

SSC SCIENTIFIC ASSISTANT (IMD) 2026

200 HIGH-YIELD GA PRACTICE QUESTIONS WITH EXPLANATION

Day 1 Practice Set: Complete General Awareness & Current Affairs Mastery

Q1. When was the India Meteorological Department (IMD) officially established?

- (A) 15 January 1875 (B) 26 January 1950
(C) 15 August 1947 (D) 1 April 1905

[Answer: (A)] IMD was established on 15 January 1875 following severe tropical cyclones in 1864 and famines in 1866/1871.

Q2. How many meteorological observatories did IMD start with in 1875?

- (A) 77 (B) 150
(C) 50 (D) 500

[Answer: (A)] IMD commenced operations in 1875 with 77 observatories across British India.

Q3. Which landmark anniversary did IMD celebrate on 15th January 2025?

- (A) 100th Anniversary (B) 125th Anniversary
(C) 150th Anniversary (D) 175th Anniversary

[Answer: (C)] IMD celebrated its 150th Foundation Day (Sesquicentennial Milestone) on 15 January 2025 at Bharat Mandapam.

Q4. What is the denomination of the special commemorative coin released on IMD's 150th Anniversary?

- (A) ₹100 (B) ₹150
(C) ₹200 (D) ₹75

[Answer: (B)] PM Narendra Modi released a special ₹150 commemorative silver coin weighing 40 grams (99.99% pure silver).

Q5. Which research journal published by IMD completed 75 years (Platinum Jubilee) in 2025?

- (A) Mausam (B) Vayu
(C) Megh (D) Prithvi

[Answer: (A)] The official peer-reviewed research journal 'Journal Mausam' was first published in 1950 and completed 75 years in 2025.

Q6. Who was the first Director General of Observatories under IMD in 1886 who introduced monsoon forecasting?

- (A) H. F. Blanford (B) Sir Gilbert Walker
(C) C. V. Raman (D) P. R. Pisharoty

[Answer: (A)] H. F. Blanford issued the first tentative monsoon forecast based on Himalayan snow cover in 1886.

Q7. Where was the main national event for IMD's 150th Foundation Day held?

- (A) Bharat Mandapam, New Delhi (B) Vigyan Bhawan, New Delhi
(C) IITM Pune (D) IMD Headquarters, Pune

[Answer: (A)] The 150th Foundation Day ceremony was held at Bharat Mandapam, New Delhi on January 15, 2025.

Q8. What is the lead time target for disaster warnings under IMD Vision 2047?

- (A) 1 to 2 days (B) 3 to 5 days
(C) 10 to 15 days (D) 30 days

[Answer: (C)] IMD Vision 2047 aims to extend early warning lead times for severe weather to 10–15 days in advance.

Q9. Under IMD Vision 2047, what accuracy percentage is targeted for 1 to 3-day weather forecasts?

- (A) 70% (B) 80%
(C) 90% (D) 100%

[Answer: (D)] Vision 2047 aims for 100% accuracy for 1–3 day forecasts, 90% for 5-day, 80% for 7-day, and 70% for 10-day forecasts.

Q10. Where was India's first indigenous weather radar established in 1958?

- (A) Dum Dum Airport, Kolkata (B) Safdarjung, New Delhi
(C) Visakhapatnam (D) Chennai

[Answer: (B)] India's first indigenous storm detection radar was installed at Safdarjung, New Delhi in 1958.

Q11. Where was India's first Doppler Weather Radar (DWR) commissioned in 2002?

- (A) Chennai (B) Kolkata
(C) Mumbai (D) Hyderabad

[Answer: (A)] India's first Doppler Weather Radar (DWR) was commissioned at Chennai in 2002.

Q12. What is 'Mausamgram' launched by IMD?

- (A) A mobile satellite (B) A weather radar
(C) A village & pincode-level hyperlocal forecast portal (D) A rainfall gauge

[Answer: (C)] Mausamgram provides pin-code and block-level weather forecasts across India.

Q13. Who is popularly known as the 'Cyclone Man of India' and current DG of IMD?

- (A) Dr. K. Sivan (B) Dr. Mrutyunjay Mohapatra
(C) Dr. M. Ravichandran (D) Dr. G. Satheesh Reddy

[Answer: (B)] Dr. Mrutyunjay Mohapatra is renowned for modernizing tropical cyclone forecasting in India.

Q14. What is the denomination of the commemorative postage stamp released during IMD's 150th Anniversary?

- (A) ₹5 (B) ₹10
(C) ₹50 (D) ₹150

[Answer: (A)] A special ₹5 commemorative postage stamp was released by the Prime Minister.

Q15. Which international body elected Dr. Mrutyunjay Mohapatra as its 3rd Vice President?

- (A) UNEP (B) WMO (World Meteorological Organization)
(C) IPCC (D) UNESCO

[Answer: (B)] Dr. Mohapatra was elected 3rd Vice-President of the World Meteorological Organization (WMO).

Q16. In which year was the World Meteorological Organization (WMO) established as a specialized UN agency?

- (A) 1945 (B) 1950
(C) 1975 (D) 1875

[Answer: (B)] WMO was formed on 23 March 1950 (celebrating 75 years in 2025). India is a founding member.

Q17. Which disaster in 1864 led directly to the decision to establish a centralized weather service in India?

- (A) Calcutta & Machilipatnam Cyclones (B) Odisha Super Cyclone
(C) Bhuj Earthquake (D) Great Bengal Famine

[Answer: (A)] The 1864 Calcutta cyclone killed over 80,000 people and forced the creation of IMD.

Q18. When is World Meteorological Day celebrated globally every year?

- (A) 15 January (B) 23 March
(C) 5 June (D) 22 April

[Answer: (B)] World Meteorological Day is celebrated annually on 23 March to commemorate the WMO Convention in 1950.

Q19. Where was India's first S-band Cyclone Detection Radar (CDR) installed in 1970?

- (A) Visakhapatnam (B) Paradeep
(C) Gopalpur (D) Kochi

[Answer: (A)] India's first S-band Cyclone Detection Radar was commissioned at Visakhapatnam in 1970.

Q20. What is the primary objective of IMD's 'Panchayat Mausam Seva'?

- (A) Aviation weather alerts (B) Providing hyperlocal weather forecasts to farmers at panchayat level
(C) Tracking ocean tsunamis (D) Seismic monitoring

[Answer: (B)] Panchayat Mausam Seva provides localized weather warnings directly to rural farmers.

Q21. What is the overall goal for disaster-related fatalities under IMD Vision 2047?

- (A) Reduce by 50% (B) Reduce by 80%
(C) Zero Life Loss (D) Maintain current levels

[Answer: (C)] Vision 2047 targets 'Zero Life Loss' from extreme weather events through pinpoint early warnings.

Q22. How many manned observatories does IMD operate across India today?

- (A) 77 (B) 150
(C) 550 (D) 2000

[Answer: (C)] IMD's network has expanded from 77 observatories in 1875 to over 550 manned observatories today.

Q23. Which Ministry is the administrative parent of the India Meteorological Department (IMD)?

- (A) Ministry of Science & Technology (B) Ministry of Earth Sciences (MoES)
(C) Ministry of Environment, Forest and Climate Change (D) Ministry of Home Affairs

[Answer: (B)] IMD functions under the Ministry of Earth Sciences (MoES), Government of India.

Q24. What is the frequency of long-range monsoon forecast updates issued by IMD?

- (A) Monthly (B) Bi-annually (April and May/June)
(C) Weekly (D) Decadal

[Answer: (B)] IMD issues its operational long-range forecast for the southwest monsoon in two stages (April and May/June).

Q25. Which city houses the Climate Research and Services (CRS) division of IMD?

- (A) New Delhi (B) Pune
(C) Kolkata (D) Bengaluru

[Answer: (B)] IMD Pune houses the Climate Research and Services (CRS) division and climate archives.

Q26. Which numerical weather prediction (NWP) model is primarily used by IMD for high-resolution forecasting?

- (A) GFS and NCU M (B) ECMWF only
(C) WRF only (D) GFS only

[Answer: (A)] IMD utilizes Global Forecast System (GFS) and NCMRWF Unified Model (NCUM) for numerical forecasting.

Q27. What is the full form of AWS installed by IMD across agricultural districts?

- (A) Automated Weather Station (B) Air Water System
(C) Atmospheric Warning Service (D) Advanced Weather Satellite

[Answer: (A)] AWS stands for Automatic Weather Station, transmitting real-time meteorological data.

