

RRB Assistant Loco Pilot and Technician

Model Paper - IV

- The cost of an article depends on three items-material, labour and other expenses. The cost on these items is in the ratio 3: 4: 1 respectively. If the cost of material is Rs. 22.50, the cost of article will be?
1) Rs. 70 2) Rs. 80
3) Rs. 60 4) Rs. 90
- The monthly salary of Harish is Rs. 12850. After deducting in provident fund he receives Rs. 11,822 per month. What percent of salary is deducted as provident fund?
1) 8% 2) 8.3%
3) 9% 4) 6%
- The present age of son is half of the present age of his mother. 10 years ago, his mother's age was thrice the age of her son. What is the present age of son?
1) 25 years 2) 30 years
3) 40 years 4) 20 years
- The dimensions of a rectangular hall are 24m × 18m. What will be the cost of carpeting its floor at the rate of Rs. 23 per sq. metre leaving 1.5 m wide margin all around?
1) Rs. 7145 2) Rs. 7245
3) Rs. 7345 4) Rs. 7100
- A man spends $\frac{1}{4}$ part of his income on food, $\frac{1}{5}$ th on articles and remaining Rs. 231 on miscellaneous items. Find his total income?
1) Rs. 420 2) Rs. 560
3) Rs. 562 4) Rs. 400
- A man covers 1 km downstream in 10 minutes and the same distance upstream in 20 minutes. What is the speed of current?
1) 4 km/hr 2) 2 km/hr
3) 6 km/hr 4) 5 km/hr
- A, B and C can separately do a work in 12, 15 and 20 days respectively. They started to work together but C left after 2 days. The remaining work will be finished in?
1) 6 days 2) 5 days
3) 4 days 4) 15 days
- 2 kg of tea and 3 kg of sugar together costs Rs. 39. The price of tea has risen by 25% and that of sugar by 20%. Hence the same quantities of tea and sugar now cost Rs. 48.30. Find the original price of tea per kg?
1) Rs. 14.90 2) Rs. 15.00

- 3) Rs. 16.00 4) Rs. 14.40
9. The ratio of acetylene to oxygen is approximately _____ for a neutral flame used in gas welding?
- 1) 1: 1 2) 1: 2
3) 1: 3 4) 1: 0.1
10. Among the conventional machining process, maximum specific energy is consumed in?
- 1) Drilling 2) Planning
3) Grinding 4) Turning
11. The gas used in welding and cutting of metals is?
- 1) Ethene 2) Ethyne
3) Propane 4) Ethane
12. If steel is heated bright red hot and is then cooled slowly, the process is called?
- 1) Annealing.
2) Tempering.
3) Smelting.
4) Quenching.
13. An alloy of copper and zinc is called as?
- 1) Bronze.
2) Gun metal.
3) Stainless steel.
4) Brass.
14. Temporary hardness of water is due to the presence of?
- 1) Magnesium sulphate.
2) Calcium hydroxide.
3) Calcium sulphate.
4) Calcium bicarbonate.
15. Which of the following is not a noble gas?
- 1) Neon 2) Argon
3) Hydrogen 4) Helium
16. Operation flood is related to the production of?
- 1) Wool 2) Dairy
3) Egg 4) None of these
17. Which of the following is water soluble vitamin?
- 1) Vitamin B 2) Vitamin A
3) Vitamin C 4) Vitamin K
18. The chief component of bones and teeth is?
- 1) Calcium 2) Phosphorus
3) Sulphur 4) Iron
19. Anemia is caused due to deficiency of?
- 1) Sodium 2) Iron
3) Calcium 4) Phosphorus
20. What is the chemical name of plaster of Paris?
- 1) Calcium sulphate hemihydrates.
2) Calcium sulphate dehydrate.
3) Magnesium hydroxide.
4) Calcium oxide.
21. Who discovered neutron?
- 1) J.J. Thomson 2) Goldstein
3) James Chadwick 4) None

22. In the blast furnace haematite (Fe_2O_3) is reduced to iron by?

- 1) Carbon.
- 2) Carbon monoxide.
- 3) Lime stone.
- 4) Coal.

23. Which of the following has the same chemical properties?

- 1) Allotropes.
- 2) Isotopes.
- 3) Isotopes and allotropes.
- 4) Isobars.

