

RRC PATNA GROUP 'D' EXAM

Held on : 08.12.2013 (First Sitting)

- Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
Z, U, Q, 2, L
(1) I (2) K
(3) M (4) N
- Deepak has a brother Anil. Deepak is the son of Prem. Bimal is Prem's father. In terms of relationship, what is Anil of Bimal?
(1) Son (2) Grandson
(3) Brother (4) Grandfather
- E is the son of A, D is the son of B. E is married to C. C is B's daughter. How is D related to E?
(1) Brother (2) Uncle
(3) Father-in-law (4) Brother-in-law
- A man is facing north-west. He turns 90° in the clockwise direction and then 135° in the anti-clockwise direction. Which direction is he facing now?
(1) East (2) West
(3) North (4) South
- You go in North direction, then turn right, then turn right again and then go to the left. In which direction are you now?
(1) North (2) South
(3) East (4) West
- A positive number which when added to 1000, gives a sum which is greater than that when it is multiplied by 1000. This positive number is:
(1) 1 (2) 3
(3) 5 (4) 7
- What least value must be given to * so that the number $91876*2$ is divisible by 8?
(1) 1 (2) 2
(3) 3 (4) 4
- Three big drums contain 36 litres, 45 litres and 72 litres of oil. What biggest measure can measure all the different quantities exactly?
(1) 4 litres (2) 9 litres
(3) 3 litres (4) 36 litres
- $\frac{(0.35)^2 - (0.03)^2}{0.19} = ?$
(1) 0.32 (2) 0.48
(3) 0.64 (4) 0.76
- $\frac{2.3 \times 2.3 \times 2.3 - 1}{2.3 \times 2.3 + 2.3 + 1} = ?$
(1) 0.8 (2) 1.3
(3) 2.2 (4) 3.3
- $\frac{3^{n+2} - 3^{n+1}}{3^{n+4} + 3^{n+1}} = ?$
(1) $\frac{1}{5}$ (2) $\frac{1}{10}$
(3) $\frac{1}{14}$ (4) $\frac{1}{28}$
- If $\sqrt{1 + \frac{25}{144}} = 1 + \frac{x}{12}$, then the value of x is:
(1) 1 (2) 2
(3) 5 (4) 9
- Of the three numbers, second is twice the first and is thrice the third. If the average of three numbers is 44, the largest number is:
(1) 24 (2) 36
(3) 72 (4) 108
- The average of two numbers is xy. If one number is x, the other number is:
(1) $(2xy - x)$ (2) y
(3) $\frac{y}{2}$ (4) $x(y - 1)$
- A reduction of 20% in the price of rice enables a person to buy 3.5 kg more rice for ₹ 385. The original price of rice is:
(1) ₹ 20 per kg
(2) ₹ 22.50 per kg
(3) ₹ 25 per kg
(4) ₹ 27.50 per kg
- Successive discounts of 30%, 20% and 10% are equivalent to a single discount of:
(1) 60% (2) 51%
(3) 49.4% (4) 49.6%
- If $\frac{3a + 5b}{3a - 5b} = 5$, then a : b = ?
(1) 2 : 1 (2) 3 : 2
(3) 5 : 2 (4) 5 : 3
- If 22.5 metre of a uniform rod weighs 85.5 kg, what will be the weight of 6 metre of the same rod?
(1) 22.8 kg (2) 25.6 kg
(3) 26.5 kg (4) 28 kg
- 20 men complete one third of a piece of work in 20 days. How many more men should be employed to finish the rest of the work in 25 more days?
(1) 10 (2) 12
(3) 15 (4) 20
- A large tanker can be filled by two pipes A and B in 60 minutes and 40 minutes respectively. How many minutes will it take to fill the tanker from empty state if B is used for half the time and A and B fill it together for the other half?

- (1) 15 minutes
- (2) 20 minutes
- (3) 27.5 minutes
- (4) 30 minutes

21. A star is 8.1×10^{13} km away from the earth. Suppose light travels at the speed of 3×10^8 km per second. How long will it take the light from star to reach the earth ?

