

General Awareness, Science & Environment: 100 MCQs

- Target Exam: RRB Junior Engineer (RRB JE)
- Study Notes Prepared for: Entri App Users

Section 1: Basics of Environment & Pollution Control (CBT 2 Special)

Q1. What is the standard BOD (Biochemical Oxygen Demand) incubation period and temperature used in standard water testing?

- (a) 3 days at 27°C
- (b) 5 days at 20°C
- (c) 7 days at 25°C
- (d) 1 day at 37°C

Q2. Which device is specifically used to remove Particulate Matter (PM) from industrial flue gases using electrostatic charges?

- (a) Venturi Scrubber
- (b) Cyclone Separator
- (c) Electrostatic Precipitator (ESP)
- (d) Fabric Bag Filter

Q3. 'Minamata Disease' is a neurological syndrome caused by severe pollution of which heavy metal?

- (a) Cadmium
- (b) Lead
- (c) Arsenic
- (d) Mercury

Q4. The 'Eutrophication' of a water body is primarily caused by excessive run-off of which nutrients?

- (a) Sodium and Potassium
- (b) Nitrogen and Phosphorus

(c) Calcium and Magnesium

(d) Lead and Zinc

Q5. Sound levels above what decibel (dB) threshold are classified as noise pollution by the World Health Organization (WHO)?

(a) 40dB

(b) 55dB

(c) 85dB

(d) 120dB

Q6. What is the primary secondary air pollutant formed by the reaction of sunlight with Nitrogen Oxides (NO_x) and Volatile Organic Compounds (VOCs)?

(a) Ground-level Ozone (O_3)

(b) Carbon Monoxide (CO)

(c) Sulfur Dioxide (SO_2)

(d) Lead particles

Q7. Photochemical Smog is also commonly known as:

(a) London Smog

(b) Los Angeles Smog

(c) Industrial Smog

(d) Sulfurous Smog

Q8. According to the Solid Waste Management Rules in India, wet biodegradable waste is placed in bins of which color?

(a) Blue

(b) Green

(c) Yellow

(d) Black

Q9. Which global agreement specifically regulates the transboundary movement of hazardous wastes and their disposal?

- (a) Stockholm Convention**
- (b) Basel Convention**
- (c) Rotterdam Convention**
- (d) Minamata Convention**

Q10. What is the pH value below which rainfall is technically defined as 'Acid Rain'?

- (a) 6.5**
- (b) 5.6**
- (c) 7.0**
- (d) 4.0**

Q11. Which law governs the 10% energy transfer rule from one trophic level to the next in an ecosystem?

- (a) Liebig's Law**
- (b) Lindeman's Law**
- (c) Shelford's Law**
- (d) Odum's Law**

Q12. The Central Pollution Control Board (CPCB) of India was constituted under which environmental act?

- (a) Environment (Protection) Act, 1986**
- (b) Water (Prevention and Control of Pollution) Act, 1974**
- (c) Air (Prevention and Control of Pollution) Act, 1981**
- (d) Forest (Conservation) Act, 1980**

Q13. 'Itai-Itai' disease is caused by chronic poisoning of:

- (a) Cadmium**
- (b) Arsenic**

(c) Fluoride

(d) Copper

Q14. The term 'Biomagnification' refers to:

(a) Increase in population size over generations

(b) Progressive increase in concentration of non-biodegradable toxins up the food chain

(c) Growth of algae in nutrient-rich water

(d) Accumulation of silt in river beds

Q15. Under the National Ambient Air Quality Standards (NAAQS) in India, how many total pollutants are monitored?

(a) 6

(b) 8

(c) 12

(d) 15

Section 2: Applied Physics & Technical Science

Q16. What is the fundamental principle on which an Optical Fiber works?

