

RRBs Junior Engineer Set - 3

Duration - 1:30 Hrs

Exam RRBs Junior Engineer		Total Questions 100			
Marks For Correct Answer 1	Negative Marking 0.33	Mathematics 30	General Intelligence And Reasoning 25	General Awareness 15	General Science 30

Mathematics

- When a number is increased by 69, it becomes 103% of itself. What is the number?
 (a) 1300
 (b) 300
 (c) 2300
 (d) 4300
- The digit in the unit's place of the product $(2464)^{1793} \times (615)^{317} \times (131)^{491}$ is
 (a) 0
 (b) 2
 (c) 3
 (d) 5
- If $\frac{5}{2} \left(\frac{8x}{3} - \frac{1}{2} \right) + \frac{13}{2} = \frac{2x}{3}$, then what is the value of x ?
 (a) 7/8
 (b) 8/7
 (c) -8/7
 (d) -7/8
- There are 24 peaches, 36 apricots and 60 bananas and they have to be arranged in several rows in such a way that every row contains the same number of fruits of only one type. What is the minimum number of rows required for this to happen?
 (a) 12
 (b) 9
 (c) 10
 (d) 6
- A cricketer had a certain average of runs for his 64 innings. In his 65th inning, he is bowled out for no score on his part. This brings down his average by 2 runs. His new average of runs is
 (a) 130
 (b) 128
 (c) 70
 (d) 68
- 5 yr ago, the average age of P, Q and R was 25 yr. 7 yr ago, the average age of Q and R was 20 yr. The

present age of P is

- (a) 36 yr
- (b) 29 yr
- (c) 24 yr
- (d) 21 yr

7. A number is increased by 20% and then it is decreased by 10%. Find the net increase or decrease per cent

- (a) 10% increase
- (b) 10% decrease
- (c) 8% increase
- (d) 8% decrease

8. Neha's weight is 140% of Tina's weight. Mina's weight is 90% of Lina's weight. Lina weights twice as much as Tina. If Neha's weight is x% of Mina's weight, then x is equal to

- (a) $64\frac{2}{9}$
- (b) $77\frac{7}{9}$
- (c) 90
- (d) $128\frac{4}{7}$

9. How much pure alcohol has to be added to 400 mL of a solution containing 15% of alcohol to change the concentration of alcohol in the mixture to 32%?

- (a) 60 ml
- (b) 100 ml
- (c) 128 ml
- (d) 68 ml

10. A person sold his watch for 75 and got a percentage profit equal to the cost price. The cost price of the watch is

- (a) ₹ 40
- (b) ₹ 45
- (c) ₹ 50
- (d) ₹ 55

11. If compound interest received on a certain amount in the 3rd year is ₹ 1240, then what will be the compound interest for the 4th year on the same amount at 9% rate of interest?

- (a) ₹ 1245.6
- (b) ₹ 1521.6
- (c) ₹ 1351.6
- (d) ₹ 1220.6

12. Simple interest on a certain sum for 6 yr is $\frac{9}{25}$ of the sum. The rate of interest is

- (a) 6%
- (b) $6\frac{1}{2}\%$
- (c) 8%
- (d) $8\frac{1}{2}\%$

13. A is twice as good as B and together they finish a piece of work in 16 days. The number of days taken by A alone to finish the work is

- (a) 20 days
- (b) 21 days
- (c) 22 days
- (d) 24 days

14. A, B and C are three taps connected to a tank. A and B together can fill the tank in 6 h, B and C together can fill it in 10 h and A and C together can fill it in $7\frac{1}{2}$ h. In how much time, all three would take to fill the

tank?

- (a) 10 h
- (b) 12 h
- (c) 20 h
- (d) 5 h

15. If a person walks at 15 km/h instead of 9 km/h, he would have walked 3 km more in the same time. What is the actual distance travelled by him?

- (a) 5.5 km
- (b) 6.5 km
- (c) 4.5 km
- (d) 7.5 km

16. A can do a work in 20 days and B can do the same work in 30 days. In how many days, can A and B together do the work?