- (1) 7.5×10^3 hrs
- (2) 7.5×10^4 hrs
- (3) 2.7×10^{10} sec
- (4) 2.7×10^{11} sec

22. The sum of money that will give ₹ 1 as simple interest per day at the rate of 5% per annum is :

- (1) ₹ 7300 (2) ₹ 3650
- (3) ₹ 730 (4) ₹ 36500

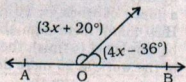
23. The diagonal of a square is $4\sqrt{2}$ cm. The diagonal of another square whose area is double than that of the first square is :

- (1) 8 cm (2) $8\sqrt{2}$ cm
- (3) 16 cm (4) $16\sqrt{2}$ cm

24. The total surface area of a cube is 150 cm^2 . Its volume is:

- (1) 64 cm^3 (2) 125 cm^3
- (3) 150 cm^3 (4) 216 cm^3

25. In the given figure, AOB is a straight line; $\angle AOC = (3x + 20)^\circ$ and $\angle BOC = (4x - 36)^\circ$. The value of x is :



- (1) 32 (2) 22
- (3) 26 (4) 28

26. If $3 \cot \theta = 4$, then

$$\frac{5 \sin \theta + 3 \cos \theta}{5 \sin \theta - 3 \cos \theta} = ?$$

- (1) $\frac{1}{9}$ (2) $\frac{1}{3}$
- (3) 3 (4) 9

27. If $2x + 3y = 29$ and $y = x + 3$, what is the value of x ?

- (1) 4 (2) 5
- (3) 6 (4) 7

28. If the length of a rectangle is increased by 20% and its breadth is decreased by 20%, then its area:

- (1) increases by 4%
- (2) decreases by 4%
- (3) decreases by 1%
- (4) remains unchanged

29. By how much percent a motorist should increase his speed in order to reduce the time by 20%, taken to cover a certain distance ?

- (1) 20% (2) 25%
- (3) 30% (4) None of these

30. $\frac{12.1}{19.8} = ?$

- (1) $\frac{7}{9}$ (2) $\frac{13}{17}$
- (3) $\frac{11}{18}$ (4) $\frac{11}{19}$

31. The Indus Civilization site 'Harappa' was situated on the bank of the river :

- (1) Ravi (2) Indus
- (3) Ghaggar (4) Luni

32. The number of main 'Puranas' are :

- (1) 8 (2) 10
- (3) 12 (4) 18

33. Who killed Bimbisara to seize the throne ?

- (1) Ugrasena
- (2) Udayin
- (3) Ajatashatru
- (4) Chandragupta Maurya

34. Who was the mother of Gautam Buddha ?

- (1) Lakshmi
- (2) Mahamaya
- (3) Trishala
- (4) Satyani

35. Who is considered 24th Tirthankar in Jainism ?

- (1) Mahavira
- (2) Rishabhadeva
- (3) Parshwanath
- (4) Adinath

36. Krishna Deva Raya belonged to which dynasty ?

- (1) Tuluva Dynasty
- (2) Harihara Dynasty
- (3) Pala Dynasty
- (4) Krishna Dynasty

37. The 'Battle of Khanwa' was fought between Babur and :

- (1) Ibrahim Lodhi
- (2) Medini Rai
- (3) Rana Sanga
- (4) Rana Pratap

38. Tattvabodhini Sabha' was founded in 1839 by:

- (1) Ram Mohan Roy
- (2) M.G. Ranade
- (3) Radhakant Dev
- (4) Debendranath Tagore

39. The immediate cause of the revolt of 1857 was :

- (1) Stoppage of salary of sepoys
- (2) Heavy taxation
- (3) Introduction of Enfield rifles
- (4) Killing of Mangal Pandey by the British

40. Who among the following was not a founder member of 'Swaraj Party' ?

- (1) Motilal Nehru
- (2) M.K. Gandhi
- (3) C.R. Das
- (4) N.C. Kelkar

41. Which of the following movements was withdrawn by Gandhiji after Chauri-Chaura incident ?

- (1) Non-cooperation Movement
- (2) Khilafat Movement
- (3) Dandi Movement
- (4) Quit India Movement

42. Who among the following is called 'Frontier Gandhi' ?

- 1) Bal Gangadhar Tilak
(2) Sardar Vallabhbhai Patel
(3) Gopal Krishna Gokhale
(4) Khan Abdul Ghaffar Khan
43. Days and Nights are caused due to :
- (1) Revolution of the Earth around the Sun
(2) Rotation of the Sun
(3) Rotation of the Earth on its axis
(4) Revolution of the Moon around the Earth
44. A 'Lunar Eclipse' takes place when it is :
- (1) Full moon (2) New moon
(3) May and July only
(4) None of these
45. Which of the following planets is called 'Red Planet' ?
- (1) Venus (2) Mercury
(3) Mars (4) Jupiter
46. Which is the largest State of India in terms of area ?
- (1) Madhya Pradesh
(2) Rajasthan
(3) Uttar Pradesh
(4) Maharashtra
47. 'Gir National Park' is situated in :
- (1) Rajasthan (2) Assam
(3) Uttar Pradesh
(4) Gujarat
48. Which of the following rivers does not fall into the Bay of Bengal ?
- (1) Narmada (2) Godavari
(3) Ganga
(4) Brahmaputra
49. India's first satellite 'Aryabhata' was launched in the year:
- (1) 1972 (2) 1975
(3) 1974 (4) 1980
50. 'Waltair' is a Division of which Railway ?
- (1) South Western Railway
(2) East Coast Railway
(3) Southern Railway
(4) South East Central Railway

