



**Madhya Pradesh  
Public Services  
Commission  
(MPPSC)  
Mains Exam Syllabus**

**(General Studies Paper - 3)**

**THIRD PAPER**  
**SCIENCE AND TECHNOLOGY**

**UNIT-I**

- **Work, Power and Energy-** Gravitational Force, Friction, Atmospheric Pressure and Work.
- Units and Measurement, Example from daily life.
- Speed, Velocity, Acceleration
- **Sound:-** Definition, Medium of Propagation, Audible and Inaudible sound, Noise and Music.  
Terminology related with Sound:- Amplitude, Wave Length, Frequency of Vibration.
- **Electricity:-** Different types of Cell, Circuit.
- **Magnet:-** Properties, preparation and uses of artificial magnet
- **Light:-** Reflection, Refraction, Mirrors and Lenses, Image Formation,
- **Heat:** Measuring Temperature, Thermometers, Transformation of Heat.

**UNIT-II**

- **Element, Compound and Mixture:-** Definition, Chemical Symbols, Properties, Availability on the Earth,
- **Material:-** Metals and Non Metals, Periodic Table and Periodicity.
- Atom, Atomic Structure, Valency, Bonding, Nuclear Fusion and Fission.
- Acids, Bases and Salts. pH Value Indicators.
- Physical and Chemical Changes.
- Chemistry in daily life

**UNIT-III**

- Micro-organism and Organic Farming.
- Cell –Structure and Function, Classification of Animals and Plants.
- Nutrition in plants, animals and human beings, Balanced Diet, Vitamins, Deficiency Diseases, Hormones,
- Body Organs of Human Beings, Structure and Functioning.
- Respiration in Organisms.
- Transportation in Animals and Plants.
- Reproduction in Animals and Plants
- Health and Hygiene and Diseases.

#### UNIT-IV

- Types of Computers, Characteristics and Generation.
- Memory, Input and Output Devices, Storage Devices, Software and Hardware, Operating systems, Windows, Uses of Microsoft office.
- Computer Languages, Translators, Compilers, Interpreters and Assemblers.
- Internet, E-mail.
- Social Media.
- E -Governance.
- Different useful Portals, Sites and Web Pages.

#### UNIT-V

- Numbers and its type, Methods of Unit Measurement, Equations and Factors, Profit loss, Percentage, Simple and Compound Interest, Ratio Proportion.
- **Statistics:-** Probability, Measurement of Central Tendency (Mean, Mode, Median) and Variance, Types of Sampling.

#### UNIT-VI

- Communicable diseases and their Prevention.
- National Vaccination Programme.
- Primary Knowledge of AYUSH - Ayurveda, Yoga, Unani, Siddha, Homeopathy
- Health Related Important Welfare Schemes of Central and State Government.
- Major Health Organizations of Central and the State Government.

#### UNIT-VII

- Effects of Development on Human Life, Limitations of Indigenous Technologies.
- History of Remote Sensing, Remote Sensing in India.
- Indian Space Research Organization, (ISRO) • Raja Ramanna Center for Atomic Technology (RRCAT) • Satish Dhawan Space Center (SDSC) Shriharikota • Defence Research and Development Organization (DRDO) • Bhabha Atomic Research Center (BARC), Mumbai • Tata Institute of Fundamental Research (TIFR), Mumbai • National Atmospheric Research Laboratory (NARL), Tirupati, Liquid Propulsion System Center (LPSC), Bengluru • Space Application Center (SAC), Ahmedabad • Indian Deep Space Network (IDSN) • Ramanagara, Indian Space Science Data Center(ISSDC), Ramanagara • Vikram Sarabhai Space Center (VSSC), Thiruananthpuram • Indian Institute of Space Science and Technology (IIST), Thiruananthpuram • National Remote Sensing Center (NRSC), Hyderabad • Indian Institute of Remote Sensing (IIRS), Dehradun • (General information of above institutions).
- Generations of Geostationary Satellite Launch Vehicles.

- Biotechnology: Definition, uses in Sector of Health and Medicine, Agriculture, Animal Husbandry, Industry and Environment.
- Clones, Robots and Artificial Intelligence.
- Patents and Rights of Intellectual Property (Trips, Trims)
- Contribution of Indians in the field of Science and Technology: Chandrashekhar Venkata Raman, Hargovind Khurana, Jagdish Chandra Basu, Homi Jahangir Bhabha, M. Vishveshraiya, Srinivas Ramanujan, Vikram Sarabhai, A. P. J. Abdul Kalam, Satendra Nath Bose. Raja Ramanna, Prafullchandra Roy.
- National and International Awards in the field of Science.

### UNIT-VIII

- Conventional and Non-Conventional Sources of Energy: Meaning, Definition, Examples and Differences
- Energy Efficiency, Energy Management, Organizational Integration, Energy Management in Operational Functions, Energy Purchase, Production, Production planning and Control, Maintenance.
- Issues and Challenges related with Energy Strategies
- Alternate Sources of Energy: Present scenario and future possibilities. Solar Energy, Wind Energy, Oceanic Energy, Geothermal Energy, Biomass Energy, Biofuel Energy etc.

### UNIT-IX

- **Definition, Scope and Dimensions of Environment:**– Physical, Economic, Cultural, Educational, Psychological etc, Concepts of Environment in Indian context, Concepts of Environment in Modern World.
- Effect of human activities on Environment, Ethics and Values related to Environment; Biodiversity, Environmental Pollution, Environmental Changes.
- Issues and challenges related with Environment, Causes and effects of Environmental Degradation
- **Environmental Education:**- Programmes for Mass Awareness, Environmental Education and its relationship with Health and Safety.
- Eco friendly Technologies, Conservation of Energy, Constitutional provisions related to Environment and its Protection. Environmental Protection Policies and Regulatory Framework

### UNIT-X

Definition and importance of Geology, Earth- Crust, Mantle, Core Lithosphere, Hydrosphere, Origin and Age of Earth, Geological Time Scale, Rock-Definition, Types of Rocks-Igneous, Sedimentary and Metamorphic Rock. Minerals and Ores, Fossils, Weathering and Erosion, Formation of soil, Groundwater, Natural Coal, Natural Oil and Gas.

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