Q28. Which app was launched by MoES/IMD for real-time weather forecasts across Indian cities?

- (A) Mausam App (B) Meghdoot App
(C) Damini App (D) Umang App

[Answer: (A)] The 'Mausam' app provides city forecasts, radar images, and severe weather warnings.

Q29. Which mobile app was specifically developed by IMD/ICAR for agricultural weather advisories?

- (A) Meghdoot App (B) Mausam App
(C) Damini App (D) Kisan App

[Answer: (A)] 'Meghdoot' provides location-specific Agromet advisories to farmers in regional languages.

Q30. Which mobile application developed by IITM/IMD alerts users about lightning strikes?

- (A) Damini App (B) Mausam App
(C) Meghdoot App (D) Vidyut App

[Answer: (A)] The 'Damini' app provides GPS-based lightning alerts within a 20-km radius.

Q31. What is the color code used by IMD for 'Severe Weather Expected - Take Action'?

- (A) Green (B) Yellow
(C) Orange (D) Red

[Answer: (D)] Red alert indicates extreme severe weather requiring immediate protective action.

Q32. What does an IMD 'Orange Alert' signify?

- (A) No warning (B) Watch and Stay Updated
(C) Be Prepared / Be Ready for severe weather (D) Take Action Immediately

[Answer: (C)] Orange alert signifies 'Be Prepared' for potentially severe weather disruptions.

Q33. What is the term used by IMD when rainfall in 24 hours exceeds 204.4 mm?

- (A) Heavy Rainfall (B) Very Heavy Rainfall
(C) Extremely Heavy Rainfall (D) Cloudburst

[Answer: (C)] Rainfall exceeding 204.4 mm in 24 hours is classified by IMD as 'Extremely Heavy Rainfall'.

Q34. What is the minimum wind speed criterion for a storm to be classified as a 'Very Severe Cyclonic Storm' by IMD?

- (A) 34 knots (B) 48 knots
(C) 64 knots (118 km/h) (D) 120 knots

[Answer: (C)] A storm with maximum sustained winds of 64–89 knots (118–165 km/h) is classified as a Very Severe Cyclonic Storm.

Q35. Which body under IMD names tropical cyclones developing over the North Indian Ocean?

- (A) RSMC (Regional Specialized Meteorological Centre) New Delhi (B) WMO Geneva
(C) IMD Pune (D) INCOIS Hyderabad

[Answer: (A)] RSMC New Delhi (IMD) is responsible for naming tropical cyclones in the North Indian Ocean region.

Q36. How many panel countries contribute names to the North Indian Ocean tropical cyclone list?

- (A) 8 (B) 10
(C) 13 (D) 15

[Answer: (C)] 13 member countries (including India, Bangladesh, Oman, Pakistan, Sri Lanka, etc.) contribute 13 names each (total 169).

Q37. Which radar wavelength is predominantly used in IMD Doppler Weather Radars for tracking heavy rain and cyclones?

- (A) S-band and C-band (B) X-band only
(C) K-band (D) L-band

[Answer: (A)] S-band (long range, cyclones) and C-band (medium range) are primary radar bands used by IMD.

Q38. Where is the National Centre for Medium Range Weather Forecasting (NCMRWF) located?

- (A) Noida, Uttar Pradesh (B) Pune, Maharashtra
(C) New Delhi (D) Bengaluru

[Answer: (A)] NCMRWF is located in Noida, UP, providing supercomputing & numerical modeling support.

Q39. What was the name of the high-performance supercomputer inaugurated for MoES weather modeling in 2024/25?

- (A) Pratyush & Mihir (B) Arka & Arunika
(C) PARAM Siddhi (D) Airavat

[Answer: (B)] MoES upgraded its computing capacity with new supercomputing systems Arka and Arunika (18+ Petaflops).

Q40. Which atmospheric parameter is measured using a Radiosonde/Rawinsonde flight by IMD?

- (A) Vertical profiles of temperature, pressure, humidity, and wind velocity (B) Ground soil moisture
(C) Ocean surface salinity (D) Solar radiation flux

[Answer: (A)] Radiosonde balloons measure upper-air profiles of pressure, temperature, humidity, and wind velocity.

Q41. When was the overarching 'PRITHvi Vigyan (PRITHVI)' scheme approved by the Union Cabinet?

- (A) 5 January 2024 (B) 15 August 2023
(C) 15 January 2025 (D) 31 March 2022

[Answer: (A)] The Union Cabinet approved the PRITHVI scheme on 5 January 2024.

Q42. What is the total financial outlay approved for the PRITHVI scheme for 2021–2026?

- (A) ₹2,000 Crore (B) ₹4,797 Crore
(C) ₹10,000 Crore (D) ₹1,200 Crore

[Answer: (B)] The approved budget for PRITHVI across 2021–2026 is ₹4,797 Crore.

Q43. How many sub-schemes are integrated under the PRITHVI umbrella scheme?

- (A) 3 (B) 5
(C) 7 (D) 10

[Answer: (B)] PRITHVI unifies 5 sub-schemes: ACROSS, O-SMART, PACER, SAGE, and REACHOUT.

Q44. What does the acronym ACROSS stand for under the PRITHVI scheme?

- (A) Atmosphere & Climate Research-Modelling Observing Systems & Services (B) Advanced Climate Research and Ocean Services Scheme
(C) Atmospheric Cyclone Reduction & Observation System (D) All Climate Research and Operational Services

[Answer: (A)] ACROSS stands for Atmosphere & Climate Research-Modelling Observing Systems & Services.

Q45. What is the financial allocation for the ACROSS sub-scheme under PRITHVI?

- (A) ₹4,797 Crore (B) ₹2,135 Crore
(C) ₹1,000 Crore (D) ₹500 Crore

[Answer: (B)] ACROSS is the largest sub-scheme component with an allocation of ₹2,135 Crore.

Q46. Which MoES sub-scheme deals specifically with Ocean Services, Technology, and Resources?

- (A) ACROSS (B) O-SMART
(C) PACER (D) SAGE

[Answer: (B)] O-SMART stands for Ocean Services, Modelling Application, Resources and Technology.

Q47. Which institute is the nodal agency for operational ocean state forecasts and Potential Fishing Zone (PFZ) advisories under O-SMART?

- (A) INCOIS, Hyderabad (B) NIOT, Chennai
(C) IMD, New Delhi (D) NCPOR, Goa

[Answer: (A)] INCOIS Hyderabad issues daily PFZ advisories and ocean state forecasts under O-SMART.

Q48. What does PACER sub-scheme focus on?

- (A) Polar Science and Cryosphere Research (B) Pacific Ocean Research
(C) Pollution Control and Ecology (D) Power and Energy Resources

[Answer: (A)] PACER stands for Polar Science and Cryosphere Research, managed primarily by NCPOR Goa.

Q49. Where is the National Centre for Polar and Ocean Research (NCPOR) located?

- (A) Vasco da Gama, Goa (B) Chennai, Tamil Nadu
(C) Kochi, Kerala (D) Mumbai, Maharashtra

[Answer: (A)] NCPOR is located in Vasco da Gama, Goa.

Q50. Which are India's two active operational research stations in Antarctica?

- (A) Dakshin Gangotri and Maitri (B) Maitri and Bharati
(C) Bharati and Himadri (D) Himadri and IndARC

[Answer: (B)] Maitri (est. 1989) and Bharati (est. 2012) are active Antarctic stations. Dakshin Gangotri is decommissioned.

Q51. What is the name of India's Arctic research station located at Spitsbergen, Svalbard, Norway?

- (A) Maitri (B) Bharati
(C) Himadri (D) IndARC

[Answer: (C)] Himadri was established in July 2008 as India's first Arctic research station.

Q52. What is IndARC?

- (A) India's first underwater moored observatory in the Arctic (B) An Antarctic ice breaker ship
(C) A weather radar in Leh (D) A deep sea submersible

[Answer: (A)] IndARC is India's multi-sensor underwater observatory deployed in Kongsfjorden, Svalbard, Arctic.

Q53. What does the SAGE sub-scheme under PRITHVI deal with?

- (A) Seismology and Geosciences (B) Satellite Alignment and Geo-positioning
(C) Solar Energy and Geothermal Services (D) Soil Analysis and Geo-mapping

[Answer: (A)] SAGE stands for Seismology and Geosciences, focusing on earthquake monitoring and crustal studies.

Q54. Which institute operates the National Seismological Network (NSN) in India under SAGE?