(a) Total Internal Reflection

(b) Refraction of light

(c) Interference of waves

(d) Diffuse Reflection

Q17. The dimensional formula for Universal Gravitational Constant (G) is:

(a) $[M^{-1}L^3T^{-2}]$

(b) $[M^1L^2T^{-2}]$

(c) $[M^{-1}L^2T^{-1}]$

(d) $[M^0L^3T^{-2}]$

Q18. At what temperature (in Celsius) do the Fahrenheit and Celsius scales read the exact same value?

- (a) 40°C
- (b) -40°C
- (c) -32°C
- (d) 0°C

Q19. Which instrument is used to measure very high temperatures, such as those inside metallurgical furnaces?

- (a) Bolometer
- (b) Pyrometer
- (c) Hydrometer
- (d) Barometer

Q20. What happens to the resistance of a pure semiconductor (e.g., Silicon) when its temperature increases?

- (a) Increases linearly
- (b) Remains unchanged
- (c) Decreases
- (d) Becomes infinite

Q21. A transformer works on the principle of:

- (a) Self-induction
- (b) Mutual induction
- (c) Seebeck effect
- (d) Joule heating

Q22. The hydraulic lift used in automobile service stations operates on:

- (a) Archimedes' Principle
- (b) Bernoulli's Principle

(c) Pascal's Law

(d) Torricelli's Law

Q23. Which electromagnetic wave is utilized in radar systems for aircraft navigation?

(a) Infrared rays

(b) Microwaves / Radio waves

(c) Ultraviolet rays

(d) Gamma rays

Q24. Ultrasonic sound waves have frequencies:

(a) Below 20Hz

(b) Between 20Hz and $20,000\text{Hz}$

(c) Above $20,000\text{Hz}$

(d) Above $3 \times 10^8\text{Hz}$

Q25. What is the escape velocity from the surface of Earth?

(a) 9.8km/s

(b) 11.2km/s

(c) 2.4km/s

(d) 42.1km/s

Q26. Which phenomenon explains why a spinning cricket ball curves in the air (Magnus Effect)?

(a) Newton's Third Law

(b) Bernoulli's Theorem

(c) Pascal's Law

(d) Hooke's Law

Q27. The working of a fuse wire depends on:

(a) Magnetic effect of current

- (b) Heating effect of current
- (c) Chemical effect of current
- (d) Electrostatic force

Q28. In an AC circuit, the ratio of real power to apparent power is defined as:

- (a) Form factor
- (b) Power factor
- (c) Ripple factor
- (d) Quality factor

Q29. What type of lens is used to correct Astigmatism?

- (a) Bifocal lens
- (b) Cylindrical lens
- (c) Concave-convex lens
- (d) Fresnel lens

Q30. Kepler's Second Law of Planetary Motion (Equal areas in equal intervals of time) is a direct consequence of conservation of:

- (a) Linear momentum
- (b) Angular momentum
- (c) Kinetic energy
- (d) Total mass

Section 3: Applied Chemistry & Materials

Q31. Which gas is filled in modern electric filament bulbs to prolong the life of the tungsten filament?

- (a) Hydrogen and Oxygen
- (b) Argon or Nitrogen
- (c) Carbon Dioxide
- (d) Chlorine

Q32. The process of heating rubber with sulfur to improve its elasticity and strength is called:

- (a) Galvanization**
- (b) Vulcanization**
- (c) Tempering**
- (d) Polymerization**

Q33. What is the main chemical component of Natural Gas and Biogas?

- (a) Ethane**
- (b) Methane**
- (c) Propane**
- (d) Butane**

Q34. Stainless steel is an alloy of iron with chromium, nickel, and carbon. Which element provides corrosion resistance?

- (a) Carbon**
- (b) Chromium**
- (c) Nickel**
- (d) Silicon**

Q35. What is the chemical name of Aqua Regia, used to dissolve gold and platinum?

- (a) Concentrated HNO_3 and Concentrated HCl in 1: 3 ratio**
- (b) Concentrated HCl and Concentrated H_2SO_4 in 3: 1 ratio**
- (c) Concentrated HNO_3 and Concentrated H_2SO_4 in 1: 1 ratio**
- (d) Dilute HCl and Dilute HNO_3 in 3: 1 ratio**

Q36. Which substance is used as a moderator in nuclear power reactors to slow down fast neutrons?

