# Talent Search Exam. 2015

CODE 9000

for IX



Duration : 3 Hours Max. Marks : 300

Please read the instructions carefully. You are alloted 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:

I have read all the instruction and shall

(Signature of the candidate)

abide by them.

- 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 verifed this.
- 9. All guestion carry +3 Marks for Right Answer and -1 for Wrong Answer.

# PROCEDURE OF FILLING UP THE ANSWERS IN ANSWER SHEET Wrong Filling ABCD Tick mark BCD Fully darken with Pen BCD Fully darken with Pen

I have verified all the information filled in

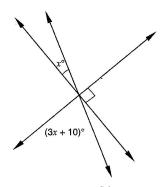
(Signature of the Invigilator)

by the candidate.

# **PART-I (MATHEMATICS)**

- The seventh root of x divided by the eighth root of x is
  - (a) x

- (b)  $\sqrt{x}$
- (c) <sup>56</sup>√x
- (d)  $\frac{1}{\sqrt[56]{x}}$
- 2. One factor of  $x^4 + x^2 20$  is  $x^2 + 5$ . The other factor is
  - (a)  $x^2 4$
- (b) x 4
- (c)  $x^2 5$
- (d) x + 2
- Two complementary angles are such that two times the measure of one is equal to three times the measure of the other. The measure of the smaller angle is
  - (a) 45°
- (b) 30°
- (c) 36°
- (d) none of these
- 4. In Fig. the value of x is



(a) 12

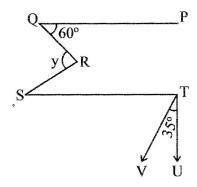
(b) 15

(c) 20

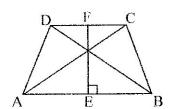
- (d) 30
- 5. A square and equilateral triangle have equal perimeters. If the diagonal of the square is  $12\sqrt{2}$  cm, then area of the triangle is
  - (a)  $24\sqrt{2} \text{ cm}^2$
- (b)  $24\sqrt{3} \text{ cm}^2$
- (c)  $48\sqrt{3} \text{ cm}^2$
- (d)  $64\sqrt{3} \text{ cm}^2$
- 6. In a  $\triangle$ ABC, if AB = AC and BC is produced to D such that  $\angle$ ACD = 100°, then  $\angle$ A =
  - (a) 20°
- (b) 40°
- (c) 60°
- (d) 80°
- 7. If  $4^{x+2y} = 2^{4x+10y}$ , then y is equal to
  - (a)  $\frac{x}{3}$

(b)  $\frac{-1}{3}x$ 

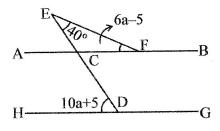
- (c)  $\frac{1}{2}x$
- (d) -3x
- 8. If  $TU \perp ST$ ,  $QP \parallel ST$  and  $SR \parallel TV$ , then the value of y is



- (a) 110°
- (b) 120°
- (c) 130°
- (d) 115°
- 9. ABCD is an isosceles trapezium with AB = 10 cm and CD = 6 cm. If EF = 8 cm, what is the perimeter of ABCD?



- (a)  $(16+8\sqrt{15})cm$
- (b)  $(16+4\sqrt{17})cm$
- (c)  $(16+2\sqrt{11})cm$
- (d) None of these
- 10. If AB || HG, what is the value of a ?



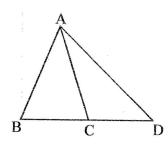
(a) 15°

- (b) 2.5°
- (c)  $7.5^{\circ}$
- (d) None of these
- 11. In a parallelogrma ABCD, if the angle bisectors of  $\angle A$  and  $\angle B$  meet at a point at P. Then,  $\angle APB$  is:

- (a) 30°
- (b) 60°
- (c) 90°
- (d) Can't say
- 12. A cone of radius 5 cm is filled with milk. If the milk is poured into a cylinder of radius 10 cm, the height of milk is 2 cm. Height of the cone is
  - (a) 20 cm
- (b) 22 cm
- (c) 24 cm
- (d) 26 cm
- 13. What is the length of the longest rod which can be placed in a cube of total surface area of 1176 cm<sup>2</sup>?
  - (a) 7 cm
- (b) 14 cm
- (c)  $7\sqrt{3} \ cm$
- (d)  $14\sqrt{3} \ cm$
- 14. Consider the following statements:
  - (a) Every fraction is a rational number
  - (b) Every rational number is a fraction
  - (c) Every integer is a rational number

Which of these statement (s) is/are correct?