- (a) 10
- (b) 12
- (c) 15
- (d) 16

17. If $x + y + z = 1$, $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = 1$ and $xyz = -1$, then $x^3 + y^3 + z^3$ is equal to

- (a) -1
- (b) 1
- (c) -2
- (d) 2

8. If $(x-4)(x^2 + 4x + 16) = x^3 - P$, then P is equal to

- (a) 27
- (b) 8
- (c) 64
- (d) 0

19. $\frac{\tan A + \tan B}{\cot A + \cot B}$ is equal to

- (a) $\cot A \cot B$
- (b) $\sec A \operatorname{cosec} B$
- (c) $\tan A \tan B$
- (d) None of the above

20. In ΔABC , $DE \parallel AC$, where D and E are two points lying on AB and BC, respectively. If $AB = 5$ cm and $AD = 3$ cm, then $BE:EC$ is

- (a) 2:3
- (b) 3:2
- (c) 5:3
- (d) 3:5

21. The radii of two spheres are in the ratio 3:2. Their volumes will be in the ratio

- (a) 9:4
- (b) 3:2
- (c) 8:27
- (d) 27:8

22. If O is the orthocentre of the ΔABC and $\angle BAC = 80^\circ$, then measure of $\angle BOC$ is

- (a) 80°
- (b) 100°
- (c) 120°

(d) 90°

23. Which one of the following is correct?

- (a) $(x + 2)$ is a factor of $x^4 - 6x^3 + 12x^2 - 24x + 32$
 (b) $(x + 2)$ is a factor of $x^4 + 6x^3 - 12x^2 + 24x - 32$
 (c) $(x - 2)$ is a factor of $x^4 - 6x^3 + 12x^2 - 24x + 12$
 (d) $(x - 2)$ is a factor of $x^4 + 6x^3 - 12x^2 + 24x - 32$

24. A starts a business with ₹ 2000 and B joins him after 3 months with ₹ 8000. Find the ratio of their profits at the end of the year.

- (a) 1:3
 (b) 2:4
 (c) 3:1
 (d) 2:1

25.

$$\frac{\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}}}{\sqrt[3]{8}}$$

- (a) 1
 (b) 3
 (c) 2
 (d) 10

26. On 6th March, 2005, Monday falls. What was the day of the week on 7th March, 2004?

- (a) Tuesday
 (b) Monday
 (c) Friday
 (d) Sunday

27. The angle of elevation of the top of an unfinished pillar at a point 150 m from its base is 30° . If the angle of elevation at the same point is to be 45° , then the pillar has to be raised to a height of how many metres?

- (a) 59.4
 (b) 61.4
 (c) 62.4
 (d) 63.4

28. One of the factor of $(3x - 4y)^3 + (4x - 3y)^3$ is

- (a) $(y + x)$
 (b) $(7x - y)$
 (c) $(7y - 3x)$
 (d) $(x - y)$

29. The simplified value of

$$(\sec A - \cos A)^2 + (\operatorname{cosec} A - \sin A)^2 - (\cot A - \tan A)^2$$
 is

- (a) 0
 (b) $\frac{1}{2}$
 (c) 1
 (d) 2

30. If $2463 = 36$ and $5552 = 30$, then $6732 = ?$

- (a) 32
 (b) 36

- (c) 34
(d) 39

General Intelligence Reasoning

31. In a certain code language, 'SHORT' is written as ITOUS and DWARF is written as XEAGS. How is 'MANGO' written in that code language?

- (a) NBNHP
(b) BNNPH
(c) BNNHP
(d) LBNPF

32. Find the odd word/letters/number from the given alternatives.

- (a) 126
(b) 217
(c) 345
(d) 513

33. Find the odd word/letters/number from the given alternatives.

- (a) Cool
(b) Hot
(c) Humid
(d) Warm

34. Simplify

$$\left[3\frac{1}{4} + \left\{ 1\frac{1}{4} - 0.5 \left(2\frac{1}{2} - \frac{1}{4} - \frac{1}{6} \right) \right\} \right]$$

$$4 \times \frac{1}{12}$$

- (a) 245
(b) 233
(c) 234
(d) 299

35. Select the related word/letters/number from the given alternatives.

Kidney: Nephron :: Central Nervous System:?

