

# Talent Search Exam. 2015

TEST  
CODE **1000**

for X

BOOKLET **D**

Duration : 3 Hours

Max. Marks : 300

*Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.*

## INSTRUCTIONS

### A. General :

1. This booklet is your question paper containing **100 questions**. The booklet has **10 pages**.
2. The question paper contains blank space on back for your rough work. No additional sheets will be provided for rough work.
3. It is mandatory to use **Blue or Black Ball Point Pen** to darken to appropriate circle in the answer sheet.
4. Blank papers, clipboards, log tables, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are not allowed to be carried inside the examination hall.
5. Fill in the boxes provided below on this page and also write your Name and Roll Number in the space provided.
6. Do not use white-fluid or any other rubbing material on answer sheet. Before handing over the answer sheet to the invigilator, candidate should check that **Roll No, Test code and Book Code** have been filled and marked correctly. Immediately after the prescribed examination time is over, the **Answer sheet is to be returned to the invigilator**.

### B. Filling the Answer Sheet :

7. On **Side-1** of Answer Sheet write your name, Enrollment Number and Name of the centre in the respective boxes. **Do not write anything on Side-2.**
8. Put your signature space provided on the Answer Sheet affirming that you have verified this.
9. All question carry **+3 Marks** for Right Answer and **-1** for Wrong Answer.

## PROCEDURE OF FILLING UP THE ANSWERS IN ANSWER SHEET

### Wrong Filling

- A B C D Tick mark
- X B C D Cross mark
- B C D Half filled or semi dark
- A B C D Light filled

### Right Filling

- B C D Fully darken with Pen
- B C D Fully darken with Pen
- B C D Fully darken with Pen
- B C D Fully darken with Pen

Name of the candidate (In Capital Letters)

Enrollment Number

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I have read all the instruction and shall abide by them.

.....

(Signature of the candidate)

I have verified all the information filled in by the candidate.

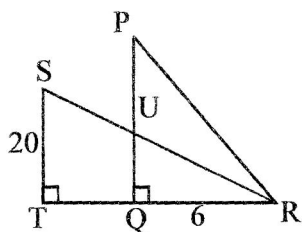
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(Signature of the Invigilator)