- (a) a, b and c only
- (b) a and b
- (c) a and c
- (d) b and c
- 15. In the figure, If  $\angle ABC = \angle ACB = 48^{\circ}$  and  $\angle D = 37^{\circ}$ , then the value of  $\angle CAD$  is



(a) 10°

(b) 11°

- (c) 12°
- (d) 13°
- 16. In a rhombus ABCD, if AC = 24 cm and BD = 32 cm, what is the perimeter of ABCD?
  - (a) 36

(b) 24

(c) 80

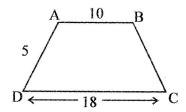
- (d) None of these
- 17. The curved surface area of a cone of height equal
  - to  $\frac{4}{3}$  times of radius and the radius = 6 cm is
  - (a) 118.5 cm<sup>2</sup>
- (b) 180.6 cm<sup>2</sup>
- (c) 184.8 cm<sup>2</sup>
- (d) None of these
- 18. The unit digit of  $(65)^{73} \times (19)^{45}$  is
  - (a) 9

(b) 5

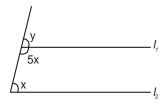
(c) 0

(d) 1

- 19. The value of  $\sqrt{8+2\sqrt{15}}$  is
  - (a)  $\sqrt{3} + \sqrt{2}$
- (b)  $\sqrt{3} + \sqrt{5}$
- (c)  $\sqrt{2} + \sqrt{5}$
- (d) None of these
- 20. How many least number of distinct points points determine a unique line?
  - (a) One
- (b) Two
- (c) Three
- (d) Infinite
- 21. If BO and CO are the bisectors of  $\angle$ ABC and  $\angle$ ACB of  $\triangle$ ABC, then  $\angle$ BOC is
  - (a) less than 90°
- (b) more than 90°
- (c)  $\frac{1}{2} \angle BAC$
- (d) 90°
- 22. If the area of the trapezium shown is 42 sq. cm, What is the length of the diagonal AC?



- (a)  $\sqrt{201}$
- (b)  $10\sqrt{2}$
- (c)  $\sqrt{205}$
- (d) None of these
- 22. A toy is in the form of a right circular cone mounted on a hemisphere. If the radius of hemisphere is 3.5 cm and the total height of the toy is 9.5 cm. The volume of toy is
  - (a) 164 cm<sup>3</sup>
- (b) 166.83 cm<sup>3</sup>
- (c) 169 cm<sup>3</sup>
- (d) 172.88 cm<sup>3</sup>
- 23. If x = 2, then the value of  $x + \sqrt{x + \sqrt{x + \sqrt{x + \sqrt{x + x}}}}$  is
  - (a) 1 or 2
- (b) 2
- (c) 1 or 4
- (d) 4
- 24. In the figure shown, if  $I_1 \parallel I_2$  then y is



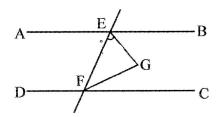
- (a) 30°
- (b) 45°
- (c) 50°
- (d) 60°

- 25. The 6th power of an even number will always end with
  - (a) 4 or 2
- (b) 2 or 6
- (c) 6 or 0
- (d) 0, 4 or 6
- 26. The value of n for which the expression  $x^4 + 4x^3 + nx^2 + 4x + 1$  becomes perfect square :
  - (a) 3

(b) 4

(c) 5

- (d) 6
- 27. In the figure, if AB || CD and EG and GF are the angle bisectors of ∠BEF and ∠CFE, respectively. What is the value of ∠EGF?