24. Which of the following metals forms an amphoteric oxide?

- 1) Zinc
- 2) Aluminium
- 3) Tin
- 4) All of the above

25. Which of the following is used in water as electrolyte?

- 1) KNO_3
- 2) NaCl
- 3) K_2SO_4
- 4) CH_3COONa

26. In stainless steel which of the following is added with iron and carbon?

- 1) Calcium
- 2) Phosphorus
- 3) Sulphur
- 4) Iron

27. Wine: Grape:: Whiskey : ?

- 1) Orange
- 2) Potato
- 3) Oats
- 4) Apple

28. 600: 2000:: ? : 9000 ?

- 1) 3000
- 2) 3600
- 3) 5400
- 4) 5600

29. XZG: CAT:: DOG : ?

- 1) TIW
- 2) GAD
- 3) OWT
- 4) WLT

30. C2E, E5H, G12K, 127N?

- 1) I58P
- 2) J58Q
- 3) K58Q
- 4) I57Q

31. BEH, DGJ, NQT?

- 1) TKL
- 2) GHD
- 3) JMP
- 4) RMO

32. A gas can be liquefied by increasing pressure alone?

- 1) Below critical temperature.
- 2) Above critical temperature.
- 3) At room temperature.
- 4) None of these.

33. The internal energy of an ideal gas depends on?

- 1) Pressure.
- 2) Volume.
- 3) Temperature.
- 4) Size of the molecules.

34. An electric fan is switched on in a closed room. The air in the room is?

- 1) Cooled.
- 2) Heated.
- 3) At constant room temperature.
- 4) None of these.

35. The velocity of sound in any gas depends upon?

- 1) Intensity
- 2) Amplitude
- 3) Density and elasticity.

4) Volume and temperature.

36. An atomic orbital is?

- 1) An elliptical orbit.
- 2) Three dimensional.
- 3) Circular orbit.
- 4) The region of space within which the probability of finding an electron is maximum.

Directions (37-38): In each of the following questions, select the missing number from the given responses.

37. 2311, 4529, ?, 8989

- 1) 7243
- 2) 6353
- 3) 5662
- 4) 6755

38. 21, 30, 38, ?, 51, 56, 60

- 1) 80
- 2) 35
- 3) 55
- 4) 45

39. A particle in uniform acceleration on a straight line has speed v m/sec at a position x metre which is given by $v = 180 + kx$. The acceleration of particle in m/sec^2 is 8 m/sec^2 . The value of the constant "k" is?

- 1) 4
- 2) 8
- 3) 16
- 4) 2

40. Six girls are standing in such a way that they form a circle, facing the centre. Subbu is to the left of Pappu. Revathi is between

Subbu and Nisha. Aruna is between Pappu and Keerthana.

Who is to the left of Pappu?

- 1) Subbu
- 2) Keerthana
- 3) Nisha
- 4) Aruna

41. If P denotes \clubsuit , Q denotes \times , R denotes $+$ and S denotes $-$, then $12 Q 15 P 3 R 4 S 6 = ?$

- 1) 70
- 2) 57
- 3) 58
- 4) 68

42. When a small solid spherical ball is dropped within a liquid column then it?

- 1) Decelerates.
- 2) Accelerates.
- 3) First accelerates and then decelerates.
- 4) Moves with constant speed.

43. Under a constant pressure head, the rate of flow of liquid through a capillary tube is V . If the length of the capillary is double and the diameter of the tube is halved, the rate of flow would become?

- 1) $V/4$
- 2) $V/8$
- 3) $V/32$
- 4) $16V$

Directions (44 - 45): In each of the following questions, a statement is given followed by two conclusions/assumptions. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You

have to decide which of the given conclusions/assumptions, if any follow from the given statement.

44. Statement: If people are intelligent they should be creative.

Assumptions:

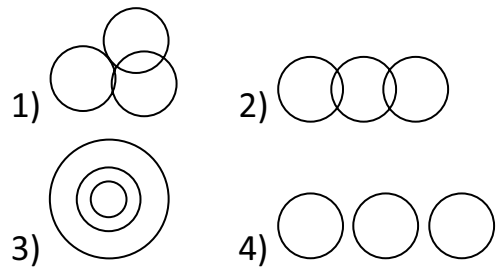
- I. Creativity and intelligence are related.
 - II. Creative people are intelligent.
- 1) Both assumptions I and II are invalid.
 - 2) Only assumptions I and II are invalid.
 - 3) Only assumption II is valid.
 - 4) Both assumptions I and II are valid.