- (a) Cadmium rods**

(b) Heavy Water (D_2O) or Graphite

(c) Liquid Sodium

(d) Uranium-235

Q37. What is 'Dry Ice'?

(a) Ice kept at -100°C

(b) Solid Carbon Dioxide (CO_2)

(c) Frozen Heavy Water

(d) Solid Sulfur Dioxide

Q38. Which chemical is added to LPG (Liquefied Petroleum Gas) cylinders to detect gas leaks by odor?

(a) Ethyl Mercaptan

(b) Methyl Isocyanate

(c) Sodium Benzoate

(d) Acetone

Q39. What is the catalyst used in the Haber Process for industrial synthesis of Ammonia?

(a) Nickel

(b) Finely divided Iron with Molybdenum promoter

(c) Platinum

(d) Vanadium Pentoxide

Q40. Hardness of water caused by bicarbonates of calcium and magnesium is called:

(a) Permanent Hardness

(b) Temporary Hardness

(c) Non-carbonate Hardness

(d) Biological Hardness

Q41. Which acid is present in gastric juice produced by human stomach walls?

- (a) Sulphuric acid
- (b) Hydrochloric acid (HCl)
- (c) Nitric acid
- (d) Citric acid

Q42. Teflon, used as a non-stick coating on cookware, is a polymer of:

- (a) Vinyl Chloride
- (b) Tetrafluoroethylene
- (c) Isoprene
- (d) Styrene

Q43. Chemical expression for Rust is:

- (a) $Fe_2O_3 \cdot xH_2O$
- (b) FeO
- (c) $FeCO_3$
- (d) FeS_2

Q44. What is the chemical used in silvering of glass mirrors?

- (a) Silver Nitrate ($AgNO_3$)
- (b) Silver Bromide ($AgBr$)
- (c) Silver Iodide (AgI)
- (d) Silver Chloride ($AgCl$)

Q45. Which functional group is present in carboxylic acids?

- (a) $-OH$
- (b) $-COOH$

(c) – *CHO*

(d) – *CO* –

Section 4: History & Indian Freedom Movement

Q46. The Cabinet Mission came to India in which year to discuss transfer of power?

(a) 1942

(b) 1945

(c) 1946

(d) 1947

Q47. Who started the 'Drain of Wealth' theory criticizing British economic policies in India?

(a) Romesh Chunder Dutt

(b) Dadabhai Naoroji

(c) Gopal Krishna Gokhale

(d) M.G. Ranade

Q48. The Kakori Train Action (1925) was executed by members of which revolutionary organization?

(a) Anushilan Samiti

(b) Hindustan Republican Association (HRA)

(c) Ghadar Party

(d) Abhinav Bharat

Q49. Who was the founder of the 'Satya Shodhak Samaj' (1873) in Maharashtra?

(a) Jyotirao Phule

(b) BR Ambedkar

(c) Savitribai Phule

(d) Dhondo Keshav Karve

Q50. The Ilbert Bill Controversy (1883) occurred during the tenure of which Viceroy?

- (a) Lord Lytton**
- (b) Lord Ripon**
- (c) Lord Dufferin**
- (d) Lord Mayo**

Q51. The ancient Indian text 'Arthashastra' primarily deals with:

- (a) Military tactics only**
- (b) Statecraft, governance, and economics**
- (c) Religion and philosophy**
- (d) Medicine and surgery**

Q52. Who was the court poet of King Harshavardhana and author of 'Harshacharita'?

- (a) Kalidasa**
- (b) Banabhatta**
- (c) Harisena**
- (d) Bhavabhuti**

Q53. Subhash Chandra Bose proclaimed the formation of the Provisional Government of Free India (Azad Hind) in:

- (a) Tokyo**
- (b) Singapore**
- (c) Rangoon**
- (d) Berlin**

Q54. The 'Bardoli Satyagraha' (1928) was led by:

- (a) Mahatma Gandhi**
- (b) Sardar Vallabhbhai Patel**
- (c) Morarji Desai**

(d) Mahadev Desai

Q55. Which Buddhist Council was held during the reign of King Kanishka at Kashmir?