## PART-I (MATHEMATICS)

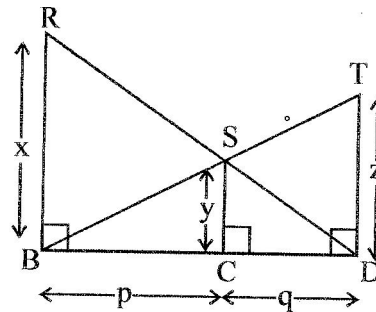
- If  $a > 0$  and  $b < 0$ , the point  $(a, -b)$  lies in which of the following quadrants?
  - I
  - II
  - III
  - IV
- The age of Sita is 8 years more than twice the age of Sonu. If after  $n$  years the age of Sita will be twice the age of Sonu, then the value of  $n$  is :
  - 6
  - 8
  - 10
  - cannot be determined
- If one root of the equation  $(b-c)x^2 + (c-a)x + (a-b) = 0$  is 2 the other root will be
  - 1
  - $\frac{b-a}{b-c}$
  - $\frac{a-b}{b-c}$
  - None of these
- A cone is within the cylinder and cylinder is within a cube touch, by all vertical faces with same base and height, then the ratio of their volume will be
  - 14 : 11 : 13
  - 42 : 33 : 11
  - 56 : 36 : 22
  - None of these
- What is the relation between  $x$  and  $y$ , if  $\cot \theta + \operatorname{cosec} \theta = x$  and  $\operatorname{cosec} \theta - \cot \theta = -y$ ?
  - $xy = 0$
  - $xy = 1$
  - $xy^2 = 1$
  - $xy = -1$
- 4 years back, A's age was 4 times that B's age. What is A's present age, if after 3 years, B's age will be  $\frac{1}{3}$ rd of A's age?
  - 56
  - 60
  - 63
  - 66
- The number of real roots of quadratic equation  $x^2 - 5|x| - 6 = 0$  is
  - 4
  - 3
  - 2
  - 1
- If  $\cos \theta - \sin \theta = \sqrt{2} \sin \theta$ , what is the value of  $\cos \theta + \sin \theta$ ?
  - $\sqrt{2} \cos \theta$
  - $\frac{\operatorname{cosec} \theta}{2}$
  - $\sin \theta$
  - $\cos \theta$
- If  $x + 2y = 8$ ,  $2x + 3z = 16$ ,  $4y + 5z = 32$ , then value of  $x$ ,  $y$  and  $z$  will be
  - 1, 2, 3
  - 1, 2, 3
  - 2, 3, 4
  - 2, -3, -4
- The sum of the two digit number and its reverse is  $m$  times the sum of its digits. If the subtraction of the reverse from the number is  $n$  times the subtraction of the digits. the value of  $m + n$  is
  - 22
  - 9
  - 11
  - 20
- If  $S_1$  and  $S_2$  are the total surface area of a sphere and the curved surface area of the circumscribed cylinder, then  $S_1 : S_2$  is
  - 1 : 2
  - 1 : 1
  - 1 : 4
  - 1 : 3
- Mean of the ages of 20 students is 10 yr. 5 students with mean age of 16 yr leave the class. Mean of ages of the remaining students will be :
  - 4
  - 5.66
  - 7
  - 8
- Mohan lies on 3 days out of the 7 days in a week, whereas Ram lies on 4 days out of 6 days of a week. of both of them were asked a question, what is the probability that both gave a true reply?
  - 1/7
  - 4/21
  - 5/21
  - 2/7
- If  $\frac{8}{3(2a+3b)} + \frac{21}{3a+2b} = \frac{10}{3}$  and  $\frac{16}{2a+3b} - \frac{7}{3a+2b} = 1$ . The value of  $(3a + 2b)$  is
  - $\frac{13}{3}$
  - $\frac{3}{13}$
  - $\frac{47}{28}$
  - None of these
- If one root of the equation  $x^2 + 6mx + 64 = 0$  is the square of the other, the value of  $m$  is
  - 5/3
  - 8/3
  - 10/3
  - None of these
- The units digit of  $12^{222} + 23^{333} + 34^{444}$  is
  - 3
  - 2
  - 4
  - 5
- For what value of 'n' the area of triangle formed with points  $(1, n)$ ,  $(3, 5)$  and  $(-1, 2)$ , will be 5 sq units?
  - 3
  - 2
  - 4
  - 5

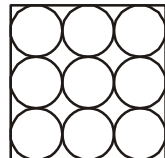
- (a) 1 (b) -1  
 (c) 2 (d) None of these
18. If  $\alpha$  and  $\beta$  are roots of the quadratic equation  $x^2 - 5x + 1$ , then the value of  $\alpha^4 + \beta^4$  is :  
 (a) 527 (b) -527  
 (c) 0 (d) None of these
19. If the equations  $ax^2 + bx + c = 0$  and  $x^2 + 2x + 9 = 0$  have a common root and a, b and c are real numbers, the ratio of a : b : c is  
 (a) 2 : 1 : 9 (b) 1 : 2 : 9  
 (c) 9 : 2 : 1 (d) 1 : 9 : 2
20. If  $a_7 = 13a_{13}$ , where  $a_7$  and  $a_{13}$  are the 7th and the 13th terms respectively and the common difference is 6, then 29th term of the same AP is:  
 (a) 80 (b) 93  
 (c) -93 (d) None of these
21. If in the figure shown, U is the mid-point of SR and  $QR = 6$  units, what is the length of TQ?



- (a) 12 (b) 4  
 (c) 6 (d) 8
22. The ratio of the volume of a cube to that of a sphere which will fit inside the cube is  
 (a)  $9 : \pi$  (b)  $2 : \pi$   
 (c)  $3 : \pi$  (d)  $6 : \pi$
23. If  $a : b = 2 : 3$ ,  $x : y = 3 : 4$ , then  $\frac{2ax - 25by}{3ay + 4bx}$  is  
 (a) 24 : 5 (b) 5 : 24  
 (c) -24 : 5 (d) None of these
24. The digits of a 2 digit number, when written in reverse form and subtract from the original number, the result is 36. If the sum of the digits is 10, the original number is  
 (a) 37 (b) 73  
 (c) 36 (d) None of these
25. The equation  $k^2x^2 + kx + 1 = 0$  has  
 (1) one real root (b) two real roots  
 (c) no real roots (d) None of these