- (A) NCS (National Centre for Seismology), New Delhi (B) IMD Pune
(C) NGRI Hyderabad (D) IIT Roorkee

[Answer: (A)] NCS New Delhi maintains the 24/7 National Seismological Network.

Q55. What is the objective of the REACHOUT sub-scheme under PRITHVI?

- (A) Research, Education, Training and Outreach (B) Rural Electrification and Agriculture
(C) Radar Expansion and Technology (D) Radio Communication in Ocean

[Answer: (A)] REACHOUT supports capacity building, university grants, training, and public outreach.

Q56. How many major national research institutes function under the Ministry of Earth Sciences (MoES)?

- (A) 5 (B) 8
(C) 10 (D) 15

[Answer: (C)] 10 major autonomous & attached bodies function under MoES (IMD, NCMRWF, IITM, INCOIS, NIOT, NCPOR, NCS, CMLRE, NCCR, NCESS).

Q57. Which institute is responsible for deep-sea technology development, including Low-Temperature Thermal Desalination (LTTD)?

- (A) NIOT (National Institute of Ocean Technology), Chennai (B) INCOIS Hyderabad
(C) NCPOR Goa (D) IMD New Delhi

[Answer: (A)] NIOT Chennai develops marine engineering systems including LTTD plants in Lakshadweep.

Q58. Where is the Indian Institute of Tropical Meteorology (IITM) headquartered?

- (A) Pune, Maharashtra (B) New Delhi
(C) Bengaluru (D) Kolkata

[Answer: (A)] IITM is located in Pashan, Pune, pioneering climate & monsoon research.

Q59. What is the main objective of the Koyna Deep Scientific Drilling Project under SAGE?

- (A) Investigating reservoir-triggered earthquakes in active intra-plate fault zone (B) Deep sea gold mining
(C) Geothermal power generation (D) Petroleum extraction

[Answer: (A)] The Koyna borehole lab studies reservoir-triggered seismicity in Maharashtra.

Q60. Which MoES institute is dedicated to Marine Living Resources and Ecology?

- (A) CMLRE (Centre for Marine Living Resources and Ecology), Kochi (B) NCCR Chennai
(C) INCOIS Hyderabad (D) NIOT Chennai

[Answer: (A)] CMLRE Kochi handles marine ecosystem & living resource surveys.

Q61. Which MoES institute handles Coastal Research and Marine Spatial Planning?

- (A) NCCR (National Centre for Coastal Research), Chennai (B) NCESS Thiruvananthapuram
(C) INCOIS Hyderabad (D) NCPOR Goa

[Answer: (A)] NCCR Chennai conducts coastal water quality, erosion, and marine spatial planning studies.

Q62. Where is the National Centre for Earth Science Studies (NCESS) located?

- (A) Thiruvananthapuram, Kerala (B) Chennai, Tamil Nadu
(C) Hyderabad, Telangana (D) Bhubaneswar, Odisha

[Answer: (A)] NCESS is located in Thiruvananthapuram, Kerala.

Q63. Which sub-scheme under PRITHVI funds High Performance Computing (HPC) upgrades for weather forecasting?

- (A) ACROSS (B) PACER
(C) SAGE (D) REACHOUT

[Answer: (A)] HPC infrastructure for NWP modeling is funded under ACROSS.

Q64. Which ocean warning center is operated by INCOIS for the Indian Ocean region?

- (A) ITEWC (Indian Tsunami Early Warning Centre) (B) Pacific Tsunami Warning Center
(C) National Hurricane Center (D) Joint Typhoon Warning Center

[Answer: (A)] INCOIS hosts the ITEWC, providing tsunami advisories for India and Indian Ocean rim countries.

Q65. Within how many minutes can ITEWC INCOIS issue a tsunami advisory following a major undersea earthquake?

- (A) 10 to 12 minutes (B) 60 minutes
(C) 2 hours (D) 24 hours

[Answer: (A)] ITEWC INCOIS generates actionable tsunami warnings within 10–12 minutes of seismic triggers.

Q66. What is the primary function of Agro-Meteorological Field Units (AMFUs) under ACROSS?

- (A) Issuing bi-weekly district & block-level Agromet advisories (B) Soil testing only
(C) Distributing seeds (D) Irrigation dam management

[Answer: (A)] AMFUs issue bi-weekly Agromet advisories tailored for agricultural decision-making.

Q67. What is the time period covered by the PRITHVI umbrella scheme implementation?

- (A) 2021–2026 (B) 2024–2030
(C) 2020–2025 (D) 2025–2047

[Answer: (A)] The scheme aligns with the 15th Finance Commission cycle (2021–2026).

Q68. Which oceanographic parameters are continuously measured by Argo floats deployed by INCOIS?

- (A) Temperature and Salinity profiles up to 2000m depth (B) Wind speed at surface only
(C) Wave height only (D) Atmospheric pressure

[Answer: (A)] Argo floats drift freely and measure temperature/salinity profiles from 2000m depth to the surface.

Q69. What does the 'S' in O-SMART stand for?

- (A) Services (B) Satellites
(C) Seismology (D) Systems

[Answer: (A)] O-SMART = Ocean Services, Modelling Application, Resources and Technology.

Q70. Which sub-scheme funds glaciological studies on Himalayan glaciers like Chhota Shigri?

- (A) PACER (B) ACROSS
(C) SAGE (D) O-SMART

[Answer: (A)] Himalayan cryosphere and glacier mass balance monitoring falls under PACER.

Q71. Which MoES institute leads the High-Altitude Cloud Physics Laboratory at Mahabaleshwar?

- (A) IITM Pune (B) IMD New Delhi
(C) NCMRWF Noida (D) INCOIS Hyderabad

[Answer: (A)] IITM Pune operates the High-Altitude Cloud Physics Lab at Mahabaleshwar.

Q72. What is the function of the AIR-DRAIN system developed for weather monitoring?

- (A) Measuring cold air drainage in valley microclimates (B) Cleaning ocean spills
(C) Filtering atmospheric CO₂ (D) Cloud seeding

[Answer: (A)] Air-drain instruments monitor cold air pooling and nocturnal temperature inversions in valleys.

Q73. Which sub-scheme supports seismic microzonation of major Indian cities like Delhi and Kolkata?

- (A) SAGE (B) ACROSS
(C) PACER (D) O-SMART

[Answer: (A)] Seismic microzonation mapping for urban earthquake risk mitigation is funded under SAGE.

Q74. Which MoES body coordinates international Indian Ocean expeditions and ocean biology sampling?

- (A) CMLRE Kochi (B) NCESS Thiruvananthapuram
(C) INCOIS Hyderabad (D) NCS New Delhi

[Answer: (A)] CMLRE operates FORV Sagar Sampada for marine biological research.

Q75. What is FORV Sagar Sampada?

- (A) A Fishery and Oceanographic Research Vessel operated by CMLRE/MoES (B) A weather satellite
(C) A deep sea drill (D) An Antarctic base

[Answer: (A)] FORV Sagar Sampada is India's dedicated research vessel for marine living resource surveys.

Q76. Which sub-scheme under PRITHVI supports international MoUs and academic fellowships in Earth System Science?

- (A) REACHOUT (B) SAGE
(C) ACROSS (D) O-SMART

[Answer: (A)] REACHOUT funds MoES National Awards, fellowships, and university outreach.

Q77. What is the key societal benefit targeted by the PRITHVI scheme?

- (A) Transforming Earth System science into reliable early warnings for disaster risk reduction (B) Commercial satellite launching
(C) Nuclear energy production (D) Highway construction

[Answer: (A)] PRITHVI aims to translate scientific R&D; into public services for disaster management and blue economy.

Q78. Which ocean state parameter is forecasted by INCOIS for fishermen safety?

- (A) High Wave Alerts and Swell Surge Warnings (B) Atmospheric ozone
(C) Ionospheric TEC (D) Soil erosion

[Answer: (A)] INCOIS provides daily High Wave Alerts, Swell Surge Warnings, and Ocean State Forecasts.

Q79. What is the primary cause of 'Swell Surges' along the southwest coast of India (Kallakkadal)?

- (A) Distant ocean storms in the Southern Indian Ocean generating long-period swells (B) Local land breeze
(C) Tsunamis (D) River runoff

[Answer: (A)] Kallakkadal swell surges are caused by long-period ocean swells originating from distant Antarctic storms.

Q80. Which satellite system data is directly ingested by INCOIS for Potential Fishing Zone (PFZ) mapping?