(a) First Council

(b) Second Council

(c) Third Council

(d) Fourth Council

Section 5: Geography & Cultural Heritage

Q56. What is the name of the narrow strip of land in West Bengal connecting Mainland India to Northeast India?

(a) Siliguri Corridor ("Chicken's Neck")

(b) Nathu La Corridor

(c) Chumbi Valley Passage

(d) Barak Corridor

Q57. Which type of forest is also known as 'Monsoon Forests' in India?

(a) Tropical Evergreen Forests

(b) Tropical Deciduous Forests

(c) Mangrove Forests

(d) Montane Forests

Q58. 'Kolkata Port' is an example of which type of port?

(a) Natural Deepwater Port

(b) Riverine Port

(c) Tidal Port

(d) Artificial Lagoon Port

Q59. The 'Kunda Hydroelectric Project' is located in which state?

(a) Kerala

(b) Tamil Nadu

(c) Karnataka

(d) Andhra Pradesh

Q60. Which Indian classical dance form is characterized by intricate footwork called 'Tatkkar' and swift turns?

(a) Kathakali

(b) Kathak

(c) Kuchipudi

(d) Odissi

Q61. Which pass connects the Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh?

(a) Shipki La

(b) Rohtang Pass

(c) Nathu La

(d) Lipulekh Pass

Q62. 'Pugmark Technique' is traditionally used in India for:

(a) Mapping forest areas

(b) Census of wild animals (especially tigers/carnivores)

(c) Soil erosion assessment

(d) Tracking illegal logging

Q63. Which river is known as the 'Sorrow of Bihar'?

(a) Damodar

(b) Kosi

(c) Son

(d) Gandak

Q64. In which state is the UNESCO World Heritage site 'Hampi' situated?

- (a) Tamil Nadu**
- (b) Karnataka**
- (c) Telangana**
- (d) Maharashtra**

Q65. The term 'Seraikella Chhau' represents a famous folk/tribal dance of:

- (a) Jharkhand**
- (b) Rajasthan**
- (c) Gujarat**
- (d) Assam**

Section 6: Indian Polity, Constitution & Governance

Q66. Which article of the Constitution provides for the establishment of the Finance Commission of India?

- (a) Article 280**
- (b) Article 324**
- (c) Article 315**
- (d) Article 148**

Q67. The concept of 'Procedure Established by Law' in the Indian Constitution is borrowed from:

- (a) US Constitution**
- (b) Japanese Constitution**
- (c) British Constitution**
- (d) Irish Constitution**

Q68. Who has the authority to issue ordinances when Parliament is not in session?

- (a) Prime Minister (under Article 74)**
- (b) President (under Article 123)**

(c) Speaker of Lok Sabha

(d) Supreme Court Chief Justice

Q69. Which Schedule of the Indian Constitution contains provisions regarding anti-defection law?

(a) Eighth Schedule

(b) Tenth Schedule

(c) Eleventh Schedule

(d) Twelfth Schedule

Q70. Maximum gap allowed between two consecutive sessions of the Indian Parliament is:

(a) 3 months

(b) 6 months

(c) 9 months

(d) 1 year

Q71. By which Amendment Act were the words 'Socialist, Secular and Integrity' added to the Preamble?

(a) 24th Amendment

(b) 42nd Amendment

(c) 44th Amendment

(d) 86th Amendment

Q72. Under which article can a citizen move directly to the Supreme Court for enforcement of Fundamental Rights?

(a) Article 226

(b) Article 32

(c) Article 136

(d) Article 143

Q73. Who among the following presides over a Joint Sitting of both Houses of Parliament?

