DO NOT OPEN THE SEAL OF THE BOOKLET UNTIL YOU ARE TOLD TO DO SO

RRB GROUP D

TEST SERIES

DATE- __/__/__

DAY- _____

INSTRUCTION FOR CANDIDATE

TEST SERIES NO.

SG Set - 16

QUESTION- 100 MARKS- 100 NEGATIVE MARK- 0.33 DURATION- 90 MIN.

1. Use only ball pens with black or blue ink
2. As soon as the examination starts, you must check this question booklet and if there is any unprinted, mutilated or partially printed page or question in it, then replace it with the correct question booklet through the examiner.
3. There are a total of 100 questions in this question booklet.
4. This is an objective test, in which four options are given for the answer to each question, you have to choose only one option with the correct answer out of these four options.
5. Answers to all questions are to be written on separate answer sheets.
6. Instructions for filling the answer sheet are written on the back side of the answer sheet, read them carefully before filling the answer sheet.
7. Blank pages are available in this question booklet for rough work.
8. Candidates cannot leave the room before the end of the examination.
9. After the examination is over, you can go out only with his permission after submitting the ORIGINAL COPY of the answer sheet to the invigilator.
10. After the completion of the examination, the candidate is allowed to take the question booklet and answer sheet with him/her.
11. 1 marks will be given for each correct answer and 0.33 marks will be deducted for each wrong answer.

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1. Which of the following organelles is responsible for maintaining the water content in amoeba?
(a) Food vacuole (b) Plasma membrane
(c) Contractile vacuole (d) Cytoplasm

2. Two metal wires A and B are made of the same material. Wire A is of length L and radius r; while wire B is of length 2L and radius 2r. Find the ratio of resistances of wire A and wire B.
(a) 1 : 2 (b) 2 : 1
(c) 1 : 4 (d) 4 : 1

3. ……..is the edible part of pomegranate.
(a) Nucleolus (b) Pericarp
(c) Fleshy aril (d) Endocarp

4. Which form of carbon is used as a dry lubricant?
(a) Graphite (b) Coke
(c) Diamond (d) Coal

5.Select the correct answer considering the following statements.
I. The chemical formula of baking soda is $CaSO_4 \cdot \frac{1}{2}H_2O$.
II. Baking soda is used in making toys and decorative items and to smoothen surfaces.
(a) Statements I and II both are false
(b) Statements I and II both are true
(c) Statement I is true and Statement II is false
(d) Statement II is true and Statement I is false

6. Which of the following method(s) can be used to change the direction of force acting on a current carrying conductor?
(i) Changing the magnitude of current
(ii) Changing the strength of the magnetic field
(iii) Changing the direction of current
(a) (ii) and (iii) (b) Only (i)
(c) (i) and (iii) (d) Only (iii)

7. Lanthanides is a series of how many elements?
(a) 10 (b) 18
(c) 15 (d) 12

8. The smallest living organism having a cell wall is
(a) Cyanobacteria (b) Yeast
(c) Algae (d) Bacteria

9. If the frequency of vibrations of an object decreases and its amplitude increases, then
(a) Both pitch and loudness of the sound produced increase
(b) Pitch increases but loudness decreases
(c) Both pitch and loudness of the sound produced decrease
(d) Pitch decreases but loudness increases

10. Which element is required for blood coagulation and muscle contraction?
(a) Iron (b) Sulphur
(c) Calcium (d) Iodine

11. The gas which forms carboxy haemoglobin in the blood, causing suffocation, is
(a) Carbon mono-oxide
(b) Carbon di oxide
(c) Chloro-fluoro carbon
(d) Nitrogen

12. The process of converting sugar into alcohol is called…….
(a) Sterilization (b) Pasteurisation
(c) Homogenisation (d) Fermentation

13. An object is placed at a distance of 30 cm in front of a concave mirror of focal length 15 cm. The image formed will be…….
(a) Virtual and erect
(b) Real and erect
(c) Virtual and inverted
(d) Real and inverted