- (A) Oceansat-3 (EOS-06) and INSAT-3DR/3DS (B) Cartosat
(C) RISAT (D) GSAT

[Answer: (A)] PFZ maps combine Sea Surface Temperature (SST) and Chlorophyll concentration from EOS-06 & INSAT.

Q81. When was 'Mission Mausam' approved by the Union Cabinet?

- (A) September 2024 (B) January 2025
(C) August 2023 (D) June 2022

[Answer: (A)] Mission Mausam was approved by the Cabinet in September 2024 with a Phase-1 budget of ₹2,000 Crore.

Q82. What is the primary vision of Mission Mausam?

- (A) To make India 'Weather-Ready and Climate-Smart' through advanced modeling, observations, and weather modification research (B) To build space rockets
(C) To mine deep ocean manganese nodules (D) To build solar power grids

[Answer: (A)] Mission Mausam aims to revolutionize weather forecasting and explore weather modification technologies.

Q83. What is the total financial outlay for Phase 1 of Mission Mausam (2024–2026)?

- (A) ₹2,000 Crore (B) ₹4,797 Crore
(C) ₹1,000 Crore (D) ₹10,000 Crore

[Answer: (A)] Phase 1 has an approved budget of ₹2,000 Crore over two years.

Q84. What is 'SkyCast' launched under Mission Mausam?

- (A) India's first integrated aviation weather profiling system at IGI Airport, Delhi (B) A satellite launching vehicle
(C) A television channel (D) A weather balloon

[Answer: (A)] SkyCast is an integrated aviation weather observation facility deployed at IGI Airport, New Delhi.

Q85. Which vertical profiling tools are included in the SkyCast facility at IGI Airport?

- (A) SODAR, Microwave Radiometer, GFAS, and Lidar Ceilometer (B) Only simple thermometer
(C) Seismograph (D) Sonar

[Answer: (A)] SkyCast provides high-resolution 3-km vertical profiling using SODAR, radiometer, and Lidar.

Q86. Where is the specialized cylindrical 'Cloud Chamber' facility established under Mission Mausam?

- (A) IITM Pune (B) IMD New Delhi
(C) INCOIS Hyderabad (D) NCMRWF Noida

[Answer: (A)] A state-of-the-art Cloud Chamber facility is established at IITM Pune for cloud microphysics research.

Q87. How many additional Doppler Weather Radars (DWR) are planned to be installed under Mission Mausam?

- (A) 56 (B) 10
(C) 100 (D) 25

[Answer: (A)] Mission Mausam plans to deploy 56 additional Doppler Weather Radars across India.

Q88. Where were X-band Doppler Weather Radars recently sanctioned for cloudburst and landslide monitoring?

- (A) Wayanad (Kerala) and Lahaul-Spiti (Himachal Pradesh) (B) Mumbai and Chennai
(C) Jaipur and Jodhpur (D) Kolkata and Patna

[Answer: (A)] X-band radars were approved for Wayanad and Lahaul-Spiti for micro-scale severe weather monitoring.

Q89. What is BCON formed under Mission Mausam?

- (A) Bharat Climate Observation Network (50-year partnership between IITM Pune and ARIES Nainital) (B) Bengal Coastal Observation Network
(C) Basic Weather Control System (D) Binary Cloud Network

[Answer: (A)] BCON is a long-term climate observation network established at Manora Peak, Nainital.

Q90. When was the meteorological satellite INSAT-3DS successfully launched by ISRO?

- (A) 17 February 2024 (B) 15 January 2025
(C) 1 January 2024 (D) 15 August 2023

[Answer: (A)] INSAT-3DS was launched on 17 February 2024 from SDSC SHAR, Sriharikota.

Q91. Which ISRO launch vehicle was used to put INSAT-3DS into Geostationary Transfer Orbit?

- (A) GSLV-F14 (B) PSLV-C58
(C) LVM3-M4 (D) SSLV-D2

[Answer: (A)] GSLV-F14 successfully placed INSAT-3DS into GTO. GSLV is often nicknamed the 'Naughty Boy' turned reliable workhorse.

Q92. What was the lift-off mass of the INSAT-3DS satellite?

- (A) 2,275 kg (B) 1,000 kg
(C) 4,000 kg (D) 500 kg

[Answer: (A)] INSAT-3DS had a lift-off mass of 2,275 kg built on ISRO's I-2K bus.

Q93. Which primary meteorological payloads are carried aboard INSAT-3DS?

- (A) 6-Channel Imager and 19-Channel Sounder (B) Synthetic Aperture Radar only
(C) X-ray Spectrometer (D) Atomic Clock

[Answer: (A)] INSAT-3DS carries an advanced 6-channel Imager and 19-channel Sounder for atmospheric profiling.

Q94. What additional communications payloads are present on INSAT-3DS for disaster management?

- (A) Data Relay Transponder (DRT) and Satellite Aided Search and Rescue (SAS&R;) (B) TV broadcasting transponder
(C) 5G cell tower (D) GPS transponder

[Answer: (A)] DRT collects automatic weather station data, while SAS&R; relays distress signals.

Q95. Which satellite archival center hosts real-time INSAT-3DS meteorological data?

- (A) MOSDAC (Meteorological & Oceanographic Satellite Data Archival Centre), Ahmedabad (B) NRSC Hyderabad
(C) ISRO HQ Bengaluru (D) IMD Pune

[Answer: (A)] MOSDAC (SAC/ISRO Ahmedabad) archives and distributes INSAT meteorological data.

Q96. What is 'Matsya 6000' developed under India's Deep Ocean Mission?

- (A) India's first indigenous manned submersible vehicle designed for 6,000m depth (B) An unmanned fishing boat
(C) A deep ocean radar (D) A naval submarine

[Answer: (A)] Matsya 6000 is a crewed deep-ocean submersible developed by NIOT under the Samudrayaan project.

Q97. Which institute is the primary lead for designing and developing Matsya 6000?

- (A) NIOT (National Institute of Ocean Technology), Chennai (B) ISRO Bengaluru
(C) DRDO Hyderabad (D) INCOIS Hyderabad

[Answer: (A)] NIOT Chennai designed Matsya 6000, while ISRO assisted in developing the titanium personnel sphere.

Q98. What material is used to construct the spherical crew cabin (personnel sphere) of Matsya 6000 to withstand 600 bar pressure?

- (A) Titanium Alloy (B) High Carbon Steel
(C) Aluminum Alloy (D) Fiberglass

[Answer: (A)] A 80mm-thick Titanium alloy sphere was engineered to withstand immense hydrostatic pressure at 6,000m depth.

Q99. How many aquanauts can Matsya 6000 carry, and what is its operational endurance?

- (A) 3 aquanauts for 12 hours (up to 96 hours in emergency) (B) 5 crew for 24 hours
(C) 1 person for 6 hours (D) 10 crew for 7 days

[Answer: (A)] Matsya 6000 carries 3 aquanauts with an operational endurance of 12 hours and emergency life support of 96 hours.

Q100. What is the total financial budget for India's Deep Ocean Mission (DOM)?

- (A) ₹4,077 Crore (B) ₹1,000 Crore
(C) ₹10,000 Crore (D) ₹2,000 Crore

[Answer: (A)] The Deep Ocean Mission was approved with a budget of ₹4,077 Crore over 5 years.

Q101. What is the main target for deep-sea resource exploration under the Deep Ocean Mission?

- (A) Polymetallic Nodules (containing Copper, Nickel, Cobalt, Manganese) in Central Indian Ocean Basin (B) Gold veins
(C) Uranium deposits (D) Shale gas

[Answer: (A)] The mission explores polymetallic nodules in the 75,000 sq km area allocated to India by the International Seabed Authority (ISA).

Q102. Which oceanographic satellite was launched by ISRO under the EOS series for ocean color and wind vector monitoring?

- (A) EOS-06 (Oceansat-3) (B) EOS-01
(C) EOS-04 (D) GSAT-24

[Answer: (A)] EOS-06 (Oceansat-3) was launched aboard PSLV-C54 carrying Ocean Color Monitor (OCM-3) and Scatterometer.

Q103. What is the role of Scatterometer payload aboard EOS-06 (Oceansat-3)?

- (A) Measuring ocean surface wind speed and direction (B) Measuring sea floor depth
(C) Measuring cloud height (D) Measuring ionospheric electron density

[Answer: (A)] Scatterometers measure sea surface roughness to derive ocean wind speed and direction vectors.

Q104. Which collaborative satellite mission between ISRO and NASA is scheduled for launch to monitor global land and ice surface changes?

