanjavur & Tiruchirappalli districts of Tamil Nadu.	2023-24
22	Geochemical Mapping in Toposheet No. 58N/13 & N14 in parts of Thanjavur & Karaikal districts of Tamil Nadu.	2023-24
23	Geochemical Mapping in Toposheet No. 58K/5 in parts of Madurai and Ramanathapuram districts of Tamil Nadu.	2023-24
24	Geochemical Mapping in Toposheet No. 58K9 and 58K13 in parts of Ramanathapuram, Thanjavur and Tiruchirappalli districts of Tamil Nadu.	2023-24
25	Geochemical Mapping in Toposheet No. 58F/03, 58F/07, 58F/08, 58B/15 in parts of Madurai and Coimbatore Districts of Tamil Nadu and Idukki district of Kerala.	2023-24
26	Geochemical Mapping in Toposheet Nos. 58H/06 and 58H/07 in parts of Tirunelveli and Kanyakumari districts of Tamil Nadu and Thiruvananthapuram district of Kerala.	2023-24
27	Geochemical Mapping in Toposheet No. 66C/3, 66C/4, and 66D/1 in parts of, Kanchipuram, Tiruvallur & Chennai district of Tamil Nadu.	2023-24
Telangana		
28	Geochemical mapping in parts of toposheet no. 65B/06 & 65B/11 in parts of Jayshankar Bhupalpally & Mulugu districts, Telangana, Bijapur district, Chhattisgarh & Gadchiroli district, Maharashtra.	2023-24
29	Geochemical Mapping in Toposheet No.S 56F/11, 56F/12 in parts of Sangareddy, Kamareddy Districts of Telangana, Bidar District of Karnataka and Nanded District of Maharashtra.	2023-24
30	Geochemical mapping in Toposheet no. 56 M/16 in parts of Adilabad District of Telangana and Chandrapur District of Maharashtra.	2023-24
31	Geochemical mapping in toposheet no. 56G/09 and 56G/14 in parts of Sangareddy, Vikarabad districts of Telangana and Bidar district of Karnataka.	2023-24
32	Geochemical mapping in Toposheet no. 56 M/4 in parts of Komarambheem Asifabad, Mancherial and Jagtial Districts of Telangana.	2023-24
33	Geochemical mapping in Toposheet no. 56 I/03 in parts of Adilabad district of Telangana and Nanded district of Maharashtra.	2023-24
34	Geochemical Mapping in Toposheet No. 56E/15 and 56 E/16 in parts of in parts of Nirmal district, Telangana and Nanded district, Maharashtra. \$	2022-24

\$ to be executed from GSI, SU: Andhra Pradesh		
Mission IA– Geophysical Mapping		
Telangana		
1	Ground Gravity-Magnetic Survey under National Geophysical Mapping Programme in Toposheet Nos. 56M/3, 56M/4, 56M/11, 56M/16 & 65B/2 covering parts of Chandrapur, Gadchiroli, Kumuram Bheem Asifabad, Mancherial, Jagtial & Jayashankar Bhupalpally districts of Telangana and Maharashtra.	2023-24
2	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 65B/6, 65B/11, 65B/16, 65C/1&65C/2 covering parts of Jayashankar Bhupalpally, Bhadradri Kothagudem, Mahabubabad, Khammam, Bijapur, Sukma & Gadchiroli districts of Telangana, Chhattisgarh and Maharashtra.	2023-24
3	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 56I/6, 56I/10, 56I/14, 56I/15 & 56I/16 covering parts of Nanded, Chandrapur, Yavatmal, Adilabad, Kumuram Bheem Asifabad, Nirmal, Mancherial & Jagtial districts of Telangana and Maharashtra.	2023-24
4	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 56F/4, 56F/8, 56F/11, 56F/12 & 56F/16 covering parts of Latur, Bidar, Nanded, Kamareddy, Sangareddy, Medak districts of Maharashtra, Telangana and Karnataka.	2023-24
5	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 47P/05, 56C/07, 56C/16, 56G/04, & 56G/08 covering parts of Belagavi, Vijayapura Bagalkote, Kalaburagi Sangli, Solapur, Vikarabad districts of Karnataka, Maharashtra and Telangana.	2023-24
Andhra Pradesh		
6	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 65D/8, 65D/12, 56I/4,56I/7,56I/8 covering parts of Guntur, Prakasham Nanded,Nirmal,Nizamabad and Adilabad districts of Maharashtra, Andhra Pradesh and Telangana.	2023-24
7	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 65N/06, 65N/10, 65N/14, 65N/15 & 65K/4 covering parts of Srikakulam, Vizianagaram & East Godavari districts of Andhra Pradesh.	2023-24
Karnataka		
8	Ground Gravity-Magnetic Survey under National Geophysical mapping Programme in Toposheet Nos. 47L/7, 47L/10, 47L/11, 47L/14 & 47P/01 covering parts of Belagavi, Kolhapur, Sangli district of Karnataka and Maharashtra.	2023-24
MISSION IB– Remote Sensing and Aerial Survey		
1	Spectral geological/surface mineral mapping using space borne multispectral ASTER data on 1: 50,000 scale in obvious geological potential (OGP) areas of Andhra Pradesh and Telangana	2023-25

Mission IA – Marine and Coastal Surveys		
Marine Surveys		
1	Seabed mapping and generation of baseline data with search for possible mineral occurrences in Ninety East Ridge near Equator, Indian Ocean (SR-087).	2022-25
2	Seabed mapping and generation of baseline data for search of ferromanganese encrustations in the Laxmi Basin (Block-I, II and III), Arabian Sea. (SR-088).	2022-25
3	Baseline geoscientific data generation by Integrated geophysical surveys (multi-channel seismic, bathymetry, gravity and magnetic) in parts of Laccadive Plateau and Basin to correlate the seabed geomorphic features, sub-seabed ridges with the crustal configuration within EEZ off West Coast, Arabian Sea (SR-089).	2022-24
4	High Resolution Seabed Mapping and Exploration in Eastern flank of Bitrapar - Bangaram Block, Lakshadweep islands, Arabian Sea (SR-090).	2023-24
5	Geophysical (magnetic) surveys within the contiguous zone off Nellore-Pulicat sector, Andhra Pradesh-Tamil Nadu Coasts, Bay of Bengal ST 303 (Block-II).	2022-24
6	Multi-thematic mapping of Contiguous Zone beyond Territorial Waters, Off Dharmapuram, Tamil Nadu (Cruise: SD-318).	2022-24
7	Multi-thematic mapping of Contiguous Zone beyond Territorial Water, Off Kulasekharappattinam, Tamil Nadu (SD-319).	2022-24
8	Parametric (Shallow Seismic) Survey in the gap area off Dwaraka Sector, Arabian Sea (SD-323).	2021-24
9	Parametric (Shallow Seismic) Survey in the gap area off Jakhau-Okha Sector, Arabian Sea (SD-324).	2021-24
Marine Mineral Investigation		
10	Close Grid Mineral Exploration for phosphorite, in the East Coast Margin of India, off Point Calimere, Tamil Nadu (Block-2)(SR-086).	2022-24
11	Preliminary mineral exploration for Placer minerals in the Territorial Waters off Pentakota-Pudimadaka sector (off Revu polavaram-Ontimamidi), Andhra Pradesh, Bay of Bengal, ST-302 (South Block)	2022-24
12	Preliminary Mineral Exploration of placer minerals in the Territorial Waters off Pentakota, Andhra Pradesh (ST-304).	2023-24
13	Preliminary mineral exploration for placer minerals in the Territorial waters between Cuddalore and Portonova, Nagapattinam District, Tamil Nadu (ST-305).	2023-24
14	Preliminary mineral exploration for placer minerals in the contiguous zone off Kodungallur, Central Kerala (SD-320).	2023-24
15	Preliminary mineral exploration for placer minerals in the contiguous zone off Puvar, Southern Kerala (SD-321).	2023-24
16	Preliminary mineral exploration for placer minerals in the contiguous zone off Chavara, Kerala (SD-322).	2023-24
17	Reconnoitary study of spatial distribution of placer minerals in the nearshore area off Manamelkudi, Pudukotttai District, Tamil Nadu.	2023-24