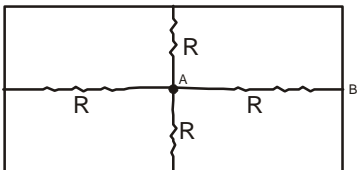
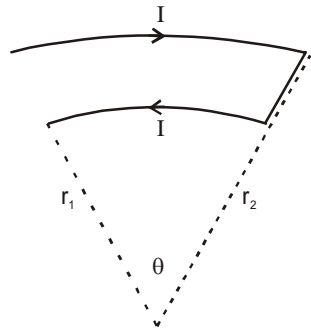
26. The sum of 1st and the last term of an AP of 150 terms is equal to the sum of which of the following two terms?  
 (a) 15th and 135 th (b) 20th and 131 th  
 (c) 50th and 51th (d) 90th and 60th
27. If  $RB \parallel SC \parallel TD$  in the figure given, then the ratio of  $y : x$  is



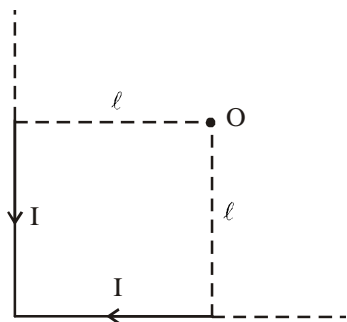
- (a)  $\frac{p}{q}$  (b)  $\frac{q}{p}$   
 (c)  $\frac{p}{p+q}$  (d)  $\frac{q}{p+q}$
28. The diameter of each circle shown in the given figure is 'd' then the area of the square is given by :  

- (a)  $9d^2$  (b)  $9d$   
 (d)  $3d^2$  (d)  $3/4d^2$
29. The two irrational numbers between  $\sqrt{2}$  and  $\sqrt{3}$  are  
 (a)  $2^{1/2}, 6^{1/4}$  (b)  $3^{1/4}, 3^{1/6}$   
 (c)  $6^{1/8}, 3^{1/4}$  (d) None
30. If  $5^{2n} - 2^{3n}$  is divided by 17, then the remainder is (where n is natural number)  
 (a) 0 (b) 1  
 (c) -1 (d) 2
31. If  $\frac{x \sin^2 45^\circ \cdot \cos^2 30^\circ}{4 \cos^2 60^\circ} = \frac{3 \sin^2 45^\circ + 2 \cos^2 30^\circ}{\sin^2 90^\circ + 2 \cos^2 45^\circ}$  what is the value of x?  
 (a) 0 (b) 1  
 (c) 3 (d) 4

32. Marks obtained by a student in 5 subjects are given as 25, 26, 27, 28, 29. In these obtained marks 27 is
- (a) mode (b) median and mode  
(c) mean and median (d) Both (a) and (c)
33. A train, 130 m long crosses a platform in 30 sec. with a speed of 45 km/h, length of platform is
- (a) 270 m (b) 245 m  
(c) 280 m (d) 296 m
34. If a sum of LCM and HCF of two numbers is 1260 and their LCM is 900 more than their HCF, then the product of two numbers is
- (a) 203400 (b) 194400  
(c) 198400 (d) 205400
35. If the sum of the reciprocal of two number, whose normal sum is 80, is  $\frac{4}{75}$ , the smaller of the two numbers is :
- (a) 20 (b) 30  
(c) 40 (d) 50