14. The chemical formula of plaster of Paris:
(a) $(CaSO_4 \cdot H_2O)_2$ (b) $CaSO_4 \cdot \frac{1}{2}H_2O$
(c) $CaSO_4 \cdot H_2O$ (d) $CaSO_4 \cdot 2H_2O$

15. Sex of an individual is determined by…
(a) Chromosomes present in the ovum

(b) Chromosomes present in the sperm
(c) Chromosomes present in both the sperm and the ovum
(d) Chromosomes present in both the sperm and the ovum and dietary habits of the parents

16.An object is placed at a distance of 18 cm on the principal axis of a convex lens of focal length 12 cm. The magnification and image produced by the lens will be...
(a) Less than 1, inverted
(b) More than 1, erec
(c) More than 1, inverted
(d) Less than 1, erect

17.Which of the following is the radiation with highest penetrating power?
(a) β-ray (b) α-rays
(c) X-ray (d) γ-rays

18.Which of the following effects is not found in sound waves?
(a) Polarization (b) Reflection
(c) Diffraction (d) Interference

19.The electronic configuration of Cr is:
(a) $3d^5 4s^1$ (b) $3d^6 4s^0$
(c) $3d^4 4s^2$ (d) $3d^5 4s^0$

20.Genetically modified rice variety 'Golden Rice' is rich in which vitamin?
(a) Vitamin-A (b) Vitamin-B
(c) Vitamin-D (d) Vitamin-E

21. The catalyst used in hydrogenation of oils is
(a) Pt (b) Ni
(c) Fe (d) Mo

22. The oxidation number of iron in $Fe(CO)_5$ is
(a) 0 (b) 2
(c) 3 (d) 5

23.From which stage of silkworm is silk obtained?
(a) Larva (b) Pupa
(c) Egg (d) Adult

24.From which part of the plant is jute fibre obtained?
(a) Root (b) Leaf
(c) Stem (d) Flower

25.What does Angstrom measure?
(a) Volume of liquid
(b) Length of light waves
(c) Length of cables
(d) Speed of ships

26.What is the maximum number by which 729 and 901 are divided leaving remainders of 9 and 5 respectively?
(a) 15 (b) 16
(c) 19 (d) 20

27.The product of prime numbers between 80 and 90 is
(a) 83 (b) 89
(c) 7387 (d) 598347

28. Find the sum of the first five terms of the following series
$\frac{1}{1\times4}+\frac{1}{4\times7}+\frac{1}{7\times10}+\cdots+\cdots$
(a) $\frac{9}{32}$ (b) $\frac{7}{16}$
(c) $\frac{1}{210}$ (d) $\frac{5}{16}$

29. If $a+b=12, ab=22$, then (a^2+b^2) is equal to:
(a) 188 (b) 144
(c) 34 (d) 100

30. My grandfather was 9 times older than me 16 years ago. 8 years from now he will be three times my age. The ratio between my age and my grandfather's age 8 years ago was
(a) 3:8 (b) 2:5
(c) 1:5 (d) 1:2

31. When x=9999, then the value of $\frac{4x^3-x}{(2x+1)(6x-3)}$ is
(a) 1111 (b) 2222
(c) 3333 (d) 6666

32. If $x = \sqrt{3} - \frac{1}{\sqrt{3}}$ and $y = \sqrt{3} + \frac{1}{\sqrt{3}}$, then the value of $\frac{x^2}{y} + \frac{y^2}{x}$ is

(a) $\sqrt{3}$ (b) $3\sqrt{3}$
(c) $16\sqrt{3}$ (d) $2\sqrt{3}$

33. ₹ 2100 becomes ₹ 2352 in 2 years at simple interest rate If the rate is reduced by 1%, then what will be the new simple interest?

(a) ₹210 (b) ₹220
(c) ₹242 (d) ₹252

34. A number is first reduced by 20%, then this reduced number is increased by 20%. Then the number obtained is 20 less than the initial number. The initial number is

(a) 200 (b) 400
(c) 500 (d) 600

35. There are two classes in a class, each having 20 and 30 students respectively. The percentage of students passing in these classes is 80% and 60% respectively. Then the percentage of students passing in the entire class is

(a) 60% (b) 68%
(c) 70% (d) 78%

36.If $a^3 + b^3 = 9$ and a+b=3, then the value of $\frac{1}{a} + \frac{1}{b}$ is

(a) $\frac{1}{2}$ (b) $\frac{3}{2}$
(c) $\frac{5}{2}$ (d) -1

37.If 7 men working 7 hours a day can finish 7 units of work in 7 days, then how many units of work can be finished by 5 men working 5 hours a day in 5 days?