Map & Publication		
18	Compilation and publication of manuscript on Palaeo-strand lines and palaeo-channels in the continental shelf, off Kerala coast.	2022-24
19	Marine phosphorites in the East Coast Margin of India (ECMI), off Chennai and Point Calimere, Tamil Nadu.	2023-24
20	Publication of TW maps off Maharashtra (09 numbers) in M& CSD, Mangalore.	2023-24
21	Compilation, Updation, and preparation of the TW maps off Kerala Coast in ArcGIS platform.	2023-24
Research Project		
22	Constraining the paleoclimate, past eruptive events of active volcanic arc and sources of sediments in South Andaman Sea.	2022-24
23	Constraining the source to sink provenance of Akik and Placer mineral deposition in seabed within Gulf of Khambhat with comparative study on geochemistry, grain morphology and geochronology of sediment influx from streams.	2023-24

MISSION II: NATURAL RESOURCES ASSESSMENT		
Mission IIA– Mineral Resource Assessment		
Andhra Pradesh		
1	Preliminary exploration for gold and associated mineralization in Rajagollapalli block, Chittoor district, Andhra Pradesh. (G3)	2023-24
2	Reconnaissance survey for REE and associated mineralization in Surapuvripalle-Kottapalli area, Annamayya district, Andhra Pradesh and Kolar district, Karnataka. (G4) Spin-off: NGCM	2023-24
3	Reconnaissance survey for REE and associated mineralization in Sorakayalapeta-Tummanaguntapalle area, Chittoor and Annamayya districts, Andhra Pradesh. (G4) Spin-off: NGCM	2023-24
4	Reconnaissance survey for Barite and lithium mineralization in Idugupalle area, Annamayya district, Andhra Pradesh. (G4)	2023-24
5	Reconnaissance survey for REE and Rare Metal mineralization in Kambaduru-Aiparsipalli area, Anantapur district, Andhra Pradesh. (G4) Spin-off: NGCM	2023-24
6	Reconnaissance survey for gold and associated mineralization in Togarakunta-Bhadrapuram area in Anantpur and Sri Satyasai districts, Andhra Pradesh. (G4)	2023-24
7	Reconnaissance survey for barite and lithium mineralization in Rajupalem-Tummaluru area, YSR Kadapa district, Andhra Pradesh. (G4) Spin-off: NGCM	2023-24
8	Reconnaissance survey for barite and lithium mineralization in Venkatampalli-Mutssukota area, Anantapur district, Andhra Pradesh. (G4) Spin-off: NGCM	2023-24
9	Reconnaissance survey for gold and associated mineralization in Aspari-Hosuru area, Kurnool district, Andhra Pradesh. (G4)	2023-24

10	Reconnaissance survey for REE and rare metal mineralization in Podilikonda-Kanigiri area, Prakasam district, Andhra Pradesh. (G4)	2023-24
11	Reconnaissance survey for REE and rare metal mineralization in Chalivendra-Marlapalem area, Prakasam and Palnadu districts, Andhra Pradesh. (G4)	2023-24
Spin-off: NGCM		
12	Reconnaissance survey for primary source rocks of secondary diamonds in the Bellamkonda-Sattenapalli area, Guntur and Palnadu districts, Andhra Pradesh. (G4)	2023-24
13	Reconnaissance survey for cobalt mineralization in Jayantipuram-Vedadri area, NTR and Palnadu districts, Andhra Pradesh. (G4)	2023-24
14	General exploration for graphite in Chinnagalikonda block, Alluri Sitharama Raju district, Andhra Pradesh. (G2)	2023-24
15	Reconnaissance survey for graphite and associated mineralization in Narasapuram-Nellipudi area, Alluri Sitharama Raju and East Godavari districts, Andhra Pradesh. (G4)	2023-24
Spin-off: STM		
16	Preliminary exploration for Graphite and associated mineralisation in Utla block, Alluri Sitharama Raju District, Andhra Pradesh. (G3)	2023-24
17	Reconnaissance survey for manganese and associated mineralization in Katakapalle-Sunkarapalem area, Vizianagaram, Anakapalli and Visakhapatnam districts, Andhra Pradesh. (G4)	2023-24
18	General exploration for manganese in Palavalasa block, Vizianagaram and Srikakulam Districts, Andhra Pradesh. (G2)	2023-24
19	Reconnaissance survey for manganese and associated mineralization in Manapuram-Marrivalasa area, Vizianagaram district, Andhra Pradesh. (G4)	2023-24
20	Reconnaissance survey for manganese mineralization in Madduvalasa-Ungarada area, Vizianagaram district, Andhra Pradesh. (G4)	2023-24
21	Regional mineral targeting for molybdenum, basemetal, gold and associated mineralisation in Kadiri Schist Belt and adjoining granitoids in YSR Kadapa, Sri Satyasai and Annamayya districts, Andhra Pradesh and Chikkaballpura and Kolar districts, Karnataka. (RMT)	2023-25
22	Regional mineral targeting for basemetal, REE and associated mineralisation in Kandukuru- Kanigiri- Pamuru area of Nellore Schist Belt, Nellore, Prakasham and Cuddapah districts, Andhra Pradesh. (RMT)	2022-24
23	Petrological and geochemical characterization of carbonatites and fenite zones to assess REE mineralization in the contact zone between Eastern Ghat Belt (EGB) and Khammam-Nellore Schist Belt (KNSB) tectonic domains, South India. (RP) ≠	2023-24
24	Deep seated mineral prognosis by Geophysical Techniques: Lithospheric structure and relationship with Gold and Kimberlite clusters of Kalyandurg-Timmasamudram-Chigicherla, Ananthapur District, Andhra Pradesh. (RP) ≠	2022-25
≠to be executed from GSI, RHQ, SR		

Karnataka		
25	Reconnaissance survey for copper and associated mineralization around Balshettihal, Gogalgatti and adjoining areas in Yadgir District, Karnataka. (G4) Spin-off: RMT	2023-24
26	Reconnaissance survey for gold and associated mineralization around Buddini and adjoining area, Raichur District, Karnataka. (G4) Spin-off: RMT	2023-24
27	Reconnaissance survey for copper and associated mineralization around Wajhal Thanda, Hebbal Buzurg and adjoining areas in Yadgir District, Karnataka. (G4) Spin-off: RMT	2023-24
28	Reconnaissance survey for gold, copper, nickel and associated mineralization in and around Tondsihal area, Koppal District, Karnataka. (G4) Spin-off: RMT	2023-24
29	Preliminary Exploration for gold in Amrapur area, Hungund-Kushtagi Schist Belt, Eastern Dharwar Craton, Karnataka. (G3)	2023-24
30	Reconnaissance survey for nickel and associated mineralization around Alorna area, North Goa District, Goa. (G4)	2023-24
31	Reconnaissance survey for copper and associated mineralization around Harappanahalli west block and adjoining areas in Davangere District, Karnataka. (G4)	2023-24
32	General Exploration for cobalt and manganese mineralization in Tarlagatta area, Shimoga District, Karnataka. (G2)	2023-24
33	Reconnaissance survey for Gold in Savanur and Krishnapura areas, Haveri district, Karnataka. (G4) Spin-off: STM	2023-24
34	Reconnaissance survey for Ni, Cr and associated mineralization in South of Sindhuvalli and Dura area, Mysore district, Karnataka. (G4)	2023-24
35	Preliminary exploration for Limestone resources in North Kadaboor Block in Kalaburagi District, Karnataka. (G3)	2023-24
36	Preliminary exploration for Limestone resources in South Kadaboor Block in Kalaburagi District, Karnataka. (G3)	2023-24
37	Reconnaissance survey for gold and associated metals in and around Chellakuriki area of Bellary District, Karnataka and Ananthapur District of Andhrapradesh. (G4)	2023-24
38	Reconnaissance survey for gold and associated metals south of Kurugodu, Bellary District, Karnataka. (G4)	2023-24
39	Reconnaissance survey for gold and associated minerals around Bhramsagara-Halekallu-Mallekatte areas of Chitradurga and Davangere districts, Karnataka. (G4)	2023-24
40	Reconnaissance Survey for Ni-PGE in Sidalingapur -Ambaliopura block in Kodagu district, Karnataka. (G4)	2023-24
41	Reconnaissance Survey for Cr and Ni in Kundahalli-Takeri block in Kodagu district, Karnataka. (G4) Spin-off: NGCM	2023-24
42	Reconnaissance survey for primary source rocks of diamond in the Southern extension of the Wajrakarur Kimberlite field in	2023-24