- (a) Cerebrum
(b) Brain
(c) Neuron
(d) Spinal cord

36. Select the related word/letters/number from the given alternatives.

4:17 :: 7:?

- (a) 48
(b) 50
(c) 16
(d) 49

37. A statement is given followed by two conclusions. You have to take the given statement to be true even, if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the conclusions, if any, logically follows from the two given statements, disregarding the known facts.

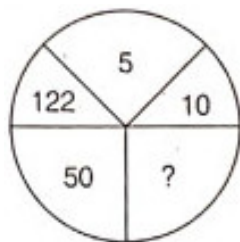
Statement

The national norm is 100 beds per thousand populations but in this state, 150 beds per thousand are available in the hospitals.

Conclusions

- I. Our national norm is appropriate
 II. The state's health system is taking adequate care in this regard.
- (a) Only Conclusion I follows
 (b) Only Conclusion II follows
 (c) Neither I nor II follows
 (d) Both I and II follow

38. Select the missing number from the given options.



- (a) 25
 (b) 27
 (c) 23
 (d) 26

39. In the following questions, find the odd. word/letters/number pair from the given alternatives.

- (a) Puppy
 (b) Cow
 (c) Fawn
 (d) Cub

40. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

a_aabb__ab_b_

- (a) baaaa
 (b) babab
 (c) baaba
 (d) bbaaa

41. There are 5 friends. Sachin is shorter than Kamal but taller than Ram. Mohan is the tallest. Arun is a little shorter than Kamal and a little taller than Sachin, Who is the second tallest?

- (a) Ram
 (b) Sachin
 (c) Kamal
 (d) Arun

42. Annu is daughter of my mother's brother Aabhi. Pari is granddaughter of my mother. Pari should call Annu as

- (a) Aunt
 (b) Sister
 (c) Cousin
 (d) Niece

43. The question given below consists of a question followed by two statements labelled as I and II. We have to decide whether these statements give enough information required to answer the question or not.

Give answer

Who is older Ritu or Situ?

I. Situ was born in the year 1980 and is 5 yr younger than Ritu's brother.

II. Ritu is twice as old as her brother.

- (a) If Statement I alone is sufficient to answer the question
 (b) If Statement II alone is sufficient to answer the question
 (c) If Statement and II together are needed to answer the question
 (d) If Statement and II together are not sufficient to answer the question

44. One statement is given followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement. Statement "Please do not wait for me, I may be late, start taking lunch as soon as the guests arrive." -a message from a Director of a Company to his Office managers.

Assumptions I. Keeping guests waiting is not desirable. II. Lunch may not be ready in time.

- (a) Only Assumption I is implicit
 (b) Only Assumption II is implicit
 (c) Neither I nor II is implicit
 (d) Both I and II are implicit

45. The question given below is based upon the following set of codes.

Digit	1	3	5	4	6	0	8	7	2
Codes	A	O	Z	L	D	T	N	H	Q

Find the code for 21500.

- (a) SLOPH
 (b) QAZTT
 (c) SLPHO
 (d) SHLPO

46. Study the table and answer the given questions.

Number of muffins sold by five different bakeries in 5 different months

Month \ Bakery	March	April	May	June	July
P	150	109	112	129	138
Q	78	87	58	105	125
R	157	209	211	213	220
S	169	149	122	153	151
T	175	159	141	180	197

What is the respective ratio between the total number of muffins sold by bakeries Q and S together in May and the total number of muffins sold by bakeries R and T together in the same month?