45. Statement: A friend in need is a friend indeed.

Conclusions:

- I. All are friends in good times.
 - II. Enemies in bad times are not friends.
- 1) Neither Conclusion I nor II follows.
 - 2) Only Conclusion I follows.
 - 3) Only Conclusion II follows.
 - 4) Both Conclusions I and II follow.

46. Which of the following diagrams represents the correct relationship among Poison, Bio-products and Food?



47. A satellite of mass m revolving round the earth at a height ' R ' above the surface of the earth. If ' g ' is the gravitational field intensity at the earth's surface and ' R ' is the radius. The kinetic energy of the satellite is?

- 1) mgR
- 2) $mgR/4$
- 3) $mgR/2$
- 4) $2mgR$

48. Which of the following high dignitaries, who are not members of Parliament, has the right to address it?

- 1) Chief Justice of India.
- 2) Attorney General of India.
- 3) Solicitor General of India.
- 4) Chief Election Commissioner of India.

49. The Declaration of American independence was based on the theory of?

- 1) Civil Rights.
- 2) Moral Rights.
- 3) Legal Rights.
- 4) Natural Rights.

50. In 1937, an educational conference endorsing Gandhi's proposals for 'basic education' through the vernacular medium held at?

- 1) Surat
- 2) Bombay
- 3) Ahmedabad
- 4) Wardha

51. "What is the Third Estate" pamphlet associated with the French Revolution, was written by?

- 1) Marquis-Lafayette.
- 2) Edmund Burke.
- 3) Joseph Foulon.
- 4) Abbe Sieyes.

52. Who among the following took over as the new Director-General of the Central Industrial Security Force (CISF) on December 26, 2013?

- 1) Arvind Ranjan.
- 2) Rajiv Mathur.
- 3) VK Verma.
- 4) Arup Chaudhury.

53. Veteran Bollywood actor Farooq Sheikh passed away on December 27, 2013 in Dubai. For which film he won the National Film Award for supporting role?

- 1) Lahore
- 2) Katha
- 3) Umrao Jaan
- 4) Club 60

54. Stagflation refers to a situation which is characterised by?

- 1) Stagnant employment and deflation.
- 2) Deflation and rising unemployment.
- 3) Inflation and rising unemployment.
- 4) Inflation and rising unemployment.

55. The balance of payments of a country is in equilibrium when the?

- 1) Demand as well as supply of the domestic currency are the highest.
- 2) Demand for the domestic currency is equal to its supply.
- 3) Demand for the domestic currency is the highest.
- 4) Demand for the domestic currency is the lowest.

56. In plant-water relationships, symbol ' ψ_w ' is used to represent?

- 1) Osmotic pressure.
- 2) Water potential.
- 3) Solute potential.
- 4) Osmosis.

57. Who among the following won the Compton-Miller Medal for the Ashes Series that was swept by Australia 5-0 in January 2014?

- 1) Michael Carberry.

- 2) Michael Clarke.
- 3) Mitchell Johnson.
- 4) Shane Watson.

58. A molecule in plants comparable to haemoglobin in animals is?

- 1) Cytochrome
- 2) Cellulose
- 3) Chlorophyll
- 4) Carotene

59. An Antigen is?

- 1) The result of Antibody.
- 2) The opposite of Antibody.
- 3) The stimulus for Antibody formation.
- 4) The residue of an Antibody.

60. Blood does not coagulate inside the body due to the presence of?

- 1) Plasma
- 2) Haemoglobin
- 3) Heparin
- 4) Fibrin

61. The atmosphere layer farthest from the Earth's surface is known as?

- 1) Stratosphere.
- 2) Exosphere.
- 3) Ionosphere.
- 4) Mesosphere.

62. The temperature grasslands of South America are called?

- 1) Prairies
- 2) Pampas
- 3) Downs
- 4) Steppers

63. Contours are the lines which are drawn joining places having?

- 1) Equal height from mean sea level.

- 2) Equal rainfall.
- 3) Equal air pressure.
- 4) Equal temperature.