- (a) 60°
- (b) 90°
- (c) 120°
- (d) 150°
- 28. Rational number between  $\sqrt{2}$  and  $\sqrt{3}$  is
  - (a)  $\frac{\sqrt{2} + \sqrt{3}}{2}$
- (b)  $\frac{\sqrt{2} \times \sqrt{3}}{2}$
- (c) 1.5
- (d) 1.8
- 29. The radius and the height of a right circular cone are in the ratio 5:12. If its volume is 314 m<sup>3</sup>, the slant height and the radius are
  - (a) 12, 5 m
- (b) 13, 4 m
- (c) 1, 4 m
- (d) 13, 5 m
- 30. The greatest among  $\sqrt[3]{4}$ ,  $\sqrt[3]{5}$ ,  $\sqrt[4]{3}$  is

- (a)  $\sqrt[3]{4}$
- (b)  $\sqrt[3]{5}$
- (c)  $\sqrt[4]{3}$
- (d) None of these
- 31. If  $x = \frac{\sqrt{a} + \sqrt{b}}{\sqrt{a} \sqrt{b}}$ ,  $y = \frac{\sqrt{a} \sqrt{b}}{\sqrt{a} + \sqrt{b}}$ , then the value of

$$\frac{x+y}{xy}$$

- (a)  $\frac{4(a-b)}{(a+b)}$
- (b)  $\frac{4(a+b)}{(a-b)}$
- (c)  $\frac{2(a+b)}{(a-b)}$
- (d)  $\frac{2(a-b)}{(a+b)}$
- 32. One of the factors of  $x^2 + \frac{1}{x^2} + 2 2x \frac{2}{x}$  is
  - (a)  $x \frac{1}{x}$
- (b)  $x + \frac{1}{x} 1$
- (c)  $x + \frac{1}{x}$
- (d)  $x^2 + \frac{1}{x^2}$
- 33. How many cubes each of edge 6 cm can be cut from a cuboid of 42 cm × 36 cm × 24cm?
  - (a) 124
- (b) 142
- (c) 168
- (d) 186
- 34. In a  $\triangle ABC$ , if  $\angle A = 45^{\circ}$  and  $\angle B = 70^{\circ}$ , then the shortest and the largest sides of the triangle are
  - (a) AB, BC
- (b) BC, AC
- (c) AB, AC
- (d) none
- 35. Supplementary angle of 108.5° is
  - (a) 70.5°
- (b) 71.5°
- (c) 71°
- (d) 72.5°

# **PART-II (SCIENCE)**

- 36. Which one is correct for straight line motion.
  - (A) Angle between velocity and acceleration is 90 and 180.
  - (B) Angle between velocity and acceleration is 0 or 180.
  - (C) Angle between acceleration and velocity is 0 and 90
  - (D) Angle between acceleration and velocity is 0 or 90.

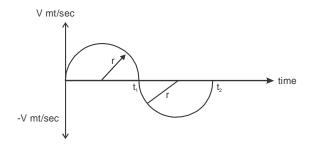
- 37. Calculate the change in velocity from 2 to 6 sec.
  - a (mt/sec²)

    2 (mt/sec²)

    1 2 3 t time

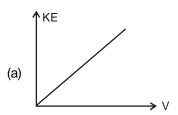
    -2 (mt/sec²)
    - (a) -3 mt / sec
- (b) + 3 mt /sec
- (c) + 6 meter / sec
- (d) 6 mt / sec

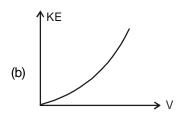
38. Calculate the distance covered by particle.