- (a) 21:23
 (b) 45:88
 (c) 19:23
 (d) 20:23

47. Study the table and answer the given questions. Number of muffins sold by five different bakeries in 5 different months

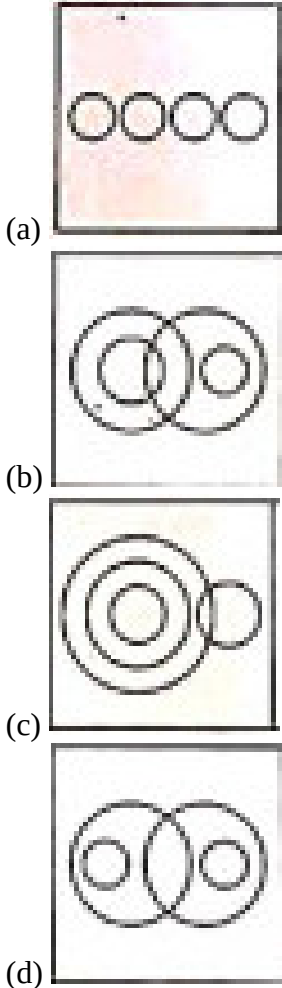
Month \ Bakery	March	April	May	June	July
P	150	109	112	129	138
Q	78	87	58	105	125
R	157	209	211	213	220
S	169	149	122	153	151
T	175	159	141	180	197

If the number of muffins sold by bakery T in August was 70% more than that sold by the same bakery in June, what was the number of muffins sold by the bakery T in August?

- (a) 255
 (b) 221
 (c) 323
 (d) 306

48. Identify the diagram that best represents the relation among the classes given below.

Building material, diamond, stones, wood



49. Which one of the following option would be a meaningful order of the following?

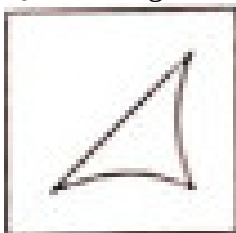
1. Chapter
 2. Index
 3. Bibliography
 4. Introduction
 5. Preface
- (a) 2, 4, 1, 3, 5
 (b) 4, 2, 5, 1, 3
 (c) 5, 2, 4, 1, 3
 (d) 5, 1, 4, 3, 2

50. In a certain code language, BAD is written as '7' and 'SAP' is written as '9'. How is 'BAN' written in that code language?