(a) $\frac{25}{343}$ (b) $\frac{125}{49}$
(c) $\frac{49}{125}$ (d) $\frac{343}{25}$

38.If $\sqrt{3}\tan\theta = 3\sin\theta$, then the value of $(\sin^2\theta - \cos^2\theta)$ is

(a) 1 (b) 3
(c) 1/3 (d) None of these

39. A hall is 20 m long and 15 m wide. There is a verandah 2.5 m wide around it. What will be the total cost of laying the floor in the verandah at the rate of ₹ 3.50 per square meter?

(a) ₹500 (b) ₹600
(c) ₹700 (d) ₹800

40. If 50% of A is equal to 30% of B, then what will be the ratio of A and B?

(a) 8:15 (b) 3:5
(c) 5:3 (d) 8:7

41.Which of the following is not a prime number?

(a) 1001 (b) 1301
(c) 1601 (d) 1901

42.Choose the most appropriate option to solve the equation.

$90 \div 6 \times (24 - 8 \div 4) \div 3 = ?$

(a) 18 (b) 20
(c) 110 (d) 16

43. A sum of money is divided between two friends in the ratio of 2 : 5. If the second part is ₹ 6 more than the first part, then find the initial amount.

(a) ₹ 14 (b) ₹ 12
(c) ₹ 13 (d) ₹ 23

44. If the selling price of a cupboard is doubled, then the profit on it becomes three times. Find the percentage profit.

(a) 25% (b) 100%
(c) 50% (d) 10%

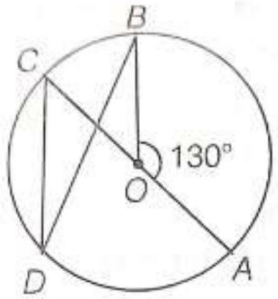
45. In how much time will a sum of money double itself at 10% annual simple interest rate:

(a) 8 years (b) 5 years
(C) 10 years (d) 12 years

46. If a + b = 6, a - b = 2, then what is the value of $2(a^2 + b^2)$?

(a) 40 (b) 45
(c) 50 (d) 60

47. In a circle with centre O, AOC is the diameter of the circle, BD is the chord and OB and CD are joined. If $\angle AOB = 130°$ then ∠BDC is equal to?



(a) 65° (b) 25°
(C) 45° (d) 75°

48.Simplify
$(1 + \tan^2\theta)(1 - \sin\theta)(1 + \sin\theta)$
(a) 0 (b) 1
(c) -1 (d) 2

49.Find the value of twice the lower limit of the modal class in the given data.

CI	f
$100 - 110$	12
$110 - 120$	15
$120 - 130$	32
$130 - 140$	34
$140 - 150$	22

(a) 280 (b) 540
(c) 260 (d) 68

50. In the year 1996, Republic Day was celebrated on Friday. In the year 2000, Independence Day was celebrated on which day?
(a) Tuesday (b) Monday
(c) Friday (d) Saturday

Directions (Q. Nos. 51 and 52) In the following questions, three words are given which have some similarity. Choose the most appropriate explanation for these three words from the given four options.

51. Allahabad : Varanasi : Patna
(a) These are the capitals of the country
(b) These are part of Greater Bihar
(c) They have religious background
(d) They are situated on the banks of the river Ganga

52. Press : Television : Cinema
(a) These are means of entertainment
(b) These are means of mass communication
(c) They give world wide news
(d) All are public undertakings

Directions (Q. Nos. 53-55) In the following questions, a group of three inter-related words is given. From the given options, choose the word which is similar to the given words and belongs to that group.

