

# R.R.B.

JE Question paper 2011

## Based on Memory

- Which of the following states of India has the longest coastline?  
1) Kerala  
2) Gujarat  
3) Tamil Nadu  
4) Andhra Pradesh
- Where was the capital of Ranjit Singh, the king of Punjab, located?  
1) Peshawar  
2) Amritsar  
3) Lahore  
4) Rawalpindi
- The fundamental duties are enshrined in which Article of the Indian Constitution?  
1) Article 51 A  
2) Article 50 A  
3) Article 50 B  
4) Article 51 B
- The mineral structure of diamond is  
1) Zinc  
2) Nickel  
3) Nitrogen  
4) Carbon
- Which part of the body is affected by Jaundice?  
1) Small intestine  
2) Liver  
3) Stomach  
4) Pancreas
- Which country of the world has the largest number of post offices?  
1) France  
2) China  
3) India  
4) Japan
- Uttar pradesh tops in the production of –in India.  
1) sugar cane  
2) rice  
3) barley  
4) wheat
- The safe temperature to keep eatables fresh in refrigerator is  
1) 4°C  
2) 0°C  
3) 18°C  
4) 10°C
- The instrument used to measure the blood pressure of human body is –  
1) Barometer  
2) Altimeter  
3) Sphygmomano meter  
4) Tachometer

10. Automatic wrist watches get energy from--
- 1) twist in spring
  - 2) liquid crystal
  - 3) kinetic energy
  - 4) movement of our hands
11. When a television is switched on
- 1) We listen the sound first and then see the picture
  - 2) We see the picture first and then listen sound
  - 3) It depends on the TV manufacturing company
  - 4) We get audio and visual at the same time
12. Goitre in human body is caused due to deficiency of--
- 1) Iodine
  - 2) Phosphorus
  - 3) Nitrogen
  - 4) Calcium
13. Who sent Huensant as ambassador in the court of Harsha?
- 1) Fu Chen-Chu
  - 2) Tai Sung
  - 3) Tung Cuan
  - 4) None of these
14. Who wrote Akbarnama?
- 1) Faizi
  - 2) Abdul Rahim Khankhana
  - 3) Abul Fazal
  - 4) Abdul Kadir Badayun
15. Which metal is generally used to make electro magnets?
- 1) Copper
  - 2) Nickel
  - 3) Iron
  - 4) Cobalt
16. Artificial silk is called--
- 1) Rayon
  - 2) Dacron
  - 3) Fibre glass
  - 4) Nylon
17. Dynamo converts--
- 1) electrical energy into mechanical energy
  - 2) High voltage into low voltage
  - 3) Low voltage into high voltage
  - 4) Mechanical energy into electrical energy
18. The instrument used to measure the electric current is
- 1) Barometer
  - 2) Altimeter
  - 3) Ammeter
  - 4) Anemometer
19. The best conductor of electricity is
- 1) Aluminium
  - 2) Copper
  - 3) Iron
  - 4) Silver
20. Urea supplies-- to the plants.
- 1) Calcium
  - 2) Phosphorus
  - 3) Potassium
  - 4) Nitrogen

21. Mica is used in–
- 1) Furnace
  - 2) Electric industry
  - 3) Steel Industry
  - 4) Glass Manufacturing
22. Which of the following is a physical change?
- 1) Burning of cooking gas
  - 2) Fermentation of milk
  - 3) Digestion of food
  - 4) Dissolution of sugar in water
23. The chemical compound used in photography is
- 1) Aluminium Hydroxide
  - 2) Silver Bromide
  - 3) Potassium Nitrate
  - 4) Sodium Chloride
24. What causes cholera?
- 1) Bacteria
  - 2) Virus
  - 3) Fungus
  - 4) Algae
25. An apparatus for viewing objects lying above the eye level of the observer and whose direct vision is obstructed is known as–
- 1) Photometer
  - 2) Periscope
  - 3) Planimeter
  - 4) Spectrometer
26. Which atom has only one electron?
- 1) Potassium
  - 2) Nitrogen
  - 3) Oxygen
  - 4) Hydrogen
27. What the electrode that is connected to the negative pole of the battery is called?
- 1) Cathode
  - 2) Electroplate
  - 3) Ion
  - 4) Anode
28. The organic acid present in vinegar is–
- 1) butanoic acid
  - 2) propanoic acid
  - 3) methanoic acid
  - 4) ethanoic acid
29. Which of the following is an example of fossil fuel?
- 1) Coke
  - 2) Natural gas
  - 3) Coal gas
  - 4) Producer gas
30. Water gas consists of
- 1) a mixture of carbon monoxide and hydrogen
  - 2) water vapour and coal dust
  - 3) a mixture of carbon monoxide and nitrogen
  - 4) water vapour and methane
31. A body strike the floor vertically with a velocity  $u$  and rebounds at the same speed. The change of speed would be–
- 1)  $3u$
  - 2) Zero
  - 3)  $u$
  - 4)  $2u$