## PART-II (SCIENCE)

36. If we cut the converging lens perpendicular to the principle axis, then what will be change in focal length.
- (a) half of the focal length of the normal lens  
(b) double of the focal length of the normal lens.  
(c) one fourth of the focal length of normal lens  
(d) quadruple of the focal length of the normal lens.
37. Which is correct for photon
- (a) Its rest mass is non zero  
(b) its rest mass is zero  
(c) It is charged particle  
(d) N.O.T.
38. A uniform conducting rod which length is  $\ell$  mt and resistance R ohm. Its half length is stretched 40% length wise. What is the percentage change in Resistance.
- (a) 56% (b) 60%  
(c) 96% (d) 40%
39. Calculate the Req Between A and B.
- 
- (a) R/4 (b) R/2  
(c) R (d) 2R
40. These are four bulb of the powers  $P_1$  watt,  $P_2$  watt,  $P_3$  watt and  $P_4$  watt. Connected in series combination whose Resistances are same. then which one is correct
- (a)  $P_T = P_1 + P_2 + P_3 + P_4$   
(b)  $P_T = \frac{1}{P_1} + \frac{1}{P_2} + \frac{1}{P_3} + \frac{1}{P_4}$   
(c)  $\frac{1}{P_T} = P_1 + P_2 + P_3 + P_4$   
(d)  $\frac{1}{P_T} = \frac{1}{P_1} + \frac{1}{P_2} + \frac{1}{P_3} + \frac{1}{P_4}$
41. Temperature is increasing of a conducting material, then which is correct.
- (a) Relaxation time will increases  
(b) Resistance will decreases  
(c) Conductance will increases  
(d) Resistivity will increases
42. Calculate the magnetic field at point B.
- 
- (a)  $\frac{\mu_0 I}{4\pi} \left( \frac{1}{r_1} - \frac{1}{r_2} \right) \theta$  T (b)  $\frac{\mu_0 I}{4\pi} \left( \frac{1}{r_1} + \frac{1}{r_2} \right) \theta$  T  
(c)  $\frac{\mu_0 I}{4\pi} \left( \frac{1}{r_2} - \frac{1}{r_1} \right) \theta$  T (d)  $\frac{\mu_0 I}{4\pi} \left( \frac{1}{r_2} + \frac{1}{r_1} \right) \theta$  T

43. Calculate the magnetic field at point O.



- (a)  $\frac{\mu_0 I}{2\pi l}$  T                      (b)  $\frac{\mu_0 I}{4\pi l}$  T  
 (c)  $\frac{\mu_0 I}{2l}$  T                      (d) 0 T.

44. A concave mirror which focal length is -15 mt, is deeped in the liquid which refractive index is  $\frac{3}{5}$  then its focal length will be.

- (a) - 9 mt                      (b) -25 mt  
 (c) -15 mt                      (d) -35 mt

45. Which reaction will occur in Nuclear reactor.

- (a) Nuclear fission              (b) Nuclear fusion  
 (c) Electric sparking              (d) Chemical Reaction

46. Sparkling of diamond is due to

- (a) Reflection  
 (b) Refraction  
 (c) Diffraction  
 (d) Total internal Reflection

47. A charge particle moves along a circle under the action of possible constant electric and magnetic field. Which of the following are possible

- (a)  $E = 0, B = 0$                       (b)  $E = 0, B \neq 0$   
 (c)  $E \neq 0, B = 0$                       (d)  $E \neq 0, B \neq 0$

48. The product of resistivity and conductivity of a cylindrical conductor depends on

- (a) Temperature                      (b) Material  
 (c) Area of cross section  
 (d) N.O.T.

49. Which of the following quantities do not change when a resistor connected to a battery is heated due to the current

- (a) Drift speed                      (b) Resistivity  
 (c) Resistance                      (d) No. of free electrons.

50. What percentage of tin & lead is used in electric fuse?

- (a) 45% and 55%                      (b) 23% and 77 %

- (c) 63 % and 37 %.              (d) 85% and 15 %

51. When a coil is moved towards stationary magnet, the induced emf does not depend on

- (a) number of turns  
 (b) strength of magnet  
 (c) speed with which the coil is moved  
 (d) resistance of the coil.

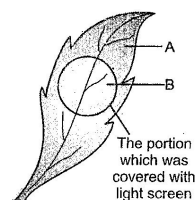
52. Oxygen liberated during photosynthesis comes from-

- (a) Water                      (b) Chlorophyll  
 (c) Carbon dioxide              (d) Glucose

53. The internal (cellular) energy reserve in autotrophs is

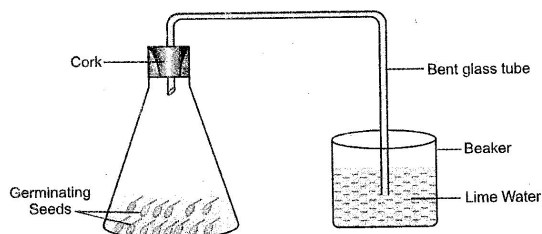
- (a) glycogen                      (b) protein  
 (c) starch                      (d) fatty acid