- (A) NISAR (NASA-ISRO Synthetic Aperture Radar) (B) TRISHNA
(C) GRACE (D) SWOT

[Answer: (A)] NISAR utilizes dual-frequency (L-band and S-band) SAR for deformation and ecosystem mapping.

Q105. What is TRISHNA satellite mission developed by ISRO in collaboration with French Space Agency (CNES)?

- (A) Thermal InfraRed Imaging Satellite for High-resolution Natural resource Assessment (B) Tropical Rainfall Measuring Mission
(C) Tsunami Radar in Indian Ocean (D) Topographical Survey Satellite

[Answer: (A)] TRISHNA measures land surface temperature and evapotranspiration for water resource management.

Q106. What is the function of the High-Resolution Imager payload aboard INSAT-3DS?

- (A) Capturing cloud images across 6 spectral channels including visible, SWIR, MIR, TIR-1, TIR-2, and WV
(B) Deep space star mapping
(C) Soil moisture radar
(D) Underground water mapping

[Answer: (A)] The 6-channel Imager monitors cloud cover, snow cover, sea surface temperature, and water vapor.

Q107. What does the Sounder payload on INSAT-3DS measure?

- (A) Vertical temperature and moisture profiles of the atmosphere across 19 channels
(B) Sound waves in ocean
(C) Wind noise
(D) Seismic tremors

[Answer: (A)] The 19-channel Sounder provides vertical thermodynamic profiles of atmospheric temperature and humidity.

Q108. What is 'Samudrayaan'?

- (A) India's first crewed deep ocean mission carrying aquanauts in Matsya 6000
(B) A naval warship
(C) A coastal ferry
(D) An Antarctic expedition

[Answer: (A)] Samudrayaan is the flagship human ocean flight initiative under the Deep Ocean Mission.

Q109. Where is the International Seabed Authority (ISA) headquarters located?

- (A) Kingston, Jamaica
(B) Geneva, Switzerland
(C) New York, USA
(D) London, UK

[Answer: (A)] ISA is headquartered in Kingston, Jamaica, regulating seabed mineral exploration in international waters.

Q110. What depth is targeted for the seabed crawler and mining machine trials developed by NIOT?

- (A) 6,000 meters
(B) 1,000 meters
(C) 500 meters
(D) 10,000 meters

[Answer: (A)] NIOT successfully tested a deep-sea crawler at depths over 5,000–6,000 meters.

Q111. Which parameter is derived from the Water Vapor channel of geostationary satellites like INSAT-3DS?

- (A) Upper tropospheric moisture and Atmospheric Motion Vectors (AMVs)
(B) Soil salinity
(C) Ocean salinity
(D) Ground topography

[Answer: (A)] Water vapor imagery tracks upper-level wind flow patterns and atmospheric moisture transport.

Q112. What is 'Nowcasting' in meteorological terminology?

- (A) Weather forecasting for a very short period (0 to 6 hours) based on radar and satellite inputs
(B) Seasonal 6-month forecast
(C) Decadal climate projection
(D) 10-day forecast

[Answer: (A)] Nowcasting provides detailed severe weather warnings for the next 1–6 hours.

Q113. Which high-altitude observatory in Ladakh monitors atmospheric aerosols and greenhouse gas concentrations?

- (A) IAO (Indian Astronomical Observatory) Hanle
(B) Leh Weather Base
(C) Kargil Station
(D) Siachen Base

[Answer: (A)] Hanle operates background atmospheric measurement facilities at high elevation.

Q114. What is the primary operational advantage of Doppler Weather Radars over conventional weather radars?

- (A) Ability to measure both precipitation intensity AND wind velocity (via Doppler shift)
(B) Longer radio range
(C) Lower power consumption
(D) Underwater tracking

[Answer: (A)] DWRs measure radial velocity of wind and precipitation particles, detecting wind shear and gust fronts.

Q115. What is 'Urban Heat Island' (UHI) effect measured by MoES thermal sensors?

- (A) Metropolitan urban areas experiencing significantly warmer temperatures than surrounding rural areas
(B) Volcanic activity in cities
(C) Industrial boiler heat
(D) Solar flare absorption

[Answer: (A)] UHI occurs due to concrete structures, asphalt roads, and anthropogenic heat retention in urban centers.

Q116. Which system developed by IITM Pune provides real-time Air Quality Forecasting for Delhi-NCR?

- (A) SAFAR (System of Air Quality and Weather Forecasting And Research)
(B) AIR-INDIA
(C) SWACHH
(D) AQI-NOW

[Answer: (A)] SAFAR provides 1-to-3 day advance air quality forecasts and emission inventory maps.

Q117. Which gas concentration is continuously monitored by SAFAR for PM2.5 and PM10 pollution levels?

- (A) Particulate Matter, Ozone, NO₂, SO₂, CO, and Benzene
(B) Pure Oxygen
(C) Helium
(D) Argon

[Answer: (A)] SAFAR tracks critical air pollutants including PM_{2.5}, PM₁₀, NO_x, SO₂, CO, and VOCs.

Q118. What is 'Lightning Resilient India Campaign' supported by IMD and CROPC?

- (A) National initiative to reduce lightning deaths through early warning apps (Damini) and lightning conductors
(B) Installing solar panels
(C) Tree planting
(D) Grid stabilization

[Answer: (A)] The campaign reduced lightning fatalities significantly through public warnings and awareness.

Q119. What is the primary driver of the Indian Summer Monsoon Onset over Kerala (MOK)?

- (A) Thermal contrast between land and ocean along with northward migration of ITCZ
(B) El Nino alone
(C) Ocean tides
(D) Coronal mass ejections

[Answer: (A)] Monsoon onset occurs due to seasonal heating of northern landmass and shifting Intertropical Convergence Zone (ITCZ).

Q120. What is 'Madden-Julian Oscillation' (MJO)?

- (A) An eastward moving oceanic-atmospheric pulse of clouds and rainfall near equator traversing every 30-60 days
(B) A Arctic wind vortex
(C) A solar activity cycle
(D) A volcanic tremor

[Answer: (A)] MJO is an intra-seasonal tropical climate pattern that strongly modulates Indian monsoon rainfall pulses.

Q121. Who was awarded the prestigious UN Sasakawa Award 2025 for Disaster Risk Reduction?

- (A) Dr. Mrutyunjay Mohapatra
(B) Dr. S. Somanath
(C) Dr. Jitendra Singh
(D) Dr. M. Ravichandran

[Answer: (A)] Dr. Mrutyunjay Mohapatra (DG IMD) won the UN Sasakawa Award 2025 for visionary leadership in disaster risk reduction.

Q122. Which organization was awarded the 'Subhas Chandra Bose Aapda Prabhandhan Puraskar 2025' in the institutional category?

- (A) INCOIS, Hyderabad
(B) IMD, New Delhi
(C) NIOT, Chennai
(D) NCPOR, Goa

[Answer: (A)] INCOIS Hyderabad won the Subhas Chandra Bose Aapda Prabhandhan Puraskar 2025 for ocean disaster early warnings.

Q123. Dr. Mrutyunjay Mohapatra was awarded which international award by the American Meteorological Society (AMS) in 2025?

- (A) AMS STAC Outstanding Service Award
(B) Carl-Gustaf Rossby Medal
(C) IMO Prize
(D) Abbè Award

[Answer: (A)] Dr. Mohapatra received the AMS STAC Outstanding Service Award 2025 for modernizing tropical cyclone forecasting.

Q124. Which IMD aerodrome facility became the FIRST among 18 Aerodrome Meteorological Offices to achieve ISO 9001:2015 certification?

- (A) AMO Nagpur (B) AMO Delhi
(C) AMO Mumbai (D) AMO Kolkata

[Answer: (A)] AMO Nagpur was the first IMD aerodrome office to earn ISO 9001:2015 Quality Management certification.

Q125. Which scientist from NCPOR Goa received the 'Rashtriya Vigyan Puraskar - Vigyan Yuva (Shanti Swarup Bhatnagar) 2025' in Earth Science?

- (A) Dr. Waliur Rahaman (B) Dr. Anoop Mahajan
(C) Dr. Kunal Chakraborty (D) Dr. O. P. Mishra

[Answer: (A)] Dr. Waliur Rahaman (NCPOR) received the Vigyan Yuva award for polar and earth science research.

Q126. Which government platform won the GOLD Award at the 29th National Awards for e-Governance 2026 under Data Analytics category?