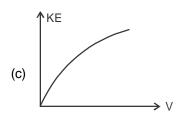


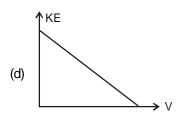
- (A)  $(vt_1 + vt_2)$  mt
- (B)  $(\pi r^2)mt$
- (C)  $(\pi r^2/2)mt$
- (D)  $(vt_1 vt_2)mt$
- 39. A lift is going upward with the constant acceleration. Inside the lift there is chanawala. Using the spring balance for weighing chana to sell it. A person buys chana of Rs. 100 from him. Which of following is correct?
  - (A) Person got less amount of chana
  - (B) Person got more amount of chana
  - (C) Lift acce. does not effect amount of chana
  - (D) We cannot say
- 40. Which of the following is a false statement.
  - (a) A body can have zero velocity and still be accelerated.
  - (b) A body can have a constant velocity and still have a varying speed.
  - (c) A body can have a constant speed and still have varying velocity
  - (d) The direction of the velocity of a body can change when. Its acceleration is constant.
- 41. An open car is moving with uniform velocity. A person sitting in the car projected a wall vertically upwards. The ball
  - (a) falls back in his hand
  - (b) falls outside the car
  - (c) falls by the side of car
  - (d) falls in front of the car.
- 42. According to kepler's law the relationship between T(time period of revolution) and r (the semi-major axis of ellipse) is
  - (a) T<sup>2</sup> ∝ r
- (b)  $T^2 \propto r^2$
- (c)  $T^2 \propto r^{-3}$
- (b)  $T \propto r^{3/2}$

- 43. A ball is dropped from a height of 10m. If the energy of the ball reduces by 40% after striking the ground, how much hight can the ball bounce back.
  - (a) 12 mt
- (b) 8 mt
- (c) 6 mt
- (d) 4 mt
- 44. Which of the following graphs show variation of K.E. with speed





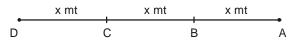




- 45. In which of the following media does sound travel faster?
  - (a) solid
- (b) liquid
- (c) gas
- (d) both (a) & (b)
- 46. In a carrum-board (4x4) feet, there is queen in the mid point of board. A player hit the queen, queen strike the front and rebound for the back corner hole and poted directly. Calculate the displacement covered by queen.
  - (a)  $4\sqrt{2}$  ft
- (b)  $2\sqrt{2}$  ft
- (c)  $\sqrt{20}$  ft
- (d) 2 ft

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47. A car is moving towards a point A from the point D, which started with V<sub>1</sub> mt/sec for DC length and V<sub>2</sub> mt/sec for CB length and V<sub>3</sub> mt/sec for BA length. Calculate the average speed.



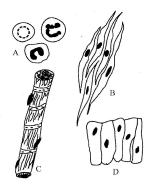
- (a)  $3V_1V_2V_3/V_1V_2 + V_2V_3 + V_3V_1$
- (b)  $V_1 + V_2 + V_3 / 3$
- (c)  $V_1V_2V_3/3$   $(V_1V_2 + V_2V_3 + V_3V_1)$
- (d)  $V_1V_2 + V_2V_3 + V_3V_1/3V_1V_2V_3$
- 48. A car is going due north at a speed of 50 km/h. It makes a 90° left turn without changing its speed.

Calculate the change in velocity of the car.

- (a) 50 km / h towards west
- (b) 70 km / h towards south west
- (c) 70 km / h towards north west
- (d) zero.
- 49 On a bridge a cat is sitting at a distance of
  - $\frac{3\ell}{8}$  from one end of the bridge. Where  $\ell$  is the total length of the bridge. A train comming from same end is noticed by cat. She figeres out that, if she run towards the train to get off the bridge, then train kills the cat at end of the bridge exactly,
  - if she run towards the train to get off the bridge, then train kills the cat at end of the bridge exactly, And if she run away from the train towards other end, train kills her again at that end of the bridge exactly. Find the ratio of speed of the train & cat.
  - (a) 4:1
- (b) 1:8
- (c) 3:8
- (d) 8:3
- 50. A stone is released from an elevator going up with an accelaration a mt/sec<sup>2</sup> The accelaration of the stone after the release is
  - (a) a upward
- (b) (g-a) upward
- (c) (g-a) downward
- (d) g downward
- You lift a suitcase from the floor and keep it on table. The work done by you on the suitcase does depend on.
  - (a) the path taken by the suitcase
  - (b) the time taken by you in doing so
  - (c) the weight of the suitcase
  - (d) accelaration of the block.