53. Patna : Lucknow : Shimla
(a) Jaipur (b) Mysore
(c) Bangalore (d) Indore

54. Jawaharlal Nehru : Atal Bihari Vajpayee : Lal Bahadur Shastri
(a) LK Advani
(b) P.V. Narasimha Rao
(c) Zakir Hussain
(d) Dr. Rajendra Prasad

55. Pratapgarh : Kaushambi : Fatehpur
(a) Patiala (b) Chandigarh
(c) Haridwar (d) Noida

56. In this question a group of letters is coded using numbers as per the table given below followed by the conditions. The correct combination of codes which follows the conditions is your answer.

Letter	I	L	M	H	Y	O	C	E	R
Code	4	5	9	1	2	3	6	7	8

Conditions
(i) If the first component is a vowel and the last component is a consonant, then the codes of these

two (first and last) components are to be interchanged. (ii) If the first component is a consonant and the last component is a vowel, then both the first and the last components are to be coded as 0.
(iii) If both the second and the fifth components are vowels, then the fifth component is to be coded as the code for the second component and the second component is to be coded as the code for the fifth component.
EICHER
(a) 814767 (b) 877416
(c) 876417 (d) 876147
57. Just as AG is related to IO, EK is related to:
(a) LR (b) MS
(c) PV (d) SY
58. If HEALTH is written as GSKZDG, then how will NORTH be written in the same code?
(a) OPSUI (b) GSQNM
(c) FRPML (d) IUSPO
59. In a certain code FAVOUR is written as EBUPTS. How will DANGER be written in that code?
(a) CBFFDS (b) CBMHDS
(c) EBFHDS (d) EBHHFS
60. Five students 1, 2, 3, 4 and 5 are sitting around a circular table facing the centre. 4 is seated immediate right of 1 and immediate left of 2. 5 is seated second to the left of 1. Which of the following statements is true?
(a) 5 is seated third to the right of 3.
(b) 2 is seated between 4 and 1.
(c) 1 is seated immediate next to 5.
(a) 5 is seated third to the right of 3.
(b) 2 is seated between 4 and 1.
(c) 1 is seated immediate next to 5. (d) 3 sits between 5 and 1.
61. If E=5, PEN = 35, then the value of EGG is
(a) 29 (b) 36
(c) 27 (d) 19
62. Four conclusions have been drawn on the basis of the given statement. Tell which conclusion is not true on the basis of the statement?
Statement B>F >P >L = K≤W<M
(a) B>L (b) F>K
(c) L<M (d) P = K
63. If 123 means 987, then 234 means
(a) 768 (b) 875
(c) 876 (d) 886
64. Which of the following is co-prime? Which number pair
(a) (17,23) (b) (15, 25)
(c) (12, 24) (d) (14, 21)
65. In a certain code language MUTINY is written as 25149202113 and MAGIC is written as 397113. How will NECTAR be written in the same code language?
(a) 182203614 (b) 191253014
(c) 182103513 (d) 181203514
66. Select the number that will come in place of question mark (?) in the following number series.
23, 31, 95, 311, ?
(a) 818 (b) 823
(c) 876 (d) 832
Directions (Q. Nos. 67 & 68) A sequence is given below in which one number/letter is missing. Choose the correct option from the given options that will complete the sequence.
67. QPO, NML, KJI, ?, EDC
(a) JKL (b) GHI
(c) HGF (d) CAB
68. 11, 22, 44, 66, ?
(a) 99 (b) 110
(c) 77 (d) 88
Directions (Q. Nos. 69 and 70) In the following questions one/two statements are given followed

by two/four conclusions I, II, III and IN. You should examine the statement/statements taking them to be true even if they seem to be at variance with commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements?

69. Statement The increasing population of our nation will lead to depletion of many basic resources. Conclusions

I. The population of our nation can be controlled.

II. The nation will not be able to provide a decent living to its citizens.

(a) Only conclusion II follows

(b) Either conclusion I or II follows

(c) Neither conclusion III or IV follows

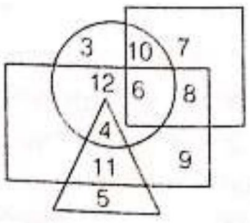
(d) Only conclusion IV follows

70. CDE, IJK, NOP, ?

(a) ORS (b) TUV

(c) FGH (d) RST

71. If circle represents people living in the city, square represents civil servants, rectangle represents men and triangle represents educated people, then which number represents educated men who do not live in the city?