- (A) Panchayat Advancement Index (PAI) Portal (B) e-Jagriti
(C) AgriStack (D) Kisan Credit Portal

[Answer: (A)] Panchayat Advancement Index (PAI) by Ministry of Panchayati Raj won the Gold Award (₹10 Lakh prize).

Q127. Which AI-powered portal of the Department of Consumer Affairs won the SILVER Award at the 29th e-Governance Awards 2026?

- (A) e-Jagriti Platform (B) e-Sanjeevani
(C) UMANG (D) DIGILOCKER

[Answer: (A)] e-Jagriti platform won the Silver Award (₹5 Lakh prize) for consumer dispute resolution.

Q128. Who was named the recipient of the 'UN Military Gender Advocate of the Year Award 2025' for peacekeeping service in UNIFIL Lebanon?

- (A) Major Abhilasha Barak (B) Major Suman Gawani
(C) Major Radhika Sen (D) Captain Shiva Chauhan

[Answer: (A)] Major Abhilasha Barak became the 3rd Indian female officer to win the UN Military Gender Advocate Award.

Q129. Which Indian sand artist won the Russia Grand Sand Master Cup 2026 for climate awareness sculptures?

- (A) Sudarsan Pattnaik (B) Manas Kumar Sahoo
(C) Nitish Bharti (D) Rahul Arya

[Answer: (A)] Sudarsan Pattnaik became the first Indian artist to win the Grand Sand Master Cup in Russia.

Q130. Which Indian Army officer became the first to jointly win the Birrer-Brookes Award and General Douglas MacArthur Leadership Writing Award at US CGSOC?

- (A) Major Prabhat Mishra (B) Major Abhilasha Barak
(C) Colonel Sofiya Qureshi (D) Captain Abhinandan

[Answer: (A)] Major Prabhat Mishra achieved double honours at the US Army Command and General Staff Officer Course.

Q131. Which highest civilian honor of Slovakia was conferred upon PM Narendra Modi?

- (A) Order of the White Double Cross, First Class (B) Order of St. Andrew
(C) Legion of Merit (D) Grand Cross of the Legion of Honour

[Answer: (A)] Slovakia awarded PM Modi the Order of the White Double Cross, First Class.

Q132. Which award was conferred on INCOIS for using open-source geospatial technology in ocean mapping?

- (A) National Geospatial Award 2025 (B) e-Governance Gold
(C) Vigyan Ratna (D) Green Pin Award

[Answer: (A)] INCOIS received the National Geospatial Award 2025 for open spatial tech deployment.

Q133. Which Director of NCS received the IGU-Decennial Award 2025 for contributions to earthquake science?

- (A) Dr. O. P. Mishra (B) Dr. V. M. Tiwari
(C) Dr. Kalachand Sain (D) Dr. Harsh Gupta

[Answer: (A)] Dr. O. P. Mishra (Director NCS) received the Indian Geophysical Union (IGU) Decennial Award.

Q134. Which prestigious gold medal was awarded to Dr. Suryachandra A. Rao (Director IITM Pune)?

- (A) Dr. H. N. Siddique Memorial Lecture & Gold Medal (B) Sir C. V. Raman Medal
(C) Bhatnagar Award (D) Homi Bhabha Gold Medal

[Answer: (A)] Dr. Suryachandra A. Rao was honored with the Dr. H. N. Siddique Memorial Lecture & Gold Medal.

Q135. Who received the Sir Gilbert Walker Gold Medal Award from the Indian Meteorological Society (IMS)?

- (A) Dr. Mrutyunjay Mohapatra and Dr. Rattan Kumar Datta (B) Dr. K. Sivan
(C) Dr. M. Ravichandran (D) Dr. G. Madhavan Nair

[Answer: (A)] Dr. Mohapatra and Dr. R. K. Datta jointly received the Sir Gilbert Walker Gold Medal.

Q136. Which Indian agricultural initiative won the 2026 Food Planet Prize (\$1.5 Million) in Sweden?

- (A) Andhra Pradesh Community Managed Natural Farming (APCNF) (B) Sikkim Organic Mission
(C) PM-KISAN (D) Har Khet Ko Pani

[Answer: (A)] APCNF won the world's largest environmental prize (\$1.5M Food Planet Prize) for natural farming scale.

Q137. Which national e-Governance Award was won by IMD for its Multi-Hazard Early Warning Decision Support System?

- (A) National Award for e-Governance 2025 (Gold/Excellence) (B) Digital India Platinum Award
(C) Prime Minister Award for Public Admin (D) Skoch Gold Award

[Answer: (A)] IMD received the National Award for e-Governance 2025 for technology-driven hazard warning systems.

Q138. Which Indian scientist working on nuclear organization in cells won the EMBO Gold Medal 2026?

- (A) Dr. Gautam Dey (B) Dr. Gagandeep Kang
(C) Dr. Soumya Swaminathan (D) Dr. K. VijayRaghavan

[Answer: (A)] Indian-origin researcher Gautam Dey won the prestigious European Molecular Biology Organization (EMBO) Gold Medal.

Q139. Who was awarded the 'Outstanding Women Researcher Award in Underwater Robotics' by NIOT/MoES?

- (A) Dr. V. Bala Naga Jyothi (B) Dr. Aditi Pant
(C) Dr. Tessy Thomas (D) Dr. N. Kalaiselvi

[Answer: (A)] Dr. V. Bala Naga Jyothi received the award for her research in deep ocean robotic vehicles.

Q140. Which Indian state's Meteorological Centre (MC) won 1st prize in Rajbhasha (Official Language) implementation from TOLIC?

- (A) MC Chandigarh (1st) and MC Ahmedabad (B) MC Kolkata
(C) MC Mumbai (D) MC Chennai

[Answer: (A)] MC Chandigarh secured 1st position in Rajbhasha implementation under TOLIC.

Q141. Which regional center of IMD won the 'Best Stall Award' at Assam Agricultural University, Jorhat?

- (A) RMC Guwahati (B) RMC Kolkata
(C) MC Bhubaneswar (D) MC Patna

[Answer: (A)] Regional Meteorological Centre (RMC) Guwahati won the Best Stall Award.

Q142. Which award was conferred on football legend Lionel Messi as the first footballer recipient in Spain?

- (A) Princess of Asturias Award for Sports (B) Laureus World Sportsman
(C) Ballon d'Or Special (D) FIFA Legend Award

[Answer: (A)] Lionel Messi received Spain's prestigious Princess of Asturias Award for Sports.

Q143. What is the primary criterion for conferring the 'Subhas Chandra Bose Aapda Prabhandhan Puraskar'?

- (A) Outstanding contribution in disaster management and risk reduction by individuals or institutions in India
(B) Best military bravery
(C) Literary excellence
(D) Sports achievement

[Answer: (A)] The award carries ₹51 Lakh for institutions and ₹5 Lakh for individuals in disaster management.

Q144. Which MoES institute received the 'Yoga Sangam Patra' from the Ministry of Ayush?

- (A) INCOIS Hyderabad
(B) IMD New Delhi
(C) NIOT Chennai
(D) NCPOR Goa

[Answer: (A)] INCOIS Hyderabad was awarded Yoga Sangam Patra for promoting health & wellness practices.

Q145. Which award was received by Dr. Anup Mahajan (IITM) in the 3rd Frontiers Planet Prize?

- (A) National Champion for Argentina/International Region
(B) Global Winner
(C) Green Nobel
(D) Tyler Prize

[Answer: (A)] Dr. Anup Mahajan was named National Champion for atmospheric chemistry research.

Q146. Which DRDO anti-radiation missile successfully completed flight trials in 2024/25?

- (A) RudraM-II
(B) Astra-MK1
(C) Agni-V
(D) Pralay

[Answer: (A)] RudraM-II is an air-launched anti-radiation missile developed by DRDO for suppression of enemy air defenses.

Q147. What is 'BHASHINI' initiative launched by the Government of India?

- (A) AI-led National Language Translation Mission for Indian languages
(B) A weather satellite
(C) A deep sea submarine
(D) A missile defense shield

[Answer: (A)] Digital India BHASHINI provides AI-driven real-time translation across official Indian languages.

Q148. Which indigenous Airborne Early Warning and Control system is developed by DRDO/IAF?

- (A) Netra AEW&C;
(B) Garuda
(C) Rudra
(D) Tejas

[Answer: (A)] Netra AEW&C; system provides airborne radar surveillance and battle management.

Q149. Which quantum communication milestone was achieved by ISRO/RRI in India?