	Closepet and PGC terrain in Madhugiri – Kesturu area in parts of Tumkur district, Karnataka and parts of Anantapur district Andhra Pradesh. (G4)	
43	Reconnaissance survey for primary source rocks of diamond in the Southern extension of the Wajrakarur Kimberlite field in Puravara- Byalya- Holvanahalli areas, in parts of Tumkur district, Karnataka and parts of Anantapur district Andhra Pradesh. (G4)	2023-24
44	General exploration for REE and RM mineralization of Carbonatite - Syenite from Gundlupet Block, Chamrajnagar District, Karnataka. (G2)	2023-24
45	Regional Mineral Targeting in parts of Chitradurga Schist Belt of Western Dharwar Craton, Chitradurga and Davangere Districts, Karnataka. (RMT)	2022-24
Kerala		
46	Reconnaissance survey for Bauxite and associated mineralization in Kolattur area, Kannur District, Kerala. (G4)	2023-24
47	Reconnaissance survey for REE/RM and graphite, mica mineralization around Punnala-Valiyakavu, Punalur Mica belt, Kollam district, Kerala. (G4)	2023-24
	Spin-off: NGCM	
48	Reconnaissance survey for graphite and associated molybdenum in Purapuzha-Neeloor area in south-eastern extension of Thodupuzha-Muvattupuzha Graphite belt, Kottayam and Idukki districts, Kerala. (G4)	2023-24
49	Reconnaissance survey for chrysoberyl and REE-RM mineralization in the granitic pegmatite field in Kallar-Bonacaud area, Trivandrum District, Kerala. (G4)	2023-24
50	Reconnaissance survey for Gold around Vythiri area, Wayanad gold field, Wayanad District, Kerala. (G4)	2023-24
	Spin-off: NGCM	
51	Preliminary exploration for aluminous laterite & bauxite in Yetadka block, Kasaragod district, Kerala. (G3)	2023-24
Tamil Nadu		
52	General exploration for molybdenum and associated mineralization in Marudipatti North B-Block, Harur-Uttangarai molybdenum belt, Dharmapuri district, Tamil Nadu. (G2)	2023-24
53	Preliminary exploration for graphite and associated mineralisation in Ulaganathapuram block in the Sivaganga Graphite belt, Sivagangai district, Tamil Nadu. (G3)	2023-24
54	Preliminary exploration for limestone in Salikkarai Area, Dindigul and Karur districts, Tamil Nadu. (G3)	2023-24
55	Preliminary exploration for Rare Metals and REE in carbonatite and associated rocks of Kambam area, Theni district, Tamil Nadu. (G3)	2023-24
56	Reconnaissance survey for REE and associated mineralisation in syenite rocks near Putteti, Kanyakumari district Tamil Nadu. (G4)	2023-24
57	Reconnaissance survey for Iron Ore in Banded Magnetite Quartzite between Nachchukaradu – Kavakkarapatti areas, Namakkal district, Tamil Nadu. (G4)	2023-24
58	Reconnaissance Survey for Mo-CuPb and associated minerals in Nachiyarkuppam Block, north- eastern extension of Harur-	2023-24

	Utthangarai Belt (HUB), part of TS No. 57L/10 & 14, Vellore District, Tamil Nadu. (G4)	
59	Reconnaissance survey for Gold and associated mineralisation in Vengikkal – Vediappanmalai area in Tiruvannamalai district, Tamil Nadu. (G4)	2023-24
60	Reconnaissance Survey for Gold and associated mineralization around Singliyankobai area, Salem District, Tamil Nadu. (G4)	2023-24
61	Reconnaissance survey for Gold and associated mineralisation in Devala – Pandalur area in Nilagiri district, Tamil Nadu. (G4) Spin-off: STM	2023-24
62	Reconnaissance survey for Gold and Molybdenum mineralisation along with the assessment of quality of iron ore in BMQ bands in Rangasamuthiram-Kavalur area (Javadi Hills) of Vellore District, Tamilnadu. (G4)	2023-24
63	Reconnaissance survey for silver, molybdenum, copper and associated metals along Pagalahalli - Gettipatti shear zone of Dharmapuri Suture Rift Zone, Dharmapuri district, Tamil Nadu. (G4)	2023-24
64	Regional scale integrated mineral system studies to target potential zones of mineralization between Mettupalayam Ultramafic Complex and Sittampundi Anorthosite Complex, Cauvery Shear Zone, Tamil Nadu. (RMT)	2023-25
Telangana		
65	Reconnaissance survey for aluminous laterite in and around Digwal area of Sangareddy & Vikarabad districts, Telangana. (G4)	2023-24
66	Reconnaissance survey for aluminous laterite in and around Velchal area of Vikarabad District, Telangana. (G4)	2023-24
67	Preliminary exploration for Limestone in Jamni block, Adilabad District, Telangana. (G3)	2023-24
68	Reconnaissance survey for REE in Rudraram Kalan area, Jayashankar Bhupalpalli district, Telangana. (G4) Spin-off: NGCM	2023-24
69	Reconnaissance survey for REE around Annapureddipalli, Bhadradi Kothagudem District, Telangana. (G4) Spin-off: NGCM	2023-24
MISSION IIB– NATURAL ENERGY RESOURCES (Coal and Lignite)		
Telangana		
1	Reconnaissance survey for coal in Gundala Area, central part of the Godavari Valley Coalfield, Bhadradi-Kothagudem District, Telangana. (G4)	2023-24
MISSION III: GEOINFORMATICS		
Mission IIIA– Geodata		
1	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS of Southern Region.	2023-24
Mission IIIB– Publication and Library		
1	Geology and Mineral resources of Andhra Pradesh (2nd edition), Misc.Pub-30, Part VIIIB.	2022-24
2	Publication of GSI Records Volume 157 Pt-5 Extended Abstracts of Progress Reports for Field Season 2022-2023 of the Southern Region.	2023-24