43. The transformer used to decrease the magnitude of the alternating voltage is a--
- 1) step-up transformer
  - 2) stepdown transformer
  - 3) step-in transformer
  - 4) step-out transformer
44. When two bodies are rubbed against each other
- 1) They acquire equal and similar charges
  - 2) They acquire equal and opposite charges
  - 3) They acquire unequal and similar charges
  - 4) They acquire unequal and opposite charges
45. Lightning is caused in the sky due to the flow of charge between--
- 1) two oppositely charged clouds
  - 2) two similarly charged clouds
  - 3) one neutral and one charged cloud
  - 4) None of the these
46. Which of these converts sunlight directly into electrical energy?
- 1) Solar cooker
  - 2) Solar cell
  - 3) Solar furnace
  - 4) Solar water heater
47. Electric charge can flow through--
- 1) insulators
  - 2) conductors
  - 3) both insulators and conductors
  - 4) neither conductors nor insulators
48. The electric current which changes its direction after fixed intervals of time is called--
- 1) induced current
  - 2) direct current
  - 3) alternating current
  - 4) None of these
49. A device used to stabilise the voltage supplied by electric supply station is a--
- 1) dynamo
  - 2) transformer
  - 3) ammeter
  - 4) generator
50. Silver is a
- 1) magnetic substance
  - 2) good conductor of electricity
  - 3) bad conductor of electricity
  - 4) none of these
51. An instrument used to observe heavenly bodies is the--
- 1) telescope
  - 2) camera
  - 3) microscope
  - 4) periscope
52. The maximum percentage in the atmosphere is of
- 1) Oxygen
  - 2) Nitrogen
  - 3) Carbon dioxide
  - 4) Helium

53. What is the function of Ozone layer?
- 1) Prevents harmful infra-red rays of the sun from reaching the earth
  - 2) Prevents radiation escaping the earth. hence keeping it warm
  - 3) It is essential for rainfall
  - 4) It filters harmful ultra-violet rays of the sun
54. In the International system of measurement. the 'Kelvin' is the unit of—
- 1) mass
  - 2) temperature
  - 3) electric current
  - 4) air
55. The Sanchi Stupa was constructed by—
- 1) Chandragupta
  - 2) Ashoka
  - 3) Kunal
  - 4) Harshavardhan
56. The first atomic power plant was started in India at—
- 1) Narora
  - 2) Tarapur
  - 3) Rawat bhata
  - 4) None of these
57. To conserve the eatables we use—
- 1) Benzoic acid
  - 2) Sodium chloride
  - 3) Sodium carbonate
  - 4) None of these
58. The least polluting fuel is—
- 1) Hydrogen
  - 2) Diesel
  - 3) Kerosene
  - 4) Coal
59. Malaria spreads by—
- 1) Culex mosquito
  - 2) Anopheles mosquito
  - 3) Water borne mosquito
  - 4) None of these
60. Heart disease is caused by increase in—
- 1) Glucose
  - 2) Cholesterol
  - 3) Heparin
  - 4) Haemoglobin
61. Which vitamin helps in clotting of blood?
- 1) Vitamin B
  - 2) Vitamin B<sub>2</sub>
  - 3) Vitamin K
  - 4) Vitamin D
62. The chief source of energy is—
- 1) Vitamin
  - 2) Minerals
  - 3) Carbohydrate
  - 4) Water
63. The chief centre of learning during lord Buddha era was—
- 1) Nalanda
  - 2) Delhi
  - 3) Varanasi
  - 4) Bodh Gaya
64. Mustard is grown in—
- 1) Kharif season
  - 2) Rabi season
  - 3) Jayad season
  - 4) Whole year
65. In case the posts of President and Vice-President lie vacant, who officiates as the President?
- 1) Speaker of the Lok Sabha
  - 2) Chief Justice of India
  - 3) Attorney General of India
  - 4) Chairman of Rajya Sabha