- (A) Free-space Quantum Key Distribution (QKD) between ground stations
(B) Quantum computer commercial launch
(C) Quantum internet in homes
(D) Submarine quantum radar

[Answer: (A)] ISRO demonstrated secure free-space QKD using quantum photonics.

Q150. What is 'AB PM-JAY' expanded scheme coverage recently approved?

- (A) Health insurance coverage of ₹5 Lakh per year for all senior citizens aged 70 and above regardless of income
(B) Free housing for farmers
(C) Free weather insurance
(D) Solar pump subsidy

[Answer: (A)] Ayushman Bharat PM-JAY was extended to cover all senior citizens 70+ years with ₹5 Lakh health insurance.

Q151. Which naval exercise is conducted biennially by the Indian Navy with multilateral friendly navies at Visakhapatnam?

- (A) EXERCISE MILAN
(B) EXERCISE MALABAR
(C) EXERCISE VARUNA
(D) EXERCISE SIMBEX

[Answer: (A)] Exercise MILAN is a major multilateral naval exercise hosted by the Indian Navy in Visakhapatnam.

Q152. What is the name of India's indigenous light combat helicopter deployed by IAF and Army Aviation?

- (A) Prachand LCH (B) Rudra
(C) Chetak (D) Dhruv

[Answer: (A)] Prachand is India's first multi-role Light Combat Helicopter optimized for high-altitude operations.

Q153. Which supercomputing mission in India is jointly steered by MeitY and DST?

- (A) National Supercomputing Mission (NSM) (B) Digital India
(C) Make in India (D) Mission Shakti

[Answer: (A)] NSM deploys indigenous supercomputers like PARAM Ganga, PARAM Shakti, PARAM Ananta across academic institutes.

Q154. What is 'MY Bharat' portal launched for Indian youth?

- (A) Mera Yuva Bharat - an autonomous body for youth development and community engagement (B) My Banking Portal
(C) My Budget Portal (D) My Broadband Network

[Answer: (A)] MY Bharat acts as a phygital platform empowering youth leadership and volunteerism.

Q155. Which Indian site was added as the 42nd UNESCO World Heritage Site in India?

- (A) Sacred Ensembles of the Hoysalas (Karnataka) (B) Santiniketan
(C) Rani ki Vav (D) Dholavira

[Answer: (A)] Hoysala temples (Belur, Halebidu, Somnathapura) were inscribed as the 42nd UNESCO World Heritage Site.

Q156. Which site was inscribed as the 41st UNESCO World Heritage Site in India?

- (A) Santiniketan (West Bengal) (B) Sacred Ensembles of Hoysalas
(C) Kakatiya Rudreshwara Temple (D) Chhatrapati Shivaji Terminus

[Answer: (A)] Santiniketan established by Rabindranath Tagore was declared the 41st World Heritage Site.

Q157. How many total Ramsar Wetland Sites does India have currently?

- (A) 85 Sites (B) 75 Sites
(C) 50 Sites (D) 100 Sites

[Answer: (A)] India has expanded its Ramsar network to 85 designated wetlands of international importance.

Q158. Which day is observed as 'National Space Day' in India to commemorate Chandrayaan-3 landing?

- (A) 23 August (B) 15 August
(C) 2 October (D) 26 November

[Answer: (A)] 23 August was designated as National Space Day following Shiv Shakti point landing on the Moon.

Q159. What was the designated name of Chandrayaan-3's lunar landing site?

- (A) Shiv Shakti Point (B) Tiranga Point
(C) Jawahar Point (D) Vikram Point

[Answer: (A)] The landing location of Vikram lander near the lunar south pole was named 'Shiv Shakti Point'.

Q160. What was the name of Chandrayaan-2's crash site point recognized by ISRO?

- (A) Tiranga Point (B) Shiv Shakti Point
(C) Shakti Point (D) Atal Point

[Answer: (A)] Chandrayaan-2's impact footprint location was officially named 'Tiranga Point'.

Q161. In which atmospheric layer do almost all weather phenomena like clouds, rain, and storms occur?

- (A) Troposphere (B) Stratosphere
(C) Mesosphere (D) Thermosphere

[Answer: (A)] The Troposphere contains ~75% of atmospheric mass and virtually all water vapor and weather activity.

Q162. Which atmospheric layer contains the Earth's protective Ozone Layer absorbing harmful solar UV radiation?

- (A) Stratosphere (B) Troposphere
(C) Ionosphere (D) Exosphere

[Answer: (A)] The Stratosphere (15–50 km altitude) houses peak ozone concentration absorbing solar UV-B rays.

Q163. What is the standard value of average sea level atmospheric pressure in hectopascals (hPa)?

- (A) 1013.25 hPa (B) 760 hPa
(C) 1000 hPa (D) 980 hPa

[Answer: (A)] Standard atmospheric pressure at sea level is 1013.25 hPa (or 760 mm of Hg / 1 bar).

Q164. Which instrument is used to continuously record atmospheric pressure variations on a revolving drum chart?

- (A) Barograph (B) Anemometer
(C) Hygrometer (D) Psychrometer

[Answer: (A)] A Barograph records pressure trends continuously using an aneroid cell mechanism.

Q165. What device is used to measure atmospheric humidity using dry-bulb and wet-bulb thermometers?

- (A) Psychrometer / Sling Hygrometer (B) Pyranometer
(C) Radiometer (D) Altimeter

[Answer: (A)] A Psychrometer measures dry-bulb and wet-bulb temperatures to calculate relative humidity and dew point.

Q166. Which solar radiation instrument measures total global solar radiation (direct + diffuse) on a horizontal surface?

- (A) Pyranometer (B) Pyrhelimeter
(C) Sunshine Recorder (D) Radiosonde

[Answer: (A)] A Pyranometer measures global solar radiation flux density in W/m².

Q167. Which instrument specifically measures DIRECT beam solar radiation at normal incidence?

- (A) Pyrhelimeter (B) Pyranometer
(C) Barometer (D) Ceilometer

[Answer: (A)] A Pyrhelimeter collimates direct solar rays using a tracking aperture mechanism.

Q168. What is a 'Campbell-Stokes' instrument used to record in meteorological observatories?

- (A) Sunshine Duration (hours) (B) Rainfall volume
(C) Wind direction (D) Cloud base height

[Answer: (A)] Campbell-Stokes sunshine recorders focus sunlight through a glass sphere onto a burn card to log sunshine hours.

Q169. What is the lapse rate of temperature in a standard atmosphere within the troposphere?

- (A) 6.5 °C per 1,000 meters (or 0.65 °C / 100m) (B) 10 °C per km
(C) 1 °C per km (D) No change

[Answer: (A)] The Environmental Lapse Rate (ELR) averages approximately 6.5 °C drop per km altitude gain.

Q170. What is the term for a layer in the atmosphere where temperature INCREASES with altitude instead of decreasing?

- (A) Temperature Inversion (B) Isothermal layer
(C) Adiabatic expansion (D) Convective instability

[Answer: (A)] Temperature Inversion traps pollutants and cold air near the ground surface.

Q171. Which physical law states that wind direction deflects to the RIGHT in the Northern Hemisphere due to Earth's rotation?

- (A) Ferrel's Law / Coriolis Effect (B) Buys Ballot's Law
(C) Kepler's Law (D) Newton's First Law

[Answer: (A)] The Coriolis Force deflects moving air masses to the right in the Northern Hemisphere and left in the Southern Hemisphere.

Q172. What does 'Buys Ballot's Law' state for an observer in the Northern Hemisphere standing with their back to the wind?

- (A) Low pressure is to their LEFT and High pressure is to their RIGHT (B) High pressure is to their left
(C) Pressure is equal (D) Wind blows straight

[Answer: (A)] In the Northern Hemisphere, standing with your back to the wind puts lower pressure on your left hand side.

Q173. Which ocean current is a warm surface current flowing northward along the east coast of Japan?

- (A) Kuroshio Current (B) Oyashio Current
(C) California Current (D) Canary Current

[Answer: (A)] The Kuroshio Current is the Pacific equivalent of the Atlantic Gulf Stream, carrying warm tropical water northward.

Q174. Which ocean current is a cold current flowing southward along the coast of Peru in the South Pacific?

- (A) Humboldt (Peru) Current (B) Brazil Current
(C) Agulhas Current (D) Kuroshio Current

[Answer: (A)] The Humboldt Current brings cold, nutrient-rich Antarctic upwelling water along Peru and Chile.

Q175. What atmospheric pressure index is used to track El Nino and La Nina phenomena across the tropical Pacific?