- (a) President of India**
- (b) Chairman of Rajya Sabha**
- (c) Speaker of Lok Sabha**
- (d) Prime Minister**

Q74. High Court judges retire at the age of:

- (a) 60 years**
- (b) 62 years**
- (c) 65 years**
- (d) 70 years**

Q75. The 73rd Constitutional Amendment Act, 1992 added which part to the Indian Constitution?

- (a) Part IX**
- (b) Part IX-A**
- (c) Part IV-A**
- (d) Part XIV**

Section 7: Indian Economy & Infrastructure

Q76. What is 'Repo Rate'?

- (a) Rate at which commercial banks park surplus funds with RBI**
- (b) Rate at which RBI lends short-term money to commercial banks against securities**
- (c) Long-term lending rate of commercial banks**
- (d) Interest rate on savings bank accounts**

Q77. What does the term 'Fiscal Deficit' indicate?

- (a) Difference between revenue expenditure and revenue receipts**
- (b) Total borrowings required by the government to bridge budget gap**

- (c) Excess of imports over exports
- (d) Non-performing assets of commercial banks

Q78. In India, 'M1' measure of money supply includes:

- (a) Currency with public + Demand deposits with banks + Other deposits with RBI
- (b) Currency with public + Time deposits with banks
- (c) Total post office savings deposits only
- (d) Net time deposits with commercial banks

Q79. Which index is officially used by the RBI as the primary metric to anchor retail inflation?

- (a) Wholesale Price Index (WPI)
- (b) Consumer Price Index (CPI-Combined)
- (c) Producer Price Index (PPI)
- (d) GDP Deflator

Q80. The PM Gati Shakti National Master Plan primarily aims at integrated development of:

- (a) Rural health infrastructure
- (b) Multimodal connectivity and logistics infrastructure
- (c) Agricultural export zones
- (d) Primary education network

Q81. 'Disinvestment' in public sector undertakings means:

- (a) Closing down loss-making units
- (b) Selling government equity/shareholding to private entities or public
- (c) Merging two government banks
- (d) Waiving off corporate debts

Q82. 'Stagflation' is an economic condition characterized by:

- (a) High inflation combined with high growth
- (b) High inflation combined with stagnant economic growth and high unemployment
- (c) Deflation combined with full employment
- (d) Zero inflation with rapid GDP expansion

Q83. Head office of the Small Industries Development Bank of India (SIDBI) is located at:

- (a) Mumbai
- (b) Lucknow
- (c) New Delhi
- (d) Kolkata

Q84. What is the priority sector lending (PSL) target for domestic commercial banks in India?

- (a) 25% of Adjusted Net Bank Credit
- (b) 40% of Adjusted Net Bank Credit
- (c) 50% of Adjusted Net Bank Credit
- (d) 10% of Adjusted Net Bank Credit

Q85. Which central government scheme aims to provide piped water supply to every rural household ('Har Ghar Jal')?

- (a) PM Krishi Sinchayee Yojana
- (b) Jal Jeevan Mission
- (c) Namami Gange
- (d) AMRUT Mission

Section 8: Science & Technology Developments, Current Affairs & Sports

Q86. What is the name of India's solar observation mission positioned at the Sun-Earth L1 Lagrange point?

- (a) Aditya-L1
- (b) Gaganyaan-1

(c) Shukrayaan-1

(d) AstroSat-2

Q87. What is 'Bhashini', an AI mission launched by the Government of India?

(a) Cybersecurity defense framework

(b) AI-led language translation platform across Indian languages

(c) Satellite navigation assistant

(d) Weather forecast supercomputer

Q88. India's first indigenous nuclear-powered ballistic missile submarine commissioned into service is:

(a) INS Arihant

(b) INS Arighat

(c) INS Vikrant

(d) INS Kalvari

Q89. In computing, what does the abbreviation 'GPU' stand for?