51. Who among the following is associated with the "Theory of Inheritance of Acquired Characters" ?
- (1) Lamarck (2) Darwin
(3) Linnaeus (4) Mendel
52. Rearing of honey bee for honey is called :
- (1) Pisciculture
(2) Honey Culture
(3) Apiculture
(4) Haemiculture
53. The weight of human liver is about :
- (1) 300 gms
(2) 140 gms
(3) 500 gm to 1 kg
(4) 1.5 kg to 2 kg
54. Which disease is caused due to deficiency of Iodine in food ?
- (1) Jaundice (2) Joint-Pain
(3) Meningitis (4) Goitre
55. Which is the most important nutrient for physical growth ?
- (1) Fat (2) Protein
(3) Vitamin (4) Minerals
56. Which of the following is not an example of hardware ?
- (1) An MP3 file
(2) A Keyboard
(3) A Monitor
(4) A Mouse
57. Sending an e-mail is similar to :
- (1) Creating an image
(2) Narrating a story
(3) Writing a letter
(4) Creating a drawing
58. Which of the following is an icon on the disk top that provides the user with immediate access to a programme or file ?
- (1) Shortcut (2) Kernel
(3) Buffer (4) Spooler
59. The optical fibre works on the principle of :
- (1) Reflection
(2) Refraction
(3) Total internal reflection
(4) Rainbow formation

60. Who discovered Proton?
- (1) Chadwick
(2) Rutherford
(3) J.J. Thomson
(4) Goldstein
61. As per Newton's Third Law of Motion :
- (1) A body maintains its initial state of rest or motion
(2) $F = ma$
(3) Acceleration
$$= \frac{\text{Change in Velocity}}{\text{Time}}$$

(4) To every action, there is an equal and opposite reaction
62. Which of the following is the audible frequency range for human ear ?
- (1) 10,000 Hz to 20,000 Hz
(2) 20,000 Hz to 40,000 Hz
(3) 10 Hz to 10,000 Hz
(4) 20 Hz to 20,000 Hz
63. Which of the following is an ore of calcium ?
- (1) Dolomite (2) Cinnabar
(3) Smelite (4) Magnetite
64. Which law says that "At constant temperature, the volume of a definite mass of a gas is inversely proportional to pressure"?
- (1) Charles's Law
(2) Avogadro's Law
(3) Boyle's Law
(4) None of these
65. The chemical formula of Sulphuric acid is:
- (1) HS_2Cl
(2) H_2SO_4
(3) $Al_2(SO_4)_3$
(4) None of these
66. Which article of our Constitution lays down the procedure of amendment in the Constitution ?
- (1) Article 25
(2) Article 124
(3) Article 368
(4) Article 123