3	Geology and Mineral Resources of Kerala (4th edition), Misc.Pub-30, Part IX.	2023-25
4	Special Publication on Geology of the Cuddapah Basin, India.	2023-25
Mission IIIC– Map, Geoinformatics and Data Integration		
1	Compilation and updation of geological and mineral map of Karnataka state on 1: 0.5m scale in GIS platform with an explanatory note.	2023-24
2	Creation and Updation of Geodatabase of Southern Region on 1:25K scale from existing STM maps.	2023-24
3	Updation and modification of lithological mis-match of 1:50K database of SR along toposheet boundary by limited field check.	2023-25
4	Creation of Commodity wise GIS database of Gold, Mica, REE & RM group of minerals of Andhra Pradesh State	2023-24
MISSION IV: FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV– Geotechnical Studies		
1	Geotechnical evaluation of water resource development projects, inter-basin water transfer, power projects, and transport & communication projects in Karnataka and Goa.	2023-24
2	Geotechnical Evaluation of Power and Water Resources Development Projects in Kerala.	2023-24
3	Geotechnical Evaluation of Water Resources Development and other miscellaneous projects in Tamil Nadu.	2023-24
4	Geotechnical Evaluation of Water Resources Development Projects, Inter Basin Water Transfer, Power Projects and Transport & Communication Projects in Andhra Pradesh and Telangana.	2023-24
Mission IV– Landslide Studies		
Karnataka		
1	Meso-scale (1:10,000) Landslide Susceptibility Mapping in Galibeedu and Onchalla Hill Township Area, Kodagu district, Karnataka.	2023-24
2	Meso-scale (1:10,000) Landslide Susceptibility Mapping in Kalache and Kodasahalli dam site Area, Uttara Kannada district, Karnataka.	2023-24
3	Meso-scale (1:10,000) Landslide Susceptibility Mapping in Thodikana area, Dakshina Kannada District, Karnataka.	2023-24
4	Mesoscale (1:10,000) landslide susceptibility mapping along Sakleshpur to Yedakumari rail corridor, Hassan District, Karnataka.	2023-24
Karnataka		
5	Meso scale (1:10,000) landslide susceptibility mapping from Kallar to 9 th Mile, Nilgiri District, Tamil Nadu.	2023-24
6	Meso scale (1:10,000) landslide susceptibility mapping from 9th mile to Panthalur, Nilgiri District, Tamil Nadu.	2023-24
MissionIV- Seismic Studies		
1	Seismic Hazard Micro-zonation (SHMZ) study in and around proposed Amaravati Capital Region, Guntur District, Andhra Pradesh.	2022-23

Mission IV– Environmental Geology

1	Geo-environmental appraisal in parts of Anantapur district, Andhra Pradesh with special emphasis on uranium and other elemental contamination in water.	2023-24
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Mission IV– Fundamental Geoscience

1	Study of Neoproterozoic fossil assemblages of Badami basin, in parts of Belgaum, Bagalkot and Koppal districts, Karnataka.	2022-24
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Western Region (WR):

Western Region of the Geological Survey of India headquartered at Jaipur, covers the states/UTs of Gujarat and Rajasthan, Dadra and Nagar Haveli, Daman and Diu. The State Unit offices of GSI, WR are located at Jaipur and Gandhinagar. The State /Mission wise distribution of programmes tabulated below.

WESTERN REGION		
Mission IA: BASELINE GEOSCIENCE DATA GENERATION		
Mission IA–Specialized Thematic Mapping		
Gujarat		
1	Specialized Thematic Mapping of the Godhra granites and later intrusive in and around Ghoghambha and Eral to elucidate its tectono-magmatic evolution with special reference to REE mineralization in parts of Panchmahals district of Gujarat.	2023-24
2	Specialized Thematic Mapping of the lava flow sequence of Amreli Volcanics, Deccan Volcanic Province in parts of Bhavnagar District of Gujarat.	2023-24
3	Specialized Thematic Mapping to evaluate the stratigraphic continuation and structural evolution of Aravalli and Delhi Supergroup of rocks in and around Kaniyol and Mau of Sabarkantha district, Gujarat.	2023-24
Rajasthan		
4	Specialised Thematic Mapping of Proterozoic sequences of Delhi Supergroup and younger intrusives in and around Bijapur-Ranakpur-Morcha areas in Pali, Rajasmand and Udaipur districts in Rajasthan to establish tectono-stratigraphy and to search for tin-tungsten and REE mineralisation in the area.	2023-24
5	Specialized Thematic Mapping in and around Dantra, Akherpura and Devpura area of Bhilwara district, Rajasthan to establish lithotectonostratigraphic sequences of Hindoli and Jahazpur Group of rocks and to search for REE and associated mineralization in the area.	2023-25
6	Specialized Thematic Mapping of the Archaean/Proterozoic sequences in and around Banera, Raila and Nimbhera Kalan areas in Bhilwara District, Rajasthan to establish the basement cover relationship as well as explore the Co mineralization potential in the area.	2023-24
7	Specialized Thematic Mapping of the Archaean/Proterozoic sequences in and around Bhim, Barar and Todgarh areas in Ajmer, Udaipur and Bhilwara districts, Rajasthan to establish the basement cover relationship as well as explore the Li mineralization potential in the area.	2023-24
8	Specialized Thematic Mapping to elucidate the lithostratigraphy, structure and tectonics of the Archaean/Proterozoic sequences in and around Malpura, Karela, Ganwar and Tordi areas in Tonk District, Rajasthan.	2023-24
9	Specialized Thematic Mapping of the Archean/Proterozoic sequences in and around Kherwara, Kodiawada, Raghunathpura, Hiranta area of Udaipur & Dungarpur districts of Rajasthan and Sabarkantha District of Gujarat to establish basement cover relationship and to elucidate the tectonostratigraphic evolution	2022-24

	as well as to search for REE, PGE and associated mineralization in the area.	
10	Specialized Thematic Mapping of the Neoproterozoic intrusive and extrusive rocks of Malani Igneous suit around Sankara ,Sanwara, Pratappura and Rampura area in Jaisalmer District, Rajasthan	2023-24
11	Specialized Thematic Mapping of the Paleo-Proterozoic sequences in and around Zawar areas in Udaipur Dstrict, Rajasthan to delineate different deformation episode in the area.	2023-24
12	Specialized Thematic Mapping of the Proterozoic sequences in and around Kalandri, Ranela Balda, Joliya and Lotana of Sirohi district of Rajasthan to establish the litho tectono-stratigraphic evolution of Erinpura granite and younger granites and the associated meta-sediments of the Delhi Supergroup along with search for mineralization	2022-24
13	Specialized Thematic Mapping of the Proterozoic/Archean sequences in northern part of toposheet no. 45L/07 to establish basement cover relationship and to elucidate tectono-stratigraphic evolution in and around Kanor, Ujanpura and Bari Sadri area in Udaipur and Chittaurgarh district of Rajasthan.	2023-25
14	Specialized thematic mapping of the Proterozoic rocks belonging to the Delhi supergroup and the intrusive igneous rocks to elucidate their tectonostratigraphy with emphasis on the search for basemetals, REE and skarn mineralization in and around Butiwas, Birantiya and Lawacha areas, Pali, district, Rajasthan.	2023-24
Mission IA– Geochemical Mapping		
Gujarat		
1	Geochemical Mapping of toposheet 40P/10, 40P/14 and 45D/2in parts of Banaskanthadistricts, Gujarat and Jalor District, Rajasthan.	2023-24
2	Geochemical Mapping of toposheet 46A/9 and 46B/9 in parts of Ahmedabad, Kheda, Banaskantha, Mehsanadistricts, Gujarat.	2023-24
3	Geochemical Mapping of toposheet 46G/1, 2, 3 and 12 in parts of Vadodara, Bharuch, Surat, Tapi & Dang districts of Gujarat and Nandurbar district of Maharashtra	2023-24
4	Geochemical Mapping of toposheet 46H/10 &13 in parts of Tapi and Dang districts of Gujarat and Dhule and Nashik districts of Maharashtra	2023-24
5	Geochemical Mapping of toposheet 46D/15, 46H/3, 6 & 7 in parts of Valsad, Navsar, Dang districts of Gujarat & parts of Union Territory of Dadra and Nagar Haveli and Daman & Diu and Nashik district of Maharashtra.	2023-24
6	Geochemical Mapping of toposheet 41J/7, 10, 11 & 15 in parts of Jamnagar, Morbi and Rajkot districts of Gujarat.	2023-24
Mission IA– Geophysical Mapping		
Gujarat		
1	Geophysical Mapping in Toposheets 44G/04 & 44G/08 falling in Bikaner and Sri Ganganagar districts, Rajasthan and 46A/04, 46A/08, & 46A/12 falling in Mahesana District, Gujarat.	2023-24