64. Soil formed by leaching and oxidation is?

- 1) Black soil
- 2) Laterite soil
- 3) Red soil
- 4) Montane soil

65. Which strait separates Australia and Tasmania?

- 1) Bass
- 2) Bab-el-Mandeb
- 3) Palk
- 4) Berring

66. Photon is the fundamental unit/quantum of?

- 1) Gravitation
- 2) Electricity
- 3) Magnetism
- 4) Light

67. A liquid disturbed by stirring comes to rest due to

- 1) Density
- 2) centripetal force
- 3) Surface tension
- 4) Viscosity

68. The nuclear particle having no mass and no charge, but only spin is?

- 1) Proton
- 2) Neutrino
- 3) Meson
- 4) Electron

69. The technology that is used to establish wireless networking is?

- 1) TCP/IP
- 2) J2ME
- 3) MATLAB
- 4) Bluetooth

- 70. In period from Li to F, ionization potential?**
- 1) Cannot be predicted.
 - 2) Increases.
 - 3) Decreases.
 - 4) Remains same.
- 71. Which of the following metals can deposit copper from copper sulphate solution?**
- 1) Platinum
 - 2) Mercury
 - 3) Iron
 - 4) Gold
- 72. Leech is an ectoparasite on cattle, which is?**
- 1) Carnivorous.
 - 2) Omnivorous.
 - 3) Sanguivorous.
 - 4) Herbivorous.
- 73. How many chambers does a mammalian heart have?**
- 1) 4
 - 2) 1
 - 3) 2
 - 4) 3
- 74. When Arsenic atoms are added to Germanium lattice, it becomes a/an?**
- 1) Insulator.
 - 2) Superconductor.
 - 3) Intrinsic semiconductor.
 - 4) Extrinsic semiconductor.
- 75. Who was the first Hindi writer to receive Jnanpith Award?**
- 1) Mahadevi Verma.
 - 2) Sumitranandan Pant.
 - 3) Dr. Ramdhari Singh Dinkar.
 - 4) S.H. Vatsyayan.
- 76. Who is the author of the book "A Cricketing Life"?**
- 1) Christopher Martin Jenkins.
 - 2) Sunil Gavaskar.
 - 3) Kapil Dev.
 - 4) Tony Greig.
- 77. Which country has three capitals viz. Administrative, Legislative and Judicial?**
- 1) Chile
 - 2) Malaysia
 - 3) Canada
 - 4) South Africa
- 78. How many countries in Africa are members of the Organisation of Petroleum Exporting Countries (OPEC)?**
- 1) Four
 - 2) One
 - 3) Two
 - 4) Three
- 79. Who is the Chairman of the 14th Finance Commission?**
- 1) D. Subba Rao.
 - 2) Montek Singh Ahluwalia.
 - 3) M. Govinda, Rao.
 - 4) Dr. Y.V. Reddy.
- 80. Which among the following is used to dilute oxygen in the gas cylinders used by divers?**
- 1) Krypton
 - 2) Argon
 - 3) Helium
 - 4) Neon

81. Which one of the following does not form oxyacid?

- 1) Sulphur 2) Chlorine
3) Nitrogen 4) Fluorine

82. The release of which of the following into pond sand wells helps in controlling mosquitoes?

- 1) Snail 2) Crab
3) Dogfish 4) Gambusia fish

83. The ambient air is stable when the ambient lapse rate is?

- 1) Neutrally stable.
2) Hyper-adiabatic.
3) Sub-adiabatic.
4) Super-adiabatic.

84. Exposure to mixtures of chemicals is greater than expected on the basis of effects of exposure to each chemical individually. This is known as?

- 1) Additives 2) Antagonism
3) Synergism 4) Independent

85. The filter over which sewage is sprinkled is called as?

- 1) Trickling filter.
2) Percolating filter.
3) Contact bed.
4) Intermittent sand filter.

Directions (86-87): In each of the following questions, find the odd word/number pair from the given alternatives.

86. 1) 543, 453 2) 243, 432
3) 234, 342 4) 354, 543

87. 1) Vedanthangal 2) Bandipur
3) Mudumalai 4) Thekkady

88. Find the correct set of numbers from the given alternatives.

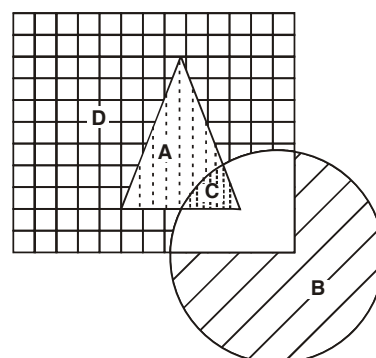
(4, 3, 2), (16, 9, 4), (256, 81, 16), (65536, ?, ?)