54. After performing the experiment, Sunita draw the following diagram but forgot to label it. Help to label correctly



- (a) A. Starch formed ; B. No Starch  
 (b) A. No starch ; B. Starch formed  
 (c) A. Blue colour appeared due to the presence of sucrose  
     B. Colourless part showing absence of sucrose  
 (d) A. Blue coloured portion showing absence of starch.  
     B. Colourless portion showing presence of starch.

55. Ashok puts lime water in the beaker. She finds lime water turns milky as given in the below diagram means.



- (a) Presence of KOH in the conical flask  
 (b) Presence of lime in the germinating seeds  
 (c) Absence of KOH in the conical flask  
 (d) Absence of starch in the conical flask

56. If salivary amylase is lacking in the saliva, which of the following events in the mouth cavity will be affected ?  
 (a) Proteins breaking down in to amino acids.  
 (b) Starch breaking down in to sugars  
 (c) Fats breaking down into fatty acids and glycerol  
 (d) Absorption of vitamins.
57. Which of the following secretions does not contain enzymes  
 (a) Bile (b) Pancreatic juice  
 (c) Intestinal juice (d) Saliva
58. Which of the following gases makes the most stable combination with the haemoglobin of red blood cells?  
 (a) CO<sub>2</sub> (b) CO  
 (c) O<sub>2</sub> (d) N<sub>2</sub>
59. In a closed circulatory system, blood is completely enclosed with in  
 (a) Sinuses (b) Vessels  
 (c) heart (d) skeleton
60. One of the difference between blood and lymph is that :  
 (a) blood has RBCs and WBCs while lymph has lymphocytes.  
 (b) blood has RBCs while lymph has no WBCs  
 (c) blood has WBCs while lymph has RBCs  
 (d) blood has dissolved organic salts while lymph has no such inorganic salt
61. The steps, necessary for setting up the experiment, "The demonstrate that light is necessary for photosynthesis" are not given her in proper sequence.  
 I. Keep the potted plant in sunlight for 3 to 4 hours  
 II. Keep the potted plant in darkness for about 48 hours  
 III. Cover a leaf of a plant with a strip of black paper  
 IV. Pluck the leaf and test it for starch  
 The correct sequence of steps is :-  
 (a) I, III, IV, II (b) I, IV, III, II  
 (c) II, IV, III, I (d) II, III, I, IV
62. In a synapse, chemical signal is transmitted from  
 (a) dendritic end of one neuron to axonal end of another neuron.  
 (b) axon to cell body of the same neuron  
 (c) axon to cell body of the same neuron  
 (d) axonal end of one neuron to dendritic end of another neuron
63. Posture and balance of the body is controlled by  
 (a) Cerebrum (b) Cerebellum  
 (c) medulla (d) pons
64. The main function of abscisic acid in plants is to  
 (a) increase the length of cells  
 (b) promote cell division  
 (c) inhibit growth  
 (d) promote growth of stem
65. When the leaves of a Mimosa pudica plant are touched with a finger, they fold up quickly. This is an example of :  
 (a) chemotropism (b) thigmonasty  
 (c) Photonasty (d) thigmotropism
66. The ratio of number of chromosomes in a human zygote and a human sperm is :  
 (a) 2 : 1 (b) 3 : 1  
 (c) 1 : 2 (d) 1 : 3
67. Multiple fission occurs in one of the following. This is :  
 (a) bread mould (b) Kala-azar parasite  
 (c) flatworm (d) malaria parasite
68. One of the following organisms does not reproduce by budding. This is :  
 (a) Sponge (b) yeast  
 (c) Hydra (d) planaria
69. In a balanced equation  