2	Geophysical Mapping in Toposheets 46E/04, 46F/01,02,03 & 06 falling in Ahmadabad, Kheda, Panchmahal, Sabarkantha and Vadodara districts Gujarat.	2023-24
Rajasthan		
3	Geophysical Mapping in 44G/07,11,12,15 & 16 Toposheets falling in Sri Ganganagar District, Rajasthan	2023-24
4	Geophysical Mapping in Toposheets 45B/01, 45B/02, 45B/05, 45B/06 and 45B/09 falling in Jodhpur and Jaisalmer districts, Rajasthan.	2023-24
5	Geophysical Mapping in Toposheets 45L/13,16, 46I/13, 45P/16 & 46M/09 falling in Mandsoar, Ratlam, Shajapur & Ujjain districts, Madhya Pradesh and Chittaugarh, Jhalawar & Banswara districts, Rajasthan.	2023-24
6	Geophysical Mapping in Toposheets 44G/06, 44G/09, 44G/10, 44G/13 & 44G/14 falling in Sri Ganganagar District, Rajasthan	2023-24
MISSION IB-Remote Sensing and Aerial Survey		
Rajasthan		
1	Spectral Geological/Surface Mineral Mapping using space borne multispectral ASTER data on 1: 50,000 scale in OGP areas of Rajasthan and Gujarat.	2023-24

MISSION II: NATURAL RESOURCES ASSESSMENT		
Mission IIA- Mineral Resource Assessment		
Gujarat		
1	General Exploration for Rare Earth Elements (REE), Rare Metals (RM) and associated mineralization in eastern extension of Central block of Ambadungar Carbonatite Complex, Kawant Taluka, Chhota Udepur district, Gujarat. (G2)	2023-24
2	Preliminary exploration for Rare Earth Elements (REE), Rare Metals (RM) and associated mineralization in Koliyathar-Gunata of Chhota Udepur district, Gujarat. (G3)	2023-24
3	Preliminary exploration for PGE-Ni-Cr and associated mineralizations in the Dadhaliya ultramafics of Bhamrechinamuwada and Gulab Khan Kampa area, Aravalli District, Gujarat (G3)	2023-24
4	Reconnaissance survey for rare earth elements, rare metals and associated mineralizations in and around Sudasna-Jawanpura areas, parts of Mehsana and Banaskantha districts of Gujarat. (G4)	2023-24
Spin-off: STM		
5	Reconnaissance survey for Rare Earth Elements (REE), Rare Metals (RM) and associated mineralization in Aniyadri-Gondariya area, Chhota Udepur district, Gujarat. (G4)	2023-24
Spin-off: NGCM		
6	Evaluation of strategic minerals/rare metals (W-Sn-Be) and REE potentiality in skarn rocks of Toposheet 46J/3, Chhota Udepur district, Gujarat and Alirajpur district, Madhya Pradesh. (RP)	2023-24

Rajasthan		
7	Reconnaissance survey for gold and basemetal mineralisation in Watera- Bhimana- Sangwara areas, Sirohi district, Rajasthan. (G4)	2023-24
8	Reconnaissance survey for gold and basemetal mineralisation in Pipela - Swaroopganj areas of Sirohi district, Rajasthan. (G4)	2023-24
9	Preliminary exploration for base metal and gold mineralization in Ghatiyana North Block, Banswara district, Rajasthan. (G3)	2023-24
10	General exploration for gold and associated basemetal mineralization in Jagpura North Block, Banswara District, Rajasthan. (G2)	2023-24
11	Reconnaissance Survey for Scandium and associated minerals in Manpiya-Mulsagar-Lodorva (Amar Sagar-Badabag-Jetwai) area, Jaisalmer district, Rajasthan. (G4) Spin-off: STM	2023-24
12	Reconnaissance Survey for Niobium and associated minerals in Sior-Dabla-Lakha-ka-Nangal area, Jhunjhunu district, Rajasthan. (G4) Spin-off: STM	2023-24
13	Reconnaissance Survey for REE and RM in Oda-Bhev-Ganjapura area, Sirohi district, Rajasthan. (G4) Spin-off: NAGMP	2023-24
14	Reconnaissance survey for base metal and associated mineralisation in Chang-Samel block in Ajmer and Pali districts, Rajasthan. (G4)	2023-24
15	Reconnaissance survey for basemetals, REE and RM mineralization in Baneti-Bhopiya area, Jaipur and Sikar districts of Rajasthan. (G4) Spin-off: NGCM	2023-24
16	Reconnaissance survey for base metal, REE and RM mineralisation in Kohrana-Raiwana area, Alwar districts, Rajasthan. (G4) Spin-off: NGCM, NGPM	2023-24
17	Reconnaissance survey for REE and associated mineralization in Piloda-Nagola areas of Ajmer district, Rajasthan. (G4) Spin-off: STM	2023-24
18	Reconnaissance survey for basemetal and associated mineralization in Jetpura-Jamun-Savnaareas, Udaipur district, Rajasthan. (G4) Spin-off: PGRS	2023-24
19	Preliminary exploration for base metal in Northern part of Dariba block, Sikar district, Rajasthan. (G3)	2023-24
20	Preliminary exploration for gold, basemetal and associated mineralization in Saidala Block, Sikar district, Rajasthan. (G3)	2023-24
21	Reconnaissance survey for Rare Earth Elements (REE), Gold and associated Basemetal mineralization in Semari Block, Udaipur district, Rajasthan. (G4) Spin-off: NGCM	2023-24

22	Reconnaissance survey for Rare Earth Elements (REE), Gold and associated Basemetal mineralization in Seriya Block, Udaipur district, Rajasthan. (G4) Spin-off: NGCM	2023-24
23	Reconnaissance survey for copper and associated base metal mineralisation in Fatehnagar Block, Udaipur and Chittaugarh districts, Rajasthan. (G4)	2023-24
24	Preliminary exploration for basemetal and associated precious metal mineralization in Jaisinghpura area, Alwar and Dausa districts, Rajasthan. (G3)	2023-24
25	Preliminary Exploration for copper and associated mineralization in Kotri block, Udaipur district, Rajasthan. (G3)	2023-24
26	Preliminary Exploration for copper and associated mineralization in Nauva block, Udaipur district, Rajasthan. (G3)	2023-24
27	Preliminary Exploration for copper and associated mineralization in Ramaj block, Udaipur district, Rajasthan. (G3)	2023-24
28	Reconnaissance survey for phosphorite mineralisation in Rupgarh area of Banswara District, Rajasthan. (G4)	2023-24
29	Reconnaissance survey for potash in Jakharanwali block, Bharusari sub-basin, Nagaur-Ganganagar Evaporite Basin, Hanumangarh District, Rajasthan. (G4)	2023-24
30	Preliminary exploration for potash in Chistiyan block, Satipura sub-basin, Nagaur-Ganganagar Evaporate Basin, Hanumangarh District, Rajasthan. (G3)	2023-24
31	Preliminary exploration for potash in Jorkian north block, Satipura sub-basin, Nagaur-Ganganagar Evaporate Basin, Hanumangarh District, Rajasthan. (G3)	2023-24
32	Reconnaissance survey for REE, Rare Metals (W, Sn, Nb, Be, Ta, Hf etc) mineralization in A-type Granite in the northern Aravalli orogeny, Dadikar, Harsora and Khairthal area, Alwar district, Rajasthan. (G4)	2023-24
33	Reconnaissance survey for Graphite and associated mineralisation in and around Bhongra-Bargun area, Banswara District, Rajasthan. (G4)	2023-24
34	Preliminary exploration for REE and associated mineralisation in the E of Gugrot, Barmer District, Rajasthan. (G3)	2023-24
35	Reconnaissance survey for REE and associated mineralisation around Jastwantpura, Jalore & Sirohi Districts, Rajasthan. (G4) Spin-off: NAGPM	2023-24
36	Reconnaissance survey for base metals in Nithar-Kankhera areas, Bharatpur district, Rajasthan. (G4)	2023-24
37	Reconnaissance survey for REE and associated mineralisation in Punawa-Ranela-Kooma areas, Sirohi District, Rajasthan. (G4) Spin-off: NAGPM	2023-24
38	Reconnaissance Survey for Magnesite, REE and Silver in Padrara-Sayra area, Udaipur district, Rajasthan. (G4)	2023-24
39	Preliminary exploration for low silica SMS/Cement grade limestone in Sata-Dhauwa area, Jaisalmer District, Rajasthan. (G3)	2023-24