- 1) 6651, 286 2) 6561, 256
3) 1486, 97 4) 190, 20

89. If 'STYLE' is written as PQVIB, how can 'SMELL' be written in that code?

- 1) PJBII 2) PVBII
3) PVHII 4) PJHII

90. In the following diagram, the triangle represents Mothers, circle represents Teachers and the rectangle stands for Women. Which letter (out of A, B, C and D) represents women who are mothers as also teachers?



- 1) B 2) D
3) C 4) A

91. A shopkeeper offers a discount of 10% on his articles. The marked price of the article is Rs. 450. The selling price should be?
 1) Rs. 395 2) Rs. 410
 3) Rs. 405 4) Rs. 400
92. The ratio of number of balls in bags x, y is 2: 3. Five balls are taken from bag y and are dropped in bag x. Number of balls are equal in each bag now. Number of balls in each bag now is?
 1) 45 2) 20
 3) 30 4) 25
93. A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?
 1) 10 days 2) 12 days
 3) 15 days 4) 20 days
94. The perimeter of a rectangular plot is 48 m and area is 108 m^2 . The dimensions of the plot are?
 1) 36 m and 3 m.
 2) 12 m and 9 m.
 3) 27 m and 4 m.
 4) 18 m and 6 m.
95. If $x = 3 + 2\sqrt{2}$, the value of $x^2 + \frac{1}{x^2}$ is?
 1) 36 2) 30
 3) 32 4) 34
96. In triangle ABC, $\angle BAC = 75^\circ$, $\angle ABC = 45^\circ$. \overline{BC} is produced to D. If $\angle ACD = x^\circ$, then $\frac{x}{3}\%$ of 60° is?
 1) 30° 2) 48°
 3) 15° 4) 24°
97. In a college, 40% of the students were allotted group A, 75% of the remaining were given group B and the remaining 12 students were given group C. Then the number of students who applied for the group is?
 1) 100 2) 60
 3) 80 4) 92
98. A train 150 metres long crosses a milestone in 15 seconds and crosses another train of the same length travelling in the opposite direction in 12 seconds. The speed of the second train in km/hr is?
 1) 52 2) 56
 3) 54 4) 58

99. A certain sum of money will be doubled in 15 years at the rate of simple interest percent per annum of?

- 1) 25 2) $5\frac{1}{2}$
 3) 6 4) $6\frac{2}{3}$

81. 4 82. 4 83. 3 84. 3 85. 1
 86. 1 87. 4 88. 2 89. 1 90. 3
 91. 3 92. 2 93. 3 94. 4 95. 4
 96. 4 97. 3 98. 3 99. 4 100. 2

100. At an instant, the length of the shadow of a pole is $\sqrt{3}$ times the height of the pole. The angle of elevation of the Sun at that moment is?

- 1) 75° 2) 30°
 3) 45° 4) 60°

KEY

1. 3 2. 1 3. 4 4. 2 5. 1
 6. 2 7. 3 8. 2 9. 2 10. 3
 11. 2 12. 1 13. 4 14. 4 15. 3
 16. 2 17. 3 18. 1 19. 2 20. 1
 21. 3 22. 2 23. 3 24. 4 25. 2
 26. 4 27. 3 28. 2 29. 4 30. 3
 31. 3 32. 1 33. 3 34. 2 35. 3
 36. 4 37. 4 38. 4 39. 2 40. 1
 41. 3 42. 4 43. 3 44. 2 45. 1
 46. 2 47. 3 48. 2 49. 4 50. 4
 51. 4 52. 1 53. 1 54. 4 55. 2
 56. 2 57. 3 58. 3 59. 3 60. 3
 61. 2 62. 2 63. 1 64. 2 65. 1
 66. 4 67. 3 68. 2 69. 4 70. 1
 71. 3 72. 4 73. 1 74. 4 75. 2
 76. 1 77. 4 78. 1 79. 4 80. 3