$$a\text{Fe} + b\text{H}_2\text{O} \rightarrow c\text{Fe}_3\text{O}_4 + d\text{H}_2$$
 the value of a, b, c and d are respectively :  
 (a) 2, 4, 1, 4 (b) 4, 1, 4, 3  
 (c) 3, 4, 1, 4 (d) 3, 4, 4, 1
70. In the reaction between sodium and chlorine to form sodium chloride :  
 (a) chlorine atom is reduced  
 (b) chlorine atom is oxidised as well as reduced  
 (c) sodium ion is reduced  
 (d) sodium atom is reduced as well as oxidised
71. Soda-acid fire extinguisher contains :  
 (a) Na<sub>2</sub>SO<sub>4</sub> and HCl (b) NaOH and HCl  
 (c) NaHCO<sub>3</sub> solution and dil. H<sub>2</sub>SO<sub>4</sub>  
 (d) none of these
72. Which of the following is a diprotic acid?  
 (a) HCl (b) H<sub>3</sub>PO<sub>4</sub>  
 (c) H<sub>2</sub>SO<sub>4</sub> (d) HNO<sub>3</sub>

73.  $\text{Cu}_2\text{O}$  is a/an :  
 (a) acid (b) salt  
 (c) base (d) none of these
74. Pyrolusite is and ore of :  
 (a) aluminium (b) manganese  
 (c) iron (d) zinc
75. The best electrical conductor is :  
 (a) gold (b) copper  
 (c) aluminium (d) silver
76. The purest gold is of :  
 (a) 18 carat (b) 20 carat  
 (c) 22 carat (d) 24 carat
77. Haematite is an ore of :  
 (a) copper (b) iron  
 (c) zinc (d) aluminium
78. German silver is an alloy of :  
 (a) copper (b) iron  
 (c) magnesium (d) lead
79. The most abundant element in earth's crust is :  
 (a) hydrogen (b) silicon  
 (c) oxygen (d) carbon
80. Which of the following elements occur in free state in the atmosphere?  
 (a) Gold (b) Carbon dioxide  
 (c) Nitrogen (d) Sulphur
81. IUPAC name of the simplest alcohol is :  
 (a) ethyl alcohol (b) ethanol  
 (c) methanol (d) methyl alcohol
82. Glucose is converted into ethanol in the presence of :  
 (a) Invertase (b) diastase  
 (c) zymase (d) lipase
83. Which of the following gives ethene when heated with concentrated sulphuric acid ?  
 (a)  $\text{CH}_3\text{CHO}$  (b)  $\text{CH}_3\text{COOH}$   
 (c)  $\text{CH}_3\text{CH}_2\text{OH}$  (d)  $\text{CH}_3\text{OH}$
84. Which of the following statements is/are correct?  
 (I) Methanol is oxidised to methanoic acid  
 (II) Ethanol is oxidised to ethanal  
 (III) Methanal is added to ethanol to make it unfit for drinking.  
 (a) I and III (b) II and III  
 (c) I and II (d) I, II and III
85. An organic compound A having molecular formula  $\text{C}_2\text{H}_4\text{O}_2$  turns blue litmus red and gives brisk effervescence with sodium hydrogencarbonate. Give the name and formula of A.  
 (a) Ethyl alcohol  $\text{C}_2\text{H}_5\text{OH}$   
 (b) Methyl alcohol  $\text{CH}_3\text{OH}$   
 (c) Acetic acid  $\text{CH}_3\text{COOH}$   
 (d) Formic acid  $\text{HCOOH}$

### PART-III (REASONING)

86. If a standard-sized cigarette can be rolled out of 6 standard-sized cigarette butts (filters). How many cigarettes will a person be able to smoke if he has 200 cigarettes.  
 (a) 200 (b) 239  
 (c) 233 (d) 238
87. Suppose a clock strikes as many no. of gongs as is the time for eg. - 1 gong at 1 O'clock, 2 gongs at 2 O'clock and so on. If this same clock takes 7 seconds to strike 7 O'clock. How long will the clock take to strike 10 O'clock?  
 (a)  $\frac{21}{2}$  seconds (b) 10 seconds  
 (c) 7 seconds (d)  $\frac{35}{3}$  seconds
88. A woman drives her husband every morning to Howrah station and picks him up from the station and takes him home. She picks him up at 5 p.m. one day the man was let off at work an hour earlier and he arrived at the station at 4 p.m. He started walking home and met his wife enroute to the station and got into the car. They arrived 10 min. earlier. How long did the man walk before he was picked up by his wife?  
 (a) 55 min. (b) 50 min.  
 (c) 65 min. (d) 60 min.
89. Rohit said to Mayank that he was ten years old two days back and next year he will be thirteen. How old is Rohit?  
 (a) 10 (b) 11  
 (c) 12 (d) 13

90. A cement block balances evenly on the scales with three quarters of a kg. and three quarters of a block. What is the weight of the whole block.