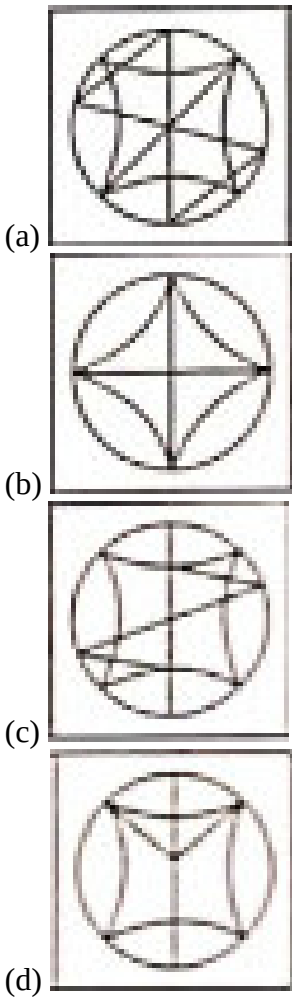
- (a) 8
 (b) 3
 (c) 4
 (d) 6

51. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question figure

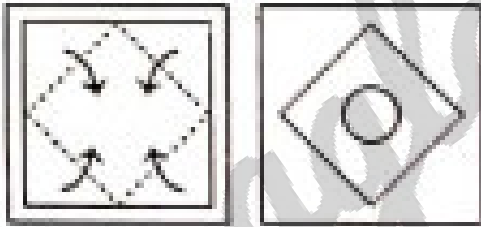


Answer figures

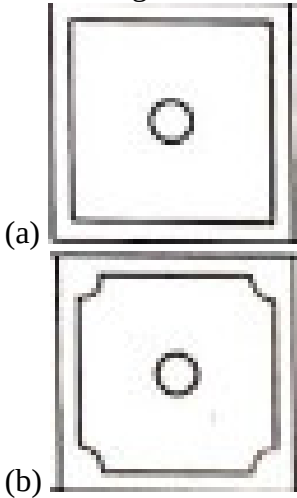


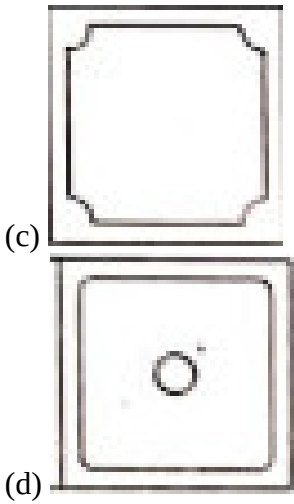
52. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

Question figures



Answer figures





53. If $64 \times 52 = 17$, $48 \times 56 = 23$ and $74 \times 35 = 19$, then $84 \times 37 = ?$

- (a) 32
- (b) 28
- (c) 22
- (d) 20

54. The questions given below consist of a question followed by two statements labelled as I and II. We have to decide whether these statements give enough information required to answer the question or not.

How is A related to B?

I. A is the sister-in-law of C, who is the daughter-in-law of B, who is the wife of D.

II. B is the mother of A's son's only uncle's son.

Give Answer

- (a) If Statement I alone is sufficient to answer the question
- (b) If Statement II alone is sufficient to answer the question
- (c) If Statements I and II together are needed to answer the question
- (d) If Statements I and II together are not sufficient to answer the question

55. The questions given below consist of a question followed by two statements labelled as I and II. We have to decide whether these statements give enough information required to answer the question or not.

Among five friends -J, K, L, M and N each of a different height, who is the second tallest?

I. N is taller than M and K. K is shorter than M.

II. L is taller than N, J is not the tallest.

Give Answer

- (a) If Statement I alone is sufficient to answer the question
- (b) If Statement II alone is sufficient to answer the question
- (c) If Statements I and II together are needed to answer the question
- (d) If Statements I and II together are not sufficient to answer the question

General Awareness

56. Which of the following is used to split white light into different colours?

- (a) Glass slab
- (b) Convex lens
- (c) Concave lens
- (d) Prism

57. Which among the following is not a credit rating agency?

- (a) CRISIL
- (b) CARE

- (c) ICRA
- (d) IFCI

58. Which one of the following is called a red planet?

- (a) Venus
- (b) Mercury
- (c) Mars
- (d) Jupiter

59. The strait that connects Red sea and Mediterranean sea is

- (a) Panama strait
- (b) Suez strait
- (c) Palk strait
- (d) Bering strait

60. Rukmini Devi Arundale is associated with

- (a) Kathak
- (b) Bharatanatyam
- (c) Kuchipudi
- (d) Bhangra

61. Name the author of the book "The Fire Burns Blue: A History of Women's Cricket in India" launched on 30th November, 2018?

- (a) Karunya Keshav & Sidhanta Pathak
- (b) Sunil Goenker & Rahul Parrikhar
- (c) Mukhil Joshi
- (d) Praveen Singh

62. Ekana International Cricket Stadium, which was recently renamed as the "Bharat Ratna Atal Bihari Vajpayee International Cricket Stadium", is located in which city?

- (a) Indore
- (b) Jaipur
- (c) Nagpur
- (d) Lucknow

63. The headquarter of the Food and Agricultural Organisation (FAO) is at

- (a) New York
- (b) Paris
- (c) Geneva
- (d) Rome

64. In which of the following food chains, the Pyramid of Numbers will be always inverted?

- (a) Grassland food chain
- (b) Pond food chain
- (c) Parasitic food chain
- (d) None of the above

65. Which body framed the Constitution of independent India?

- (a) Working Committee
- (b) Drafting Committee
- (c) Constituent Assembly
- (d) Union Constitution Committee