67. Who was the Chairman of the Drafting Committee of the Constituent Assembly?
 (1) Dr. B.R. Ambedkar
 (2) Dr. Rajendra Prasad
 (3) Sardar Vallabh bhai Patel
 (4) J.B. Kripalani
68. Who is the ex-officio Chairman of the Rajya Sabha ?
 (1) The Speaker of Lok Sabha
 (2) The President of India
 (3) The Chief Justice of India
 (4) The Vice-President of India
69. The representation of Bihar in Lok Sabha seats is :
 (1) 40 Seats (2) 48 Seats
 (3) 26 Seats (4) 42 Seats
70. The Governor of a State in India is :
 (1) Directly elected by the people of India
 (2) Appointed by the State Chief Minister
 (3) Appointed by the Prime Minister
 (4) Appointed by the President
71. In Indian economy, the sectors are classified into Public and Private on the basis of :
 (1) Employment Conditions
 (2) Nature of Economic Activities
 (3) Ownership of Enterprises
 (4) Use of Raw Materials
72. Which bank was earlier called the "Imperial Bank of India" ?
 (1) RBI (2) SBI
 (3) UBI (4) PNB
73. Arjuna Award is given for:
 (1) Bravery on battle field
 (2) Outstanding performance in Sports
 (3) Exceptional Service in emergency
 (4) Only for outstanding performance in Archery
74. 'International Court of Justice,' the principal judicial organ of the UN is situated in :
 (1) Hague (2) London
 (3) New York (4) Geneva
75. 'Lakshman Jhula' is situated in :
 (1) Rajgir (2) Kolkata
 (3) Rishikesh (4) Mount Abu
76. Where is the Headquarters of "Assam Rifles" ?
 (1) New Delhi
 (2) Guwahati
 (3) Darjeeling
 (4) Shillong
77. Pankaj Advani is associated with which game ?
 (1) Golf (2) Hockey
 (3) Chess (4) Billiards
78. The number of districts in Bihar is:
 (1) 32 (2) 38
 (3) 43 (4) 28
79. The United Nations declared 2005-2015 as the International Decade for:
 (1) Water for Life Decade
 (2) United Nations Literacy Decade
 (3) Second International Decade for the Eradication of Colonialism
 (4) International Decade for Natural Disaster Reduction
80. Who was the first woman to win the Jnanpith Award ?
 (1) Mahadevi Verma
 (2) Amrita Pritam
 (3) Mahashweta Devi
 (4) Ashapurna Devi
81. If $4 * 2 + 3 = 6$, $18 * 6 + 4 = 12$, then what will be the value of $24 * 3 + 7$?
 (1) 21 (2) 27
 (3) 72 (4) 56
82. If T means 'x', 'U' means '-', 'V' means '+', and W means '÷' then what will be the value of the following expression ?
 (50 V 2) W (28 T 4)
 (1) 142 (2) 158
 (3) 137 (4) 163
83. Raja walks slower than Raghu and Raghu walks as fast as Guru and Krishna walks faster than Guru. Who walks the fastest ?
 (1) Raghu
 (2) Raja
 (3) Krishna
 (4) Both Raghu and Guru
84. Consider five people A, B, C, D and E, each having different age. A is younger than only B. C is older than D. D is not the youngest. Who among the following are older than C ?
 (1) A and B (2) E, B and A
 (3) A and E (4) E and B
85. In a certain code language, 'tom kun sud' means 'dogs are barking', 'kun jo mop' means 'dogs and horses' and 'mut tom ko' means 'donkeys are mad'. Which word in that language means 'barking' ?
 (1) sud (2) kun
 (3) jo (4) tom
86. If 'Sky' is 'Star', 'Star' is 'Cloud', 'Cloud' is 'Earth', 'Earth' is 'Tree' and 'Tree' is 'Book', then where do birds fly ?
 (1) Cloud (2) Sky
 (3) Star
 (4) Data inadequate
87. If in a code language, PAINT is written as 74128 and EXCEL is written as 93596, then how will ACCEPT be written in that language ?
 (1) 455978 (2) 544978
 (3) 554978 (4) 733961
88. If in a code language, MINERAL is written as QRSTUVW and SOUND is written as ABCSD, then how will READER be written in that code ?
 (1) SBFEFS
 (2) UTVDTU
 (3) TUDVUT
 (4) QDZCDQ

89. Four words are given below as alternatives out of which three are alike in some manner while the fourth is different. Choose out the odd one.
 (1) IMF (2) SAARC
 (3) UNICEF (4) WHO
90. Four words are given below as alternatives out of which three are alike in some manner while the fourth is different. Choose out the odd one.
 (1) Magazine
 (2) Novel
 (3) Dictionary
 (4) Thesis
91. Four words are given below as alternatives out of which three are alike in some manner while the fourth is different. Choose out the odd one.
 (1) Panaji (2) Bhopal
 (3) Pune (4) Shillong
92. 'Doctor' is related to 'Diagnosis' in the same way as 'Judge' is related to :
 (1) Court
 (2) Punishment
 (3) Lawyer
 (4) Judgement
93. 'Paddy' is related to 'Field' in the same way as 'Steel' is related to :
 (1) Mine (2) Factory
 (3) Iron (4) Ore
94. 'Bouquet' is related to 'Flowers' in the same way as 'Sentence' is related to :
 (1) Construction
 (2) Words
 (3) Letters
 (4) Paragraph
95. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
 0, 6, 24, 60, 120, 210, ?
 (1) 240 (2) 290
 (3) 336 (4) 504

96. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
 1, 4, 27, 16, ?, 36, 343
 (1) 25 (2) 87
 (3) 120 (4) 125
97. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
 3, 12, 27, 48, 75, 108, ?
 (1) 147 (2) 162
 (3) 183 (4) 192
98. Which of the following will not be a member of the series ?
 1, 8, 27, 64, 125, ...
 (1) 256 (2) 512
 (3) 729 (4) 1000
99. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
 WFB, TGD, QHG, ?
 (1) NIJ (2) NIK
 (3) NJK (4) OIK
100. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series:
 AI, BJ, CK, ?
 (1) GH (2) DM
 (3) DL (4) LM