(a) General Processing Unit

(b) Graphics Processing Unit

(c) Geometric Power Unit

(d) Global Pathing Utility

Q90. Quantum Dots, which won the Nobel Prize in Chemistry in recent years, are essentially:

(a) Superconducting magnetic levitation coils

(b) Semiconductor nanocrystals that emit light of specific wavelengths based on size

(c) Artificial genetic polymers

(d) Carbon nanotube transistors

Q91. What is the name of India's regional satellite navigation system (often referred to as Indian GPS)?

- (a) GALILEO**
- (b) NavIC (IRNSS)**
- (c) GLONASS**
- (d) BEIDOU**

Q92. 'LiFi' technology transmits data using:

- (a) Radio waves**
- (b) Light waves (Visible Light Communication)**
- (c) Infrared laser beams**
- (d) Ultrasound signals**

Q93. The term 'Ransomware' in information technology refers to:

- (a) Hardware failure in servers**
- (b) Malicious software that encrypts user data and demands payment for decryption key**
- (c) Spam email filtering mechanism**
- (d) Open-source database software**

Q94. Which country hosted the 2024 Summer Olympic Games?

- (a) Tokyo, Japan**
- (b) Paris, France**
- (c) Los Angeles, USA**
- (d) Brisbane, Australia**

Q95. The 'Thomas Cup' and 'Uber Cup' are world championship trophies associated with:

- (a) Table Tennis**
- (b) Badminton**
- (c) Lawn Tennis**
- (d) Squash**

Q96. Who was awarded the Major Dhyan Chand Khel Ratna Award 2023 for Badminton?

- (a) Chirag Shetty and Satwiksairaj Rankireddy**
- (b) PV Sindhu and Lakshya Sen**
- (c) Kidambi Srikanth and Ashwini Ponnappa**
- (d) HS Prannoy and Rohan Bopanna**

Q97. The term 'Grand Slam' in Lawn Tennis comprises how many major annual tournaments?

- (a) 3**
- (b) 4**
- (c) 5**
- (d) 6**

Q98. Which Indian city is home to the world's largest cricket stadium by seating capacity (Narendra Modi Stadium)?

- (a) Mumbai**
- (b) Ahmedabad**
- (c) Kolkata**
- (d) Bengaluru**

Q99. What is the total length of a standard marathon race?

- (a) 21.0975km (13.1miles)**
- (b) 42.195km (26.2miles)**
- (c) 50.0km**
- (d) 10.0km**

Q100. Which Indian regulatory authority oversees and regulates telecom services and tariffs in India?

- (a) SEBI**
- (b) TRAI**

(c) FSSAI

(d) CPCB

Answer Key

Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans	Q.No	Ans
1	(b)	21	(b)	41	(b)	61	(b)	81	(b)
2	(c)	22	(c)	42	(b)	62	(b)	82	(b)
3	(d)	23	(b)	43	(a)	63	(b)	83	(b)
4	(b)	24	(c)	44	(a)	64	(b)	84	(b)
5	(c)	25	(b)	45	(b)	65	(a)	85	(b)
6	(a)	26	(b)	46	(c)	66	(a)	86	(a)
7	(b)	27	(b)	47	(b)	67	(b)	87	(b)
8	(b)	28	(b)	48	(b)	68	(b)	88	(a)
9	(b)	29	(b)	49	(a)	69	(b)	89	(b)
10	(b)	30	(b)	50	(b)	70	(b)	90	(b)

11	(b)	31	(b)	51	(b)	71	(b)	91	(b)
12	(b)	32	(b)	52	(b)	72	(b)	92	(b)
13	(a)	33	(b)	53	(b)	73	(c)	93	(b)
14	(b)	34	(b)	54	(b)	74	(b)	94	(b)
15	(c)	35	(a)	55	(d)	75	(a)	95	(b)
16	(a)	36	(b)	56	(a)	76	(b)	96	(a)
17	(a)	37	(b)	57	(b)	77	(b)	97	(b)
18	(b)	38	(a)	58	(b)	78	(a)	98	(b)
19	(b)	39	(b)	59	(b)	79	(b)	99	(b)
20	(c)	40	(b)						