- (A) Southern Oscillation Index (SOI) (B) North Atlantic Oscillation (NAO)
(C) Arctic Oscillation (D) Indian Ocean Dipole

[Answer: (A)] SOI measures the sea-level pressure difference between Tahiti and Darwin (Australia).

Q176. Negative values of the Southern Oscillation Index (SOI) sustained over months indicate which climate phenomenon?

- (A) El Nino Event (B) La Nina Event
(C) Neutral Indian Ocean (D) Monsoon Burst

[Answer: (A)] Sustained negative SOI indicates El Nino (warmer central Pacific, weaker Indian monsoon).

Q177. Positive values of the Indian Ocean Dipole (Positive IOD) are generally favorable for which weather event in India?

- (A) Enhanced Indian Summer Monsoon Rainfall (B) Drought in India
(C) Severe Frost (D) Dust Storms

[Answer: (A)] Positive IOD (warmer western Indian Ocean near Arabian Sea) boosts Indian summer monsoon precipitation.

Q178. Which layer of the atmosphere reflects High Frequency (HF) radio waves back to Earth for long-distance communication?

- (A) Ionosphere (D, E, F layers) (B) Troposphere
(C) Stratosphere (D) Exosphere

[Answer: (A)] The Ionosphere contains ionized gas particles that reflect HF skywaves.

Q179. What causes the natural optical phenomenon 'Aurora Borealis' (Northern Lights)?

- (A) Collision of energetic solar wind charged particles with thermospheric gas molecules (B) Refraction from ice crystals
(C) Lightning reflection (D) Volcanic ash

[Answer: (A)] Auroras occur when solar wind electrons interact with oxygen and nitrogen atoms in the upper atmosphere.

Q180. Which gas constitutes approximately 78.08% of dry atmospheric air by volume?

- (A) Nitrogen (N₂) (B) Oxygen (O₂)
(C) Argon (Ar) (D) Carbon Dioxide (CO₂)

[Answer: (A)] Nitrogen is the most abundant atmospheric gas (78.08%), followed by Oxygen (20.95%) and Argon (0.93%).

Q181. What is the approximate concentration of Argon gas in Earth's dry atmosphere by volume?

- (A) 0.93% (B) 0.04%
(C) 20.95% (D) 1.20%

[Answer: (A)] Argon is the 3rd most abundant dry gas at ~0.93% (9300 ppm).

Q182. What is the present atmospheric concentration of Carbon Dioxide (CO₂) approximately in parts per million (ppm)?

- (A) 420 - 425 ppm (B) 300 ppm
(C) 100 ppm (D) 1000 ppm

[Answer: (A)] Global mean CO₂ levels have reached approximately 420–425 ppm.

Q183. Which clouds are composed entirely of ice crystals and appear as thin, wispy 'mare's tails' at high altitudes (>6 km)?

- (A) Cirrus Clouds (B) Cumulus Clouds
(C) Stratus Clouds (D) Nimbostratus Clouds

[Answer: (A)] Cirrus clouds are high-level ice crystal clouds featuring delicate fibrous structures.

Q184. Which low, dark, thick cloud layer produces continuous steady rainfall or snow over widespread areas?

- (A) Nimbostratus Clouds (B) Cumulonimbus Clouds
(C) Altocumulus Clouds (D) Cirrocumulus Clouds

[Answer: (A)] Nimbostratus clouds cause continuous, widespread light to moderate precipitation.

Q185. Which towering anvil-topped cloud type is associated with severe thunderstorms, lightning, hail, and heavy downpours?

- (A) Cumulonimbus Clouds (B) Cirrus Clouds
(C) Stratus Clouds (D) Stratocumulus Clouds

[Answer: (A)] Cumulonimbus clouds feature intense vertical convection, thunder, lightning, and hail.

Q186. What is the instrument used to measure cloud base height above ground level?

- (A) Ceilometer (B) Anemometer
(C) Psychrometer (D) Barometer

[Answer: (A)] Optical Ceilometers use laser pulse backscatter to pinpoint cloud base height.

Q187. Which optical phenomenon around the sun or moon is caused by refraction through cirrus cloud ice crystals?

- (A) Halo (22-degree ring) (B) Rainbow
(C) Corona (D) Mirage

[Answer: (A)] A 22° Halo is formed by light refraction through hexagonal ice crystals in cirrostratus clouds.

Q188. What causes a 'Rainbow' in the atmosphere?

- (A) Combined dispersion, refraction, and internal reflection of sunlight in spherical water droplets
(B) Diffraction only
(C) Scattering by dust (D) Thermal radiation

[Answer: (A)] Sunlight enters water drops, undergoes dispersion & internal reflection, and exits at ~42° angle.

Q189. Which atmospheric Rayleigh scattering process makes the clear daytime sky appear blue?

- (A) Shorter blue wavelengths of sunlight scattered much more efficiently by air molecules than longer red wavelengths
(B) Ocean reflection
(C) Ozone absorption (D) Dust reflection

[Answer: (A)] Rayleigh scattering intensity is inversely proportional to the 4th power of wavelength ($1/\lambda^4$).

Q190. Why do sunrises and sunsets appear distinctly red and orange?

- (A) Sunlight travels through a much thicker atmospheric path length, scattering away blue light and leaving longer red wavelengths
(B) Sun cools down
(C) Ozone turns red
(D) Cloud reflection

[Answer: (A)] At low solar elevation, blue light is scattered out of the direct line of sight, allowing red wavelengths through.

Q191. Which Constitutional Article provides for the establishment of the Finance Commission of India every five years?

- (A) Article 280
(B) Article 324
(C) Article 148
(D) Article 356

[Answer: (A)] Article 280 mandates the President to constitute a Finance Commission for tax revenue distribution.

Q192. Who appoints the Chief Election Commissioner and Election Commissioners under Article 324 of the Indian Constitution?

- (A) President of India
(B) Prime Minister
(C) Chief Justice of India
(D) Parliament

[Answer: (A)] The President of India appoints the Election Commissioners based on legislative framework.

Q193. Which Constitutional Amendment Act added the 10th Schedule regarding Anti-Defection Law in India?

- (A) 52nd Constitutional Amendment Act, 1985
(B) 42nd Amendment 1976
(C) 44th Amendment 1978
(D) 73rd Amendment 1992

[Answer: (A)] The 52nd Amendment introduced anti-defection provisions in 1985.

Q194. Which Article of the Indian Constitution guarantees the 'Right to Constitutional Remedies' (Writs)?

- (A) Article 32
(B) Article 21
(C) Article 14
(D) Article 19

[Answer: (A)] Article 32 is termed the 'Heart and Soul of the Constitution' by Dr. B. R. Ambedkar.

Q195. Which Schedule of the Indian Constitution enumerates the official recognized languages of India?

- (A) 8th Schedule
(B) 7th Schedule
(C) 9th Schedule
(D) 12th Schedule

[Answer: (A)] The 8th Schedule lists 22 official languages of India.

Q196. Which Constitutional Body is created under Article 148 to audit all receipts and expenditures of the Union and State Governments?

- (A) Comptroller and Auditor General of India (CAG)
(B) Union Public Service Commission
(C) NITI Aayog
(D) Finance Commission

[Answer: (A)] CAG of India audits government accounts under Article 148.

Q197. What is the maximum gap allowed between two consecutive sessions of the Indian Parliament?

- (A) 6 Months
(B) 3 Months
(C) 1 Year
(D) 1 Month

[Answer: (A)] Article 85 mandates that the Parliament must meet at least twice a year with no more than a 6-month gap.

Q198. Which Fundamental Right cannot be suspended even during a proclamation of National Emergency under Article 352?

- (A) Protection of Life and Personal Liberty (Article 21) & Article 20
(B) Article 19
(C) Article 14
(D) Article 32

[Answer: (A)] Articles 20 and 21 remain enforceable even during National Emergency per the 44th Amendment.

Q199. Which Indian state has the longest coastline among all maritime states?

- (A) Gujarat (B) Andhra Pradesh
(C) Tamil Nadu (D) Maharashtra

[Answer: (A)] Gujarat has the longest mainland coastline (~1,214 km) in India.

Q200. Which strait separates India and Sri Lanka in the Indian Ocean region?

- (A) Palk Strait (B) Ten Degree Channel
(C) Duncan Passage (D) Malacca Strait

[Answer: (A)] Palk Strait and Gulf of Mannar lie between Tamil Nadu and Sri Lanka.