40	Preliminary exploration for low silica SMS/Cement grade limestone in South of Jaisalmer and West of Dablaarea, Jaisalmer district, Rajasthan. (G3)	2023-24
41	Reconnaissance survey for Wollastonite in Barwasa -Lodowal area, Dungarpur district, Rajasthan. (G4)	2023-24
42	Reconnaissance survey for graphite and associated mineralization in Bhaonta-Amba and DumraBlock, Ajmer District, Rajasthan. (G4)	2023-24
43	Reconnaissance survey for Pb-Zn and associated mineralization in Kajipura Block, Ajmer District, Rajasthan. (G4)	2023-24
44	Preliminary exploration for cement grade limestone in North of Bhojaniyon ki Dhani Block, Nibh Dungar area, Jaisalmer District, Rajasthan. (G3)	2023-24
45	Preliminary exploration for cement grade limestone in South East of Dedha Block, Nibh Dungar area, Jaisalmer District, Rajasthan. (G3)	2023-24
46	Preliminary exploration for cement grade limestone in South of Jogiyon ki Dhani Block, Nibh Dungar area, Jaisalmer District, Rajasthan (G3)	2023-24
47	Preliminary exploration for cement grade limestone in West of Jogiyon ki Dhani Block, Nibh Dungar area, Jaisalmer District, Rajasthan. (G3)	2023-24
48	Reconnaissance survey for basemetal and REE mineralization in Ganeshpura area, Sikar district, Rajasthan. (G4) Spin-off: STM	2023-24
49	Reconnaissance survey for basemetal and REE mineralization in Manda area, Sikar district, Rajasthan. (G4) Spin-off: STM	2023-24
50	Reconnaissance survey for Basemetal and associated mineralization in Barana-Malesari area, Bhilwara district, Rajasthan. (G4) Spin-off: STM	2023-24
51	Reconnaissance survey for basemetal and REE mineralization in Palsana area, Sikar district, Rajasthan. (G4) Spin-off: STM	2023-24
52	Reconnaissance survey for basemetal and REE mineralization in Savant Gadh area, Sikar district, Rajasthan. (G4) Spin-off: STM	2023-24
53	Reconnaissance survey for basemetal and REE mineralization in Surera area, Sikar district, Rajasthan. (G4) Spin-off: STM	2023-24
54	Preliminary exploration for reassessment of basemetal mineralisation in Kesarpura Block, Bhilwara District, Rajasthan. (G3)	2023-24
55	Preliminary exploration for cement grade limestone in Ladpura-Chawandiya area, Chittorgarh and Bhilwara district, Rajasthan. (G3)	2023-24
56	Reconnaissance Survey for REE and rare metals in rhyolites occurring around Nakoda, Malani Igneous Suite, Barmer district, Rajasthan. (G4) Spin-off: NAGMP	2023-24

57	Reconnaissance Survey for basemetal and associated minerals in Sagna-Deldar-Bharja area, Sirohi district, Rajasthan. (G4)	2023-24
58	Regional mineral targeting for RM, REE, Mo, Ni, Co and associated minerals in Raniwara-Alwada-Magriwada area, Jalore and Sirohi districts, Rajasthan and Banas Kantha district, Gujarat. (RMT) Spin-off: NAGMP	2023-24
59	Regional Mineral Targeting in parts of Hamirgarh- Bhiyana area, Chittorgarh district, Aravalli Craton, Rajasthan. (RMT) Spin-off: NAGMP	2022-24
60	Regional Mineral targeting in parts of Malwar-Baliya-Degana area, Nagaur & Jodhpur Districts, Rajasthan. (RMT) Spin-off: NAGMP	2022-24
61	Regional mineral targeting for rare earth elements and rare metals in Siwana Ring Complex, Malani Igneous Suite, Siwana-Mokalsar area, Barmer district, Rajasthan. (RMT) Spin-off: NAGMP	2022-24
MISSION III: GEOINFORMATICS		
Mission IIIA-Geodata		
1	Creation of Legacy Borehole Data Repository (LBDR) in FSPMIS, Western Region.	2022-25
Mission IIIB- Publication and Library		
1	Publication of Records of GSI Vol. 157, Part 7: Extended abstracts of Progress reports of the Western Region for the field season 2022-23.	2023-24
2	Publication of Bulletin Series A: Geology and metallogeny of Neem ka Thana copper belt, Sikar district, Rajasthan	2022-24
Mission IIIC- Map, Geoinformatics and Data Integration		
1	Preparation of updated second series of district resource maps of Gujarat on 1:250,000 scale using 1: 50K edge matched uploaded geological database of the Region.	2023-26
2	Preparation of updated Mineral Belt Maps of Gujarat on 1:50,000 scale using 1: 50K edge matched uploaded geological and mineral database of the Region.	2023-25
MISSION IV : FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV- Geotechnical Studies		
1	Geotechnical Evaluation of water resources development project in Rajasthan and Gujarat.	2023-24
2	Geotechnical evaluation of transportation and communication projects in Rajasthan and Gujarat.	2023-24
3	Geotechnical mapping/assessment in the northern part of Jaipur City around Chomu, Jahota & Jalsu Jaipur Dist. Rajasthan.	2023-25
Mission-IV-Seismic Studies		
1	GPS measurement of present day strain across the active transverse tectonic element along Marginal East and West Fault, West coast lineament, Jaisalmer-Badwani Lineament in Cambay Basin, in Central Gujarat and Rajasthan.	2022-24

Mission-IV-Earthquake Studies		
1	Active fault study around fault through Khao, Karoli and Bhulla Ka Bas in the NNE vicinity of Alwar city, Alwar District, Rajasthan.	2022-24
2	Active tectonic study of Kanoi fault and Ramgarh Fault around Jaisalmer area, Jaisalmer Dist. Rajasthan.	2023-26
Mission IV– Fundamental Geoscience		
1	An integrated study of Benthic Foraminefera and stable isotope of Eocene succesion of Jaisalmer Basin Rajasthan, Western India.	2022-24
2	Study of faunal assemblages from the Cretaceous sequence of Barmer Basin, Rajasthan.	2023-25
3	Genesis of Rare Metals (RM) mineralization in Sibagaon area, Sirohi district, Rajasthan.	2023-25
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Course on Geological Mapping and Mineral Exploration for Base Metals for "47 th Orientation Course for Geologists (OCG)".	2023-24
2	Course on Geological Mapping and Mineral Exploration for Base Metals for "47 th Orientation Course for Geologists (OCG)".	2023-24
3	Course on Geological Mapping and Mineral Exploration for Base Metals for "47 th Orientation Course for Geologists (OCG)".	2023-24
4	Course on Data Integration for Mineral Exploration.	2023-24
5	Refresher Course on Exploration of Critical and Strategic Minerals.	2023-24
6	Refresher Course on Mineral Exploration for Gold and Base metals.	2023-24
7	Course on Exploration for REE and RM.	2023-24
8	Course on technique of G4 stage of mineral exploration.	2023-24
9	Refresher Course on Mineral Exploration for Industrial and Fertilizer Minerals.	2023-24
10	Refresher Course on Structural Geology.	2023-24
11	Course on regolith mapping for geoscientists.	2023-24
12	Training on Basics of GIS and its Applications.	2023-24
13	Refresher course on water chemistry-analysis and interpretation.	2023-24
14	Training on Office Procedure, Administration, Finance, GeM, Vigilance and Roster Management for Group B and C officials.	2023-24
15	Training on Use of Hindi as Rajbhasha.	2023-24
16	Course on Self-defence and Gender Sensitisation.	2023-24
17	Training on Administration, Personnel Management, Finance and Vigilance for JTS/STS including Group-B Gazetted.	2023-24
18	Course on PFMS, BHAVISYA and Income Tax calculations.	2023-24

Central Facilities (CF):

Central Facilities covers the programmes executed from Remote Sensing and Aerial Survey (RSAS) Division, Bangalore; Photo Geology & Remote Sensing (PGRS), Kolkata; National Centres of Excellence in Geoscience Researches (NCEGR) operating from Kolkata, Faridabad and Bangalore; Natural Resources Assessment operating from Nagpur and Kolkata; Geoinformatics at Kolkata; and Training and Capacity Building operating from Hyderabad and FTC Chitradurga.