(a) 1 kg. (b) 2 kg.  
(c) 2.5 kg. (d) 3 kg.

91. While in San Francisco some time back, I hired a car to drive over the Golden Gate bridge. I started in the afternoon when there was no traffic rush. So I could drive at a speed of 40 miles an hour. While returning, however, I got caught in the traffic rush and I could only manage to drive at a speed of 25 miles an hour.

What was my average speed for the round trip?

(a)  $\frac{65}{2}$  (b) 65  
(c)  $\frac{205}{13}$  (d)  $\frac{400}{13}$

92. One morning I was on my way to the market and met a man who had 4 wives. Each of the wives had 4 bags, containing 4 dogs and each dog had 4 puppies.

Talking all things into consideration, how many were going to the market?

(a)  $2^8$  (b)  $2^4$   
(c)  $2^2$  (d)  $2^0$

93. Mammu wears socks of two different colours-white and brown. She keeps them all in the same drawer in a state of complete disorder.

She has altogether 20 white socks and 20 brown socks in the drawer. Supposing she has to take out the socks in the dark, how many must she take out to be sure that she has a matching pair?

(a)  $2^4 + 4$  (b)  $2^4 + 5$   
(c)  $2^0 + 1$  (d)  $2^1 + 1$

94. Here is an ancient problem from Bhaskaracharya's Lilavati :

A beautiful maiden, with beaming eyes, asks me which is the number that, multiplied by 3, then increased by three-fourths of the product, divided by 7, diminished by one-third of the quotient, multiplied by itself, diminished by 52, the square

root found, addition of 8, division by 10 gives the number 2?

Well, it sounds complicated, doesn't it? No, not if how to go about it.

(a) 28 (b) 32  
(c) 34 (d) 26

95. Two trains, a passenger train and a goods train, are running in the same direction on parallel railway tracks. The passenger train takes three times as long to pass the goods train-even when they are going in the opposite directions.

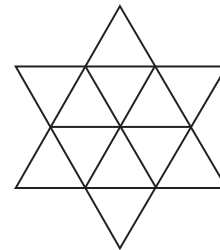
If the trains run at uniform speeds, how many times faster than the goods train is the passenger train moving?

(a) Half (b) Twice  
(c) Thrice (d) One and a half

96. If 5 tyres were used on a car which has travelled 20,000 miles, how many miles did each tyre sustain, if all the tyres were used equally in sustaining this mileage?

(a) 16,000 (b) 4,000  
(c) 20,000 (d) 8,000

97. How many triangles, of any size, are there in this star.



(a) 18 (b) 12  
(c) 20 (d) 16

98. In a school there were 100 lockers. One day the principal asked 100 boys to come to the locker-room. Initially all the lockers were closed. He told the 1<sup>st</sup> boy to open all the lockers. He told the 2<sup>nd</sup> boy to work on every 2<sup>nd</sup> locker and said that if the locker is closed, open it and if the locker is open, close it. He called 3<sup>rd</sup> boy and told him the same thing as 2<sup>nd</sup> boy except to work on every 3<sup>rd</sup> locker. He called 4<sup>th</sup> boy and told him to work on every 4<sup>th</sup>



locker and so on. At the end, how many lockers will remain closed.

- (a) 9                      (b) 10  
(c) 90                     (d) 91

99. A man bought two machines for his factory. After some time he decided to sell them each for 600 Rs. Making a loss of 20% on one of them and a profit of 20% on the other. How did the transaction affected him?

- (a) + 50 Rs.              (b) -50 Rs.  
(c) 0 Rs.                 (d) Can't Say

100. Fifty minutes ago if it was four times as many minutes past three O'clock, how many minutes is it to six O'clock?

- (a) 26 min.              (b) 34 min.  
(c) 44 min.              (d) 50 min.



Space for rough work