66. Who is the youngest Indian athlete to win gold medal in Asian games?

- (a) Manu Bhaker
- (b) Saurabh Chaudhary
- (c) Heena Sidhu
- (d) Shardul Vihan

67. Pradhan Mantri Vaya Vandana Yojana is related with
 (a) giving social security to elderly persons
 (b) giving ethical education through school's curriculum
 (c) financial assistance to tribal people
 (d) giving special powers and privileges to North-Eastern autonomous district councils
68. Which of the following are components of Central Processing Unit (CPU)?
 (a) Arithmetic Logic Unit, Mouse
 (b) Arithmetic Logic Unit, Control Unit
 (c) Arithmetic Logic Unit, Integrated Circuits
 (d) Control Unit, Monitor
69. Where is the Lingaraja temple located?
 (a) Madurai
 (b) Tiruchendur
 (c) Bhubaneshwar
 (d) Ujjain
70. The largest freshwater lake in the world is
 (a) Lake Victoria
 (b) Lake Michigan
 (c) Lake Balkhash
 (d) Lake Superior

General Science

71. The plant that can turn into green manure is
 (a) sunhemp
 (b) mango
 (c) bitter gourd
 (d) okra

72. Match the following

List-I	List-II
A. Cell wall	1. Closed ring
B. Flagella	2. Food reserve
C. DNA	3. Protect cell
D. Glycogen	4. Locomotory structure

Codes

- (a) A - 2, B - 1, C - 3, D - 4
 (b) A - 4, B - 3, C - 2, D - 1
 (c) A - 3, B - 4, C - 1, D - 2
 (d) A - 1, B - 2, C - 4, D - 3
73. Which organelle in the cell, other than nucleus, contains DNA?
 (a) Centriole
 (b) Golgi apparatus
 (c) lysosome
 (d) Mitochondrion

74. Runoff from fertilisers-rich crop fields causes
- turbidity of water bodies
 - precipitation of toxicants
 - eutrophication of water bodies
 - thermal pollution of water bodies
75. In which of the following cases of motions, the distance moved and the magnitude of displacement are equal?
- If the car is moving on straight road
 - If the car is moving in circular path
 - The pendulum is moving to and fro
 - The Earth is revolving around the sun
76. A man waves his arms while walking. This is
- to keep constant velocity
 - to ease the tension
 - to increase the velocity
 - to balance the Effect of Earth's gravity
77. According to the third law of motion, action and reaction
- always act on the same body
 - always act on different bodies in opposite directions
 - have same magnitude and direction
 - act on either body at normal to each other
78. Amoeba acquires its food through the process of
- exocytosis
 - fermentation
 - decomposition
 - endocytosis
79. Isotopes of an element have
- the same physical properties
 - different chemical properties
 - different number of neutrons
 - different atomic numbers
80. Which of the following has maximum number of atoms?
- 18 g of H_2O
 - 18 g of O_2
 - 18 g of CO_2
 - 18 g of CH_4
81. 10N force is applied on an object of mass 2 kg. Acceleration of the object is
- $2m/s^2$
 - $10m/s^2$
 - $4m/s^2$
 - $5m/s^2$
82. A body is falling from a height h. After it has fallen a height h/2, it will possess
- only potential energy
 - only kinetic energy
 - half potential and half kinetic energy
 - more kinetic and less potential energy
83. The value of G was first determined experimentally by
- Newton

- (b) Henry Cavendish
- (c) Kepler
- (d) Galileo

84. Which one of the following is a female sex hormone?

- (a) Oestrogen
- (b) Androgen
- (c) Oxytocin
- (d) Insulin

85. In a hydroelectric power plant more electrical power can be generated if water falls from a greater height because

- (a) Its temperature increases
- (b) larger amount of potential energy is converted into kinetic energy
- (c) the electricity content of water increases with height
- (d) more water molecules dissociate into ions

86. Acid rain happens because

- (a) sun leads to heating of upper layer of atmosphere
- (b) burning of fossil fuels release oxides of carbon, nitrogen and sulphur in the atmosphere
- (c) electrical charges are produced due to friction amongst clouds
- (d) the earth atmosphere contains acids