CENTRAL FACILITIES		
MISSION IB- REMOTE SENSING AND AERIAL SURVEYS		
1	Spectral Geological/Surface Mineral Mapping using space borne multispectral ASTER data on 1: 50,000 scale in Obvious Geological Potential (OGP) areas of Rajasthan and Gujarat (Project-1).	2022-24
2	Spectral Geological/Surface Mineral Mapping using space borne multispectral ASTER data on 1: 50,000 scale in Obvious Geological Potential (OGP) areas of Karnataka, Goa, Tamilnadu and Kerala.	2023-25
3	Generate surface mineral/ alteration mineral maps based on different remote sensing processing techniques using ASTER data in OGP areas of Madhya Pradesh and Chhattisgarh states.	2023-25
4	Integration and interpretation of multi-thematic Geo-science data in conjunction with Aero-geophysical data collected under NAGMP (Blocks 1, 4 & 11) with a mineral systems approach for identification of exploration targets with a special focus on concealed targets.	2022-25

MISSION II: NATURAL RESOURCES ASSESSMENT		
Mission-IIA: Mineral Resource Assessment		
1	Regional mineral targeting for base metals and associated mineralization, in and around Malanjkhanda Granitoid, Balaghat district of Madhya Pradesh and Rajnandgaon district of Chhattisgarh. (RMT) \$	2022-24
2	Geochemical and petrological characterisation of mafic-ultramafic rocks of Sukinda Ultramafic Complex, Odisha to assess PGE and HREE potentiality (RP)#	2022-24
\$ to be executed from O/o NM-II, GSI, Nagpur; # to be executed from PSS-P&M-2, GSI, CHQ, Kolkata		
Mission-IIB- Natural Energy Resources (Coal and Lignite)		
1	Preliminary assessment of shale gas potentiality in Taldanga-Paniphala area of Raniganj Coalfield, West Bardhaman District, West Bengal. (G4)	2023-25
2	Preliminary assessment of shale gas potentiality in north west of Karmagarh area of Mand-Raigarh Coalfield, Raigarh District, Chhattisgarh (G4)	2023-25
3	Organic petrology and geochemistry of Permo-Carboniferous Gondwana coal from Pranhita-Godavari Valley Basin using stable isotopes and lipid biomarker - implications for palaeoclimatic and paleoenvironmental reconstruction along with an assessment of REE and trace elements (RP)	2022-24

MISSION III: GEOINFORMATICS		
Mission-IIIB– Publication and Library		
1	Special Publication on North Singhbhum Mobile Belt (NSMB).	2022-24
2	Records of GSI, Vol. 157, Part-2 (Extended Abstract of Reports of Central facilities - CHQ of F.S. 2022-2023).	2023-24
3	Publication of Records of GSI Vol. 157, Part-9 (Annual Report of GSI for FS 2022-23).	2023-24
4	Publication of Four issues of the quarterly journal of GSI "Indian Journal of Geosciences (IJG)" Volume 77 No. 1 (January - March 2023), Volume 77 No. 2 (April-June 2023), Volume 77 No. 3 (July-September, 2023) and Volume 77 No. 4 (October-December, 2023).	2023-24
Mission-IIIC– Map, Geoinformatics and Data Integration		
1	Creation of National Geoscience Data Repository (NGDR) in GSI.	2019-24
2	Synthesis and collation of All India National Geochemical Map data (NGCM) and National Geophysical Map data (NGPM) on 1:50K scale for uploading in BhuKosh GeoPortal of OCBIS.	2019-24
3	Updation and preparation of Metallogenic Map of India (1:2M) on Geospatial Platform.	2023-24
4	Vetting and scrutiny of compiled geodatabase on 1:25k scale using STM data, from different regions.	2022-24
MISSION IV: FUNDAMENTAL AND MULTIDISCIPLINARY GEOSCIENCES AND SPECIAL STUDIES		
Mission IV– LANDSLIDE AND SEISMIC STUDIES, NCEGR, KOLKATA		
1	Seismic site response studies and resistivity survey around Mon town area, Mon District, and Wokha-Doyang road corridor, Wokha District Nagaland.	2023-24
2	Study of active tectonics along the Tista river in parts of the Darjeeling-Sikkim Himalaya with the campaign mode GPS and MEQ surveys.	2023-26
3	Development and validation of experimental regional landslide forecast in Uttarakhand and Himachal Pradesh.	2020-25
4	Development and validation of experimental regional landslide forecast in Sikkim and West Bengal.	2021-25
5	Development and validation of experimental regional landslide forecast in Kerala, Karnataka and Tamil Nadu.	2021-25
6	Development and validation of experimental regional landslide forecast in Assam, Meghalaya, Mizoram and Nagaland.	2022-25
7	Detailed Geological and Geotechnical Investigation of the 13th Mile landslide on JN road, East Sikkim district, Sikkim and Gayabari (14th Mile) landslide on NH-55, Darjeeling district, West Bengal.	2022-24
NCEGR, FARIDABAD		
1	Optical Luminescence Dating (OSL) dating of Quaternary sediments and archaeological artifacts from cultural mounds in the Haryana plains and Great Rann of Kutch for a better insight of Holocene climate change and its impact on decline and dispersal of the Indus valley civilization.	2022-24
2	Geomorphological and sedimentological study of late Quaternary alluvial deposits in Tons valley, Uttarakhand: new insight from OSL dating coupled with XRD and SEM studies.	2022-24

3	Characterizing the control of REE mineralization in and around Pithauriya Hesal- Bhuwatoli-Tiskitoli areas, Chhotanagpur Granite Gneiss Complex (CGGC), Ranchi District, Jharkhand.	2023-25
NCEGR, BENGALURU		
1	Base Metal mineralization in Cumbum Formation, Cuddapah Super Group, west of Narvakattipalle, YSR Kadapa district, A.P.: Strontium, Stable isotope (C, O & S) and fluid inclusion constraints on its genesis.	2023-24
2	Characterization of trace and rare earth element in Bentonite and Clay deposits with special emphasis on its distribution and genesis in Udupi and Belgaum, districts, Karnataka.	2023-24
NCEGR, KOLKATA		
1	Study of the Permian marine fauna from the Tethyan realm in Indian Himalayas and its implication on global palaeobiogeography.	2022-24
2	Cretaceous fauna from marine and terrestrial strata of peninsular India: biostratigraphic, paleobiogeographic and paleoenvironmental implications in a geodynamic context.	2021-25
3	Study of Jurassic vertebrates from Kutch Basin, Gujarat and its implication on Gondwanan palaeobiogeography.	2022-24
4	Palaeovegetation and palaeoclimate during the Eocene-Oligocene-Miocene interval from Assam shelf, Assam, NE India.	2023-25
5	Palaeo-ecology and niche modelling in the Late Triassic Tiki Formation: A novel integration of facies, microfacies and paleocommunity.	2023-25
6	Geomorphological and geochronological study of Quaternary sediments of the Damodar Fan Delta and associated paleo-drainage within the Damodar Bhagirathi-Hugli Interfluve.	2022-24
7	Sulphur and oxygen isotopic signatures of the three well-studied Indian deposits in order to establish the stability and precision of the IMS-1300 HR3 instrument a pilot project.	2023-25
8	Petrological characterization and petrogenesis of Lamprophyres and associated carbonatite within Peninsular Gneissic Complex (PGC) in and around Muneru River, Khammam District, Telangana, India.	2022-24
9	Comparative study of mineralized and non-mineralized veins in parts of Purulia district around North Purulia Shear Zone in relation to Paleo-stress of the area: Application in exploration targeting.	2023-24
10	Study of the graphite and base metal mineralization in mineralized zones of Kerala Khondalite Belt (KKB) in southern Kerala.	2023-25
11	Study of REE & RM minerals in bedrock and regolith in Khuntapada-Arkhapalli Block, Nayagarh Districts, Odisha.	2023-25
POLAR STUDIES DIVISION, FARIDABAD		
1	Quest for the Meteorites in Grove Mountains area, Prydz Bay, East Antarctica.	2023-25
2	Comparative study of Gondwana Coals from Amery Group, Antarctica and Mahanadi-Godavari basins with emphasis on isotope characterisation to establish direct evidence for India-Antarctica fit.	2023-25