- 52. Which one is correct for the ratio of displacement over distance.
  - (a)  $\geq 1$

- (b)  $\leq 1$
- (c) = 1
- (d) N.O.T.
- 53. The membrane surrounding the vacuole of a plant cell is called :
  - (a) Tonoplast
- (b) Plasma membrane
- (c) Nuclear membrane
- (d) Cell wall
- 54. Cell arise from pre-existing cell was stated by
  - (a) Hackel
- (b) Virchow
- (c) Hooke
- (d) Schleiden
- 55. Four slides were observed under the microscope for spot test as shown below. The correct identification of the four sports is



- (a) A. Blood B. Striated mucles C. Smooth muscle D. Columnar epithelium
- (b) A. Blood B. Smooth muscle B. Striated muscleD. Columnar epithelium
- (c) A. Blood B. Cardiac muscle C. Striated muscleD. Columnar epithlium
- (d) A. Blood B. Smooth muscle C. Striated muscle D. Adipose tissue
- 56. Which of the following are covered by a single membrane?
  - (a) Mitochondria
- (b) Vacuole
- (c) nucleus
- (d) Plastid
- 57. Which of the following cell is found in the cartilaginous tissue of the body?
  - (a) basophils
- (b) mast cells
- (c) osteocytes
- (d) chondrocytes

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- 58. Simple epithelium is a tissue in which cells are
  - (a) hardened and provide support to organs
  - (b) continuously dividing to provide to form an organ
  - (c) cemented directly to one another to form a single layer
  - (d) loosely connected to one another to form an irregular layer.
- 59. Contractile proteins are found in
  - (a) bones
- (b) blood
- (c) muscles
- (d) cartilage
- 60. Polutry farming is undertaken to rise following:
  - (i) egg production
- (ii) feather production
- (iii) chicken meat
- (iv) milk production
- (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (ii) and (iii)
- (d) (iii) and (iv)
- 61. Which of the following is the high milk yielding variety of cow?
  - (a) Holstein
- (b) Dorset
- (c) Sahiwal
- (d) Red Sindhi
- 62. Pulses are rich in
  - (a) Carbohydrates
  - (b) Proteins
  - (c) Oils
  - (d) Vitamins and minerals
- 63. Canal system is present in phylum
  - (a) Cnidaria
- (b) Echinodermata
- (c) Porifera
- (d) Protozoa
- 64. Which of the following classes has largest number of animals?
  - (a) mammals
- (b) pisces
- (c) insecta
- (d) reptilia
- 65. The mode of nutrition in all fungi is characterically-
  - (a) symbiotic
- (b) autotrophic
- (c) holozoic
- (d) saprotrophic
- 66. Which of the following are also considered to be the states of matter?
  - (i) Plasma
- (ii) Platelets
- (iii) BEC
- (iv) BHC
- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (i) and (iii)
- (d) (ii) and (iv)

- 67. Which of the following process/processes release heat?
  - (i) condensation
- (ii) vaporisation
- (iii) freezing
- (iv) melting
- (a) only (i)
- (b) only (iv)
- (c) (i) and (iii)
- (d) (ii) and (iv)
- 68. Which one of the following set of phenomena would increase on raising the temperature?
  - (a) diffusion, evaporation, compression of gases
  - (b) evaporation, compression of gases, solubility
  - (c) evaporation, diffusion, expansion of gases
  - (d) vaporation, solubility, diffusion, compression of gases
- 69. Which of the following is not a mixture?
  - (a) kerosene
- (b) air
- (c) alcohol
- (d) petrol
- 70. "Is malleable and ductile" best describes :
  - (a) a solution
- (b) a metal
- (c) a compound
- (d) a non-metal
- 71. The elements which normally exist in the liquid state are :
  - (a) bromine and iodine
  - (b) mercury and chlorine
  - (c) iodine and mercury
  - (d) bromine and mercury
- 72. When a mixture of iron powder and sulphur powder is heated strongly to form iron sulphide, then heat energy is:
  - (a) released
  - (b) first absorbed and then released
  - (c) absorbed
  - (d) neither absorbed nor released
- 73. Which of the following statements are true for pure substances?
  - (i) pure substances contain only one kind of particles
  - (ii) pure substances may be compounds or mixtures
  - (iii) pure substances have the same composition throughout
  - (iv) pure substances can be examplified by all elements other than nickel
  - (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (iii) and (iv)
- (d) (ii) and (iii)