87. The metals commonly used for electroplating are

- (a) gold, sodium and chromium
- (b) chromium, copper and nickel
- (c) nickel, lead and chromium
- (d) gold, sodium and potassium

88. What is the most common salt in seawater?

- (a) Calcium carbonate
- (b) Potassium chloride
- (c) Sodium chloride
- (d) Magnesium sulphate

89. Which of the following is most recently discovered element?

- (a) Ununoctium (118)
- (b) Ununtrium (113)
- (c) Ununseptium (117)
- (d) Ununpentium (115)

90. Which one of the following reducing agents can also act as an oxidising agent?

- (a) H_2
- (b) H_2S
- (c) SO_2
- (d) HI

91. In SONAR, we use

- (a) ultrasonic waves
- (b) infrasonic waves
- (c) radio waves
- (d) audible sound waves

92. Which of the following used in pencils?

- (a) Graphite
- (b) Silicon
- (c) Charcoal

(d) Phosphorous

93. Which of the following vedic texts is related to Mathematics?

- (a) Atharvaveda
- (b) Salva Sutras
- (c) Charaka Samhita
- (d) Ashtadhyayi

94. Convex mirrors are used as a rear view mirror in motorcycles because

- (a) it forms real image
- (b) it forms erect (upright) image
- (c) it forms smaller image as compared with object
- (d) All of the above

95. Daltonism (Protanopia) is the form of colour blindness in which the patient cannot see

- (a) green colour
- (b) red colour
- (c) blue colour
- (d) All of these

96. Hypermetropia or long sight can be corrected by using

- (a) Bifocal lenses
- (b) cylindrical lenses
- (c) concave lenses
- (d) convex lenses

97. Good conductor of electricity is

- (a) dry air
- (b) paper
- (c) kerosene
- (d) graphite

98. Safety fuse wire used in domestic electrical appliances is made of metal of low

- (a) resistance
- (b) melting point
- (c) specific gravity
- (d) conductance

99. A microscope consists of a concave lens of power -10 D and convex lens of power $+20\text{ D}$ in contact. If the image formed at infinity, then calculate the magnifying power ($D=25$) cm.

- (a) 2.5
- (b) 3.5
- (c) 2.0
- (d) 3.0

100. Magnetism in materials is due to

- (a) electrons at rest
- (b) circular motion of electrons
- (c) protons at rest
- (d) all neutrons at rest

Answer Key

1	(c)	2	(a)	3	(d)	4	(c)	5	(b)	6	(a)	7	(c)	8	(b)	9	(b)	10	(c)
11	(c)	12	(a)	13	(d)	14	(d)	15	(c)	16	(b)	17	(b)	18	(c)	19	(c)	20	(a)
21	(d)	22	(b)	23	(c)	24	(a)	25	(c)	26	(b)	27	(d)	28	(d)	29	(c)	30	(a)
31	(b)	32	(c)	33	(a)	34	(c)	35	(c)	36	(b)	37	(b)	38	(d)	39	(a)	40	(c)
41	(c)	42	(a)	43	(c)	44	(a)	45	(b)	46	(b)	47	(d)	48	(d)	49	(c)	50	(a)
51	(a)	52	(b)	53	(c)	54	(a)	55	(d)	56	(d)	57	(d)	58	(c)	59	(b)	60	(b)
61	(a)	62	(d)	63	(d)	64	(c)	65	(b)	66	(b)	67	(a)	68	(b)	69	(c)	70	(d)
71	(a)	72	(c)	73	(d)	74	(c)	75	(a)	76	(d)	77	(b)	78	(d)	79	(c)	80	(d)
81	(d)	82	(a)	83	(b)	84	(a)	85	(b)	86	(b)	87	(b)	88	(c)	89	(c)	90	(b)
91	(a)	92	(a)	93	(b)	94	(c)	95	(d)	96	(d)	97	(d)	98	(b)	99	(a)	100	(b)

aglasem.com