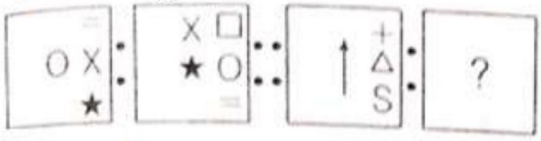


(a) 11 (b) 6

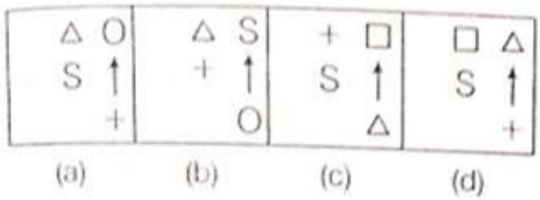
(c) 8 (d) 4

72.Select the figure given below.

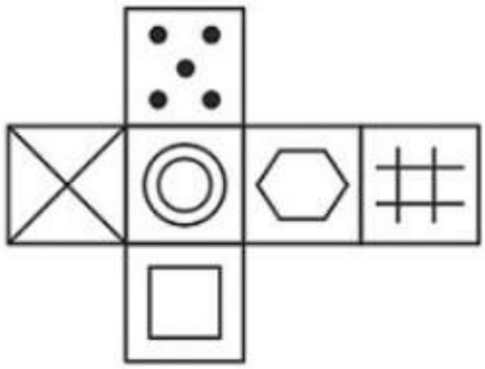
Question figures



Answer figures



73.Which of the following cubes in the answer figures cannot be made from the unfolded cube in the question figure?



1) 

2) 

3) 

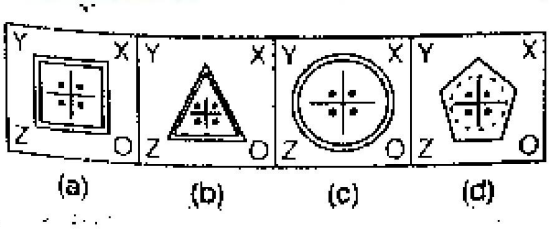
4) 

74.How many such pairs of letters are there in the word CORPORAL, each of which has as many letters between them in the word (in both forward and backward directions) as they have between them in the English alphabetical series?

(a) More than three (b) Three

(c) One (d) Two

75. Choose the figure which is different from the given question.



76. In the question below are given two statements followed by three conclusions I, II and III based on those statements, though they may seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows based on the given statements.

Statement Some pens are cups. No cups are plates.

Conclusions

I. Some pens are not plates.

II. All pens are plates.

III. Some plates are not pens.

(a) Conclusion I and Conclusion II are correct.

(b) Only conclusion I is correct

(c) Conclusion II and Conclusion I are correct

(d) None of the conclusions is correct

77. Pratik started walking towards south and after walking 50 m he turned right and walked 30 m then he turned right and walked 100 m, from where he turned right and stopped after walking 30 m. How far and in which direction is he now from his starting point?

(a) 150 m, North (b) 50 m, North

(c) 50 m, South (d) 180 m, East

78. In the question given below a statement is given followed by three assumptions I, II and III. An assumption is sometimes assumed or accepted. You have to consider the statement and assumptions and decide which of the assumptions is/are implicit in the statement?

Statement To improve the employment situation in India, the present education system needs to be revamped to implement scientific discoveries in daily life.