66. Magnetic needle directs to--

- 1) East                      2) Sky                      3) North                      4) West

67. Lord Buddha got emancipation (Mahapari nirvana) at--

- 1) Kushinagar              2) Lumbini              3) Bodh Gaya              4) Kapilvastu

68. The colours on a colour code resistor are green, white, orange and silver. Find the value of resistor.

- 1)  $5.9 \times 10^3 \pm 10\%$                       2)  $59 \times 10^3 \pm 10\%$   
3)  $590 \times 10^3 \pm 10\%$                       4)  $5900 \times 10^2 \pm 10\%$

69. The eddy current loss is directly proportional to

- 1) Area of metal                      2) Volume of metal  
3) Length of metal                      4) Weight of metal

70. Direction of dynamically induced e.m.f is given by--

- 1) Lenz's law                      2) Flemings right hand rule  
3) Flemings left hand rule              4) Cork screw rule

71. The Rowlatt Act, 1919 empowered the British Government to:

- 1) extend the period of imprisonment for Indians  
2) close down any industrial unit at its discretion  
3) release all the political prisoners by 1921  
4) detain a person for any duration without trial

72. The latitude of a place situated on the equator is:

- 1)  $0^\circ$                       2)  $23 \frac{1}{2}^\circ$                       3)  $33 \frac{1}{2}^\circ$                       4)  $66 \frac{1}{2}^\circ$

73. The purpose of inclusion of Directive Principles in the Constitution is to establish:

- 1) A Social democracy                      2) Gandhian democracy  
3) Social and economic democracy              4) Political democracy

74. A fisherman is stranded in a lake because the motor of his motor-boat has failed. What should he do to reach the shore?

- 1) He should start walking in his boat towards the shore  
2) He should start throwing the fish he has collected away from the shore  
3) He should lie flat on his boat  
4) He should start throwing the fish he has collected towards the shore

75. The elements in the portland cement is/are -  
1) Silica, Alumina and Magnesia      2) Lime, Silica and Magnesia  
3) Lime, Silica and Iron oxide      4) Lime, Silica and Alumina
76. The Indian Constitution came into force on -  
1) January 21, 1950      2) January 23, 1950  
3) January 26, 1950      4) January 30, 1950
77. Insulin activates in  
1) Pancreas      2) Parathyroid      3) Liver      4) Pituitary
78. The whole structure of the world is regulated by –  
1) Magnetic force      2) Gravitational force  
3) Electric force      4) None of these
79. In India State Legislature includes–  
1) Legislative Assembly & Legislative Council  
2) Legislative Assembly & Council of Ministers  
3) Governor, Legislative Assembly & Legislative Council  
4) Only Legislative Assembly
80. Which country is on the top in Gold production?  
1) China      2) South Africa      3) Brazil      4) Argentina
81. Who wrote "Causes of the Indian Mutiny"?  
1) Sayyid Ahmad Khan      2) D.H.Buchanan  
3) R.P.Dutt      4) Chittaranjan Das
82. Ranji Trophy and Aga Khan Cup are associated with:  
1) Cricket and Volleyball      2) Badminton and Hockey  
3) Cricket and Football      4) Cricket and Hockey
83. Where is the headquarters of the International Red Cross Committee?  
1) Prague      2) Geneva      3) Moscow      4) Berlin
84. Which Article in the Indian Constitution empowers the President to dissolve the Lok Sabha?  
1) Article 82      2) Article 84      3) Article 85      4) Article 90
85. Which among the following countries has made 'euthanasia' legally valid?  
1) Newzealand      2) Denmark      3) Australia      4) Netherlands



**Directions (86-88): Find the missing in the following series.**

86. 6, 10, 27, 52, 153, ?

- 1) 308                      2) 305                      3) 304                      4) 306

87. 12, 15, 30, 37.5, 75, ?

- 1)  $93\frac{1}{2}$                       2)  $93\frac{3}{5}$                       3)  $93\frac{3}{4}$                       4)  $93\frac{1}{4}$

88. 88, 56, 19, ?