3	Assessment of impact of climate change through integrated glaciological studies of Polar ice sheet between Polar broken and Dalk Glaciers, Larsemann Hills, East Antarctica.	2023-25
4	Ice dynamics of the glaciers from Broggerbreen Peninsula based on the glaciological studies on Vestre Broggerbreen Glaciers, Svalbard Arctic.	2023-25
5	Late Quaternary palaeoclimatic history of Larsmann Hill area, East Antarctica: Deduced from Luminescence based proxy data of Lake sediment and sediment pathway profiles.	2023-25
6	Assessment of impact of climate change through integrated study of geophysical-glacio-hydro dynamics and appraisal of supraglacial lakes over Nivlisen Drainage Basin, cDML, East Antarctica.	2023-25
MISSION V: TRAINING AND CAPACITY BUILDING		
1	Foundation Course for "47 th Orientation Course for Geologists (OCG)"	2023-24
2	Foundation Course for " 4 th Orientation Course for Assistant Geophysicists (OCAGP)"	2023-24
3	Foundation Course for "18 th Orientation Course for Chemists (OCC)"	2023-24
4	Course on Geology for " 4 th Orientation Course for Assistant Geophysicists (OCAGP)"	2023-24
5	Course on Geology for "18 th Orientation Course for Chemists (OCC)"	2023-24
6	Multi-disciplinary Geoscience Course for "47 th Orientation Course for Geologists (OCG)"	2023-24
7	Leadership Programme for SAG and HAG level officers (in association with reputed Management Institute)	2023-24
8	Advanced course on Core ICT Management	2023-24
9	Advances in exploration geology and geophysics using Artificial Intelligence and other new-age technologies	2023-24
10	Training on Urban Geology	2023-24
11	Induction Course for Surveyors	2023-24
12	e-Training on Effective Writing of Reports, Scientific Publications and Presentation Skills in Earth Sciences	2023-24
13	e-Training on Geology for Geophysicists	2023-24
14	e-Training on Geology for Chemists	2023-24
15	e-Training on Bhukosh in OCBIS	2023-24
16	Course on Petrology for "47 th Orientation Course for Geologists (OCG)"	2023-24
17	Course on Petrology for "47 th Orientation Course for Geologists (OCG)"	2023-24
18	Course on Petrology for "47 th Orientation Course for Geologists (OCG)"	2023-24
19	Refresher course on Ore Petrology	2023-24
20	Advanced course on Applications of Petrology in Mineral Exploration	2023-24
21	Advanced course on Metamorphic Petrology with special reference to Geothermobarometry and Pseudosection Modelling	2023-24
22	11 th Course on Integration of Geological, Geophysical and Geochemical Data	2023-24

23	14th Course on 3-D Modeling for Mineral Exploration	2023-24
24	23rd Course in Advanced Geographic Information System	2023-24
25	3rd Course in Geostatistics and its Application	2023-24
26	Course on GIS and Mobile Mapping for "47 th Orientation Course for Geologists (OCG)"	2023-24
27	Course on GIS and Mobile Mapping for "47 th Orientation Course for Geologists (OCG)"	2023-24
28	Course on GIS and Mobile Mapping for "47 th Orientation Course for Geologists (OCG)"	2023-24
29	15 th Course in Geographic Information System under ITEC program by MEA, New Delhi	2023-24
30	13 th Course in Remote Sensing and Digital Image Processing for Geoscientists under ITEC Programme of MEA, New Delhi	2023-24
31	17 th Course on Application of Geo-informatics for Disaster Management under NNRMS Program of ISRO	2023-24
32	21 st Course on Application of Remote Sensing and GIS in Mineral Exploration under NNRMS program of ISRO	2023-24
33	Course on Remote Sensing and Digital Image Processing Technology for "47 th Orientation Course for Geologists (OCG)"	2023-24
34	Course on Remote Sensing and Digital Image Processing Technology for "47 th Orientation Course for Geologists (OCG)"	2023-24
35	Course on Remote Sensing and Digital Image Processing Technology for "47 th Orientation Course for Geologists (OCG)"	2023-24
36	Course on Geophysical Mapping for " 4th Orientation Course for Assistant Geophysicists (OCAGP)"	2023-24
37	Training on Geophysical Methods for Deep-Seated Mineral Exploration	2023-24
38	Course on AAS, DMA, XRF, ICPMS with Fire Assay for " 18th Orientation Course for Chemists (OCC)"	2023-24
39	Course on Wet Chemical, Ion Selective Electrode (ISE), Environmental Geochemistry and Water Analysis for " 18th Orientation Course for Chemists (OCC)"	2023-24
40	Training on Environmental Geochemistry and Analysis	2023-24
41	e-Training on Laboratory Management System (LMS) Module for Chemists	2023-24
42	5th Orientation Course for Assistant Executive Engineers	2023-24
43	Orientation Course for Assistant Engineers	2023-24
44	Induction Course for Technical Operator (Drilling)	2023-24
45	e-Training on Report Writing about drilling	2023-24
46	e-Training on Office Management/Record Keeping in Drilling Camps	2023-24
47	Course on Exploration of Critical and Strategic Minerals	2023-24
48	Course on Introduction to Application of Data Science in Geosciences	2023-24
49	Training on Resource Estimation for Mineral Deposits	2023-24
50	Refresher Course on mineral exploration for Gold and Diamond	2023-24
51	Techniques of G4 stage of Mineral Exploration	2023-24
52	Course on Water Chemistry-Analysis and Interpretation	2023-24
53	Refresher Course on DGPS, and Total Station Surveys in Geoscientific Studies	2023-24

54	Refresher Course on LiDAR and Drone Surveys in Geoscientific Studies	2023-24
55	Training on Use of Hindi as Rajbhasha	2023-24
56	Course on Use of Word Processing and Spreadsheet programmes for office work	2023-24
57	Training on Administration, Personnel Management, Finance and Vigilance for JTS/STS including Group-B Gazetted Officers	2023-24
58	Course on Self-defence and Gender Sensitisation	2023-24
59	Training on Office Procedure, Administration, Finance, GeM, Vigilance and Roster Management for Group B and C officials	2023-24
60	Course on PFMS, BHAVISYA and Income Tax calculations	2023-24
61	Course on Geological Mapping in Granite-Greenstone Terrain for "47 th Orientation Course for Geologists (OCG)"	2023-24
62	Course on Geological Mapping in Granite-Greenstone Terrain for "47 th Orientation Course for Geologists (OCG)"	2023-24
63	Course on Geological Mapping in Granite-Greenstone Terrain for "47 th Orientation Course for Geologists (OCG)"	2023-24
64	Refresher Course on Structural Geology	2023-24
65	Refresher Course on Integrated Approach in Mineral Exploration	2023-24

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