Assumptions

I. Students can be able to earn their livelihood after getting such education.

II. It can bring meaning of education in the minds of the youth.

III. States can earn more revenue as more and more people will engage themselves in self-employment.

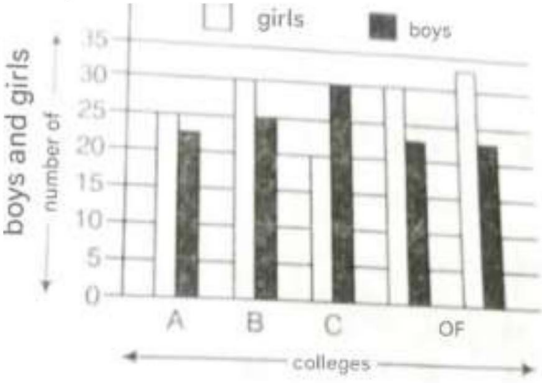
(a) I and III are implicit

(b) All are implicit

(c) I and II are implicit

(d) Only III is implicit

Directions (Q. Nos. 79 and 80) Study the diagram given below and answer the questions based on it.
Total number of boys and girls in five different colleges (in thousands)



79. How many students are studying in college C?
(a) 20000 (b) 50000
(c) 30000 (d) 60000

80. How many girls are studying in all the colleges together?
(a) 137500 (b) 137000
(c) 135000 (d) 132500

81.Where was the headquarters of the Ghadar Party?
(a) New Delhi (b) San Francisco
(c) Pune (d) Amritsar

82.Who was the constitutional advisor of the Constituent Assembly?
(a) Pandit Jawaharlal Nehru
(b) Dr. B.R. Ambedkar
(c) Sir B.N. Rao
(d) Shi K.M. Munshi

83.India conducted its first nuclear explosion test in
(a) Year 1999 (b) Year 1998
(c) Year 1991 (d) Year 1974

84.Which of the following is not correctly matched?
(a) Southernmost point-Indira Point
(b) Northernmost point-Indira Col
(c) Westernmost point-Kutch
(d) Northeastern point-Kivithu

85.Who is considered the father of local self-government in India?
(a) Lord Mountbatten (b) Lord Ripon
(c) Lord Irwin (d) Lord Curzon

86. Who was the leader of Bardoli Satyagraha?
(a) Mahatma Gandhi
(b) Vallabhbhai Patel
(c) Vinoba Bhave
(d) Bal Gangadhar Tilak

87. The intensity of earthquake is measured by which of the following?
(a) Ideograph (b) Pantograph
(c) Ergograph (d) Seismograph

88. Where is the 'National School of Drama' located?
(a) Mumbai (b) New Delhi
(c) Hyderabad (d) Kolkata

89. Which of the following was founded by B. R. Ambedkar?
(a) Independent Labour Party
(b) Samaj Samta Sangh
(c) People's Education Society
(d) All of the above

90. Khajuraho temples were built by
(a) Chalukyas (b) Chandelas
(c) Pallavas (d) Cholas

91. Garo, Khasi and Jaintia hills are in which state of India?
(a) Assam (b) Arunachal Pradesh
(c) Meghalaya (d) Mizoram

92. Who among the following was the first woman to receive the Gyanpeeth Award?
(a) Mahadevi Verma (b) Amrita Pritam
(c) Mahasweta Devi (d) Ashapurna Devi

93. Which of the following is not a member of BRIC?

(a) South Korea (b) Russia
(c) India (d) Brazil

94. What is 'Palace on Wheels'?
(a) A historic palace in Jodhpur city
(b) A royal train journey in Rajasthan
(c) Defence contingent of the President of India
(d) None of the above

95. Allah Rakha was famous for playing which of the following musical instruments?
(a) Sitar (b) Tabla
(c) Shehnai (d) Flute

96. 49°N latitude (also called 49th latitude North) forms the maximum part of the border between which two countries?
(a) USA and Mexico
(b) South and North Korea
(c) USA and Canada
(d) China and India

97. The world famous Serengeti National Park and Masai Mara National Reserve are in which continent?
(a) Africa (b) Asia
(c) Australia (d) South America

98. Indira Goswami belongs to which region?
(a) Music (b) Film
(c) Social Service (d) Writing

99. When was the Goods and Services Tax (GST) implemented?
(a) On 1 July, 2017
(b) On 1 April, 2017
(c) On 1 March, 2017
(d) On 1 August, 2017

100. IRDA is related to
(a) Banking activities in India
(b) Insurance sector in India
(c) Agriculture
(d) White Revolution