- 1) 8                          2) 7                          3) 10                          4) -8

**Directions (89-91): In the following number series, one of the numbers does not fit into the series. Find the wrong number.**

89. 7, 9, 16, 27, 47, 77, 119

- 1) 9                          2) 16                          3) 77                          4) 27

90. 4, 5, 12, 39, 160, 804, 4836

- 1) 12                          2) 804                          3) 39                          4) 4836

91. 844, 420, 208, 102, 47, 22.5, 9.25

- 1) 420                          2) 208                          3) 47                          4) 22.5

92. In a certain code "DEVIL" is written as ABSEFI. How is "OTHER" written in that code?

- 1) LRECO                      2) LQEBO                      3) LWEBU                      4) RWKHU

93. In a certain code language "637" means sea is black. "547" means colour is beautiful and "35" means black colour. Which digit in the language means beautiful?

- 1) 6                          2) 4                          3) 5                          4) 3

**Directions (94-98): Read the following information to answer the given questions:**

- (i) A, B, C, D, E and F are six family members.
- (ii) There is one doctor, one lawyer, one pilot, one student and one housewife.
- (iii) There are two married couples in the family
- (iv) F who is a lawyer is father of A.
- (v) B is a pilot and mother of C
- (vi) D is grandmother of C and is a housewife
- (vii) E is father of F and is a doctor
- (viii) C is brother of A

94. How many female members are there in the family?  
1) 3                                      2) 2                                      3) 3 or 4                                      4) None of these

95. How is A related to D?  
1) Granddaughter                                      2) Grandson  
3) Son                                      4) Either granddaughter or grandson

96. Which of the following statements is definitely true?  
1) A is engineer                                      2) E is the father of the pilot  
3) D is the mother of the Pilot                                      4) F is the father of the engineer

97. Who is student?  
1) Either C or A      2) B's son                                      3) A                                      4) C

98. Which of the following is one of the pair of married couples?  
1) FB                                      2) FA                                      3) CF                                      4) FD

**Directions (99-100): Find the wrong one.**

99. 1) River                                      2) Pond                                      3) Well                                      4) Tank

100. 1) North                                      2) Right                                      3) East                                      4) South

101. The basis for measuring thermodynamic property of temperature is given by—  
1) zeroth law of thermodynamics                                      2) first law of thermodynamics  
3) second law of thermodynamics                                      4) third law of thermodynamics

102. One watt is equal to—  
1) 1 Nm/s                                      2) 1 N/mt                                      3) 1 Nm/t                                      4) 1 k Nm/mt

103. Work done is zero for the following process—  
1) constant volume                                      2) free expansion  
3) throttling                                      4) all of the above

104. One calorie in kgm is equal to  
1) 0.427                                      2) 4.27                                      3) 42.7                                      4) 427

105. On volume basis, air contains following parts of Oxygen  
1) 21                                      2) 23                                      3) 25                                      4) 77

106. Universal gas constant is defined as equal to product of the molecular weight of the gas and  
1) specific heat at constant pressure                                      2) specific heat at constant volume  
3) ratio of two specific heat                                      4) gas constant

107. Strictly speaking all engineering processes are–

- 1) quasi-static
- 2) thermodynamically in equilibrium
- 3) irreversible
- 4) reversible

108. In a free expansion process

- 1) work done is zero
- 2) heat transfer is zero
- 3) both (1) and (2)
- 4) work done is zero but heat increases

109. Which of the following process is irreversible process

- 1) isothermal
- 2) adiabatic
- 3) throttling
- 4) all of the above

110. Minimum work in compressor is possible when the value of adiabatic index  $n$  is equal to–

- 1) 0.75
- 2) 1
- 3) 1.27
- 4) 1.35

111. In DC motor the direction of induced emf is opposite to main bars as per–

- 1) Fleming's left hand rule
- 2) Lenz's law
- 3) Fleming's right hand rule
- 4) Faraday's law

112. The condition for max power developed by the motor–

- 1)  $E_b = v/2$
- 2) Cost losses = variable losses
- 3) Both (1) and
- 4)  $I^2 a R_a = \text{mechanical loss}$

113. The  $T_a/I_a$  graph of a DC series motor is a–

- 1) parabola from no load to over load
- 2) straight line through out
- 3) parabola up to full load and a time at over load
- 4) parabola through out

114. 220V shunt motor develops torque of 54 N.M at armature current of 10A. The torque produced when the armature current is 20A is–

- 1) 54 N.M
- 2) 81 N.M
- 3) 108 N.M
- 4) 27 N.M

115. Which type of DC generator is used in welding machines–

- 1) series generator
- 2) shunt generator
- 3) cumulatively compound
- 4) differential compound