74. Two chemical substances X and Y combine together to form a product P which contains both X and Y

$$X + Y \rightarrow P$$

X and Y cannot be broken down into simpler substances by simple chemical reactions. Which of the following

- (i) P is a compound
- (ii) X and Y are compounds
- (iii) X and Y are elements
- (iv) P has a fixed composition
- (a) (i), (ii) and (iii)
- (b) (i), (ii) and (iv)
- (c) (ii), (iii) and (iv)
- (d) (i), (iii) and (iv)
- 75. Which of the following does not have a fixed melting point/boiling point?
  - (a) gold
- (b) ethanol

(c) air

- (d) oxygen
- 76. One of the following is a solid foam. This one is:
  - (a) butter
- (b) bread
- (c) shaving cream
- (d) ruby
- 77. Which one of the following is most likely to exhibit Tyndall effect?
  - (a) Sugar and water mixture
  - (b) Potash alum and water mixture
  - (c) Chalk powder and water mixture
  - (d) potassium permanganate and water mixture
- 78. Iron powder and sulphur poder were mixed together and eated strongly over a burner then substance A is formed. When dilute hydrochloric acid was added to substance A, then gas B was evolved. Indentify A & B.
  - (a) FeS, H<sub>2</sub>S
- (b) Fe<sub>2</sub>S, H<sub>2</sub>
- (c) FeS<sub>2</sub>, H<sub>2</sub>S
- (d) Fes, H<sub>a</sub>

- 79. Which of the following can be called a suspension?
  - (a) milk
- (b) milk of magnesia
- (c) salt solution
- (d) vinegar
- 80. A mixture of sulphur and carbon disulphide is :
  - (a) heteroheneous and shows Tyndall effect
  - (b) homogeneous and shows Tyndall effect
  - (c) heteroheneous and does not show Tyndall effect
  - (d) homogeneous and does not show Tyndall
- 81. A mixture of milk and groundnut oil can be seprated by:
  - (a) sublimation
- (b) evaporation
- (c) separating funnel
- (d) filtration
- 82. The technique which is used to separate particles of a solid suspended in a liquid quickly is called
  - (a) decantation
- (b) centrifugation
- (c) sedimentation
- (d) filtration
- 83. Naphthalene can be separated from sand :
  - (a) by sublimation
- (b) by distillation
- (c) by crystallisation
- (d) by using water as solvent
- 84. You are given a mixture of iodine in alcohol called tincture iodine. Which method will you use to recover both, iodine as well as alcohol, from the mixture?
  - (a) evaporation
- (b) simple distillation
- (c) fractional distillation (d) crystallisation
- 85. One of the following does not undergo sublimation. This one is:
  - (a) camphor
- (b) dry ice
- (c) silica
- (d) iodine

## PART-III (REASONING)

- 86. If a standard-sized cigaratte can be rolled out of 6 standard-sized cigaratte butts (filters). How many cigarattes will a person be able to smoke if he has 200 cigarattes.
  - (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
- (c) 7 seconds
- (d)  $\frac{35}{3}$  seconds

**TSE EXAM. 2015** 

- 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. earliear. 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<sup>8</sup>

(b) 2<sup>4</sup>

(c) 2<sup>2</sup>

- (d) 2º
- 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

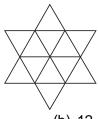
(b) 32

(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

TSE EXAM. 2015 CLASS: IX

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- 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 1st boy to open all the lockers. He told the 2nd boy to work on every 2nd locker and said that if the locker is closed, open it and if the locker is open, close it. He called 3rd boy and told him the same thing as 2nd boy except to work on every 3rd locker. He called 4th boy and told him to work on every 4th 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.

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