



Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Ltd.)

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Ph.: 011-47623456 Fax : 011-47623472

Admission-cum-Scholarship Test (Sample Paper)

(Foundation VIII Classroom Course-2015)

(Syllabus of the Test : Science & Mathematics of Class VII)

Roll No.: _____

Test Booklet Code : **A**

Time : 1½ Hrs.

Max.Marks : 240

INSTRUCTIONS TO THE CANDIDATES

1. The initial 10 minutes are earmarked for the candidates to carefully read the instructions. (Note : The candidates are not allowed to either look inside the question booklet or start answering during these initial 10 minutes.)
2. The question booklet and the answer sheet are issued separately at the start of the examination.
3. This question booklet contains 60 questions.
4. Read each question carefully.
5. Determine the correct answer, one out of the four available choices given under each question.
6. It is mandatory to use a Ball Point Pen to darken the appropriate circle in the answer sheet.
7. For each correct answer, **four** marks will be awarded. There is no negative marking.

For Example

Q. 12 in the Question Booklet is : Which one is known as 'black gold'?

(Answer Sheet)

(1) Old gold

Q.12. ① ② ③ ④

(2) Petroleum

(3) Silver

(4) Coal

Thus as the correct answer is choice 2, the candidate should darken completely (with a blue/black Ball point pen only) the circle corresponding to choice 2 against Question No. 12 on the Answer Sheet. If more than one circle is darkened for a given question such answer will be rejected.

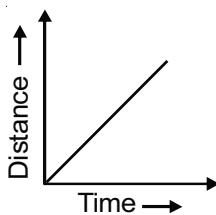
8. Do not use white-fluid or any other rubbing material on the answer sheet. No change in the answer once marked is allowed. Before handing over the answer sheet to the invigilator, the candidate should check that **Roll No.** and **Test-Booklet code** have been filled and marked correctly.
9. Rough work should be done only on the space provided in the question booklet.
10. Immediately after the prescribed examination time is over, the **Answer sheet and Question booklet are to be returned to the invigilator.** If the candidate wants to leave the examination hall before time, he/she should hand over the question paper and answer sheet to the invigilator. However, no student can leave the examination hall before half time.

SCIENCE

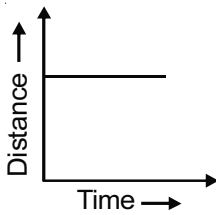
Choose the correct answer :

- | <p>1. Match the following.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Column I</th> <th style="text-align: left;">Column II</th> </tr> </thead> <tbody> <tr> <td>a. RBCs</td> <td>i. Clotting of blood</td> </tr> <tr> <td>b. WBCs</td> <td>ii. Fluid part of the blood</td> </tr> <tr> <td>c. Platelets</td> <td>iii. Fight germs</td> </tr> <tr> <td>d. Plasma</td> <td>iv. Transport oxygen</td> </tr> </tbody> </table> <p>(1) a(iii), b(iv), c(ii) & d(i)
 (2) a(iii), b(iv), c(i) & d(ii)
 (3) a(iv), b(i), c(ii) & d(iii)
 (4) a(iv), b(iii), c(i) & d(ii)</p> <p>2. The urine in the body is transferred from kidney to the organ <i>P</i> by tube like structures <i>Q</i>. <i>P</i> and <i>Q</i> are</p> <p>(1) Urinary bladder and Ureters, respectively
 (2) Gall bladder and Urethra, respectively
 (3) Urinary bladder and Urethra, respectively
 (4) Air bladder and Ureters, respectively</p> <p>3. The process of intake of food is known as</p> <p>(1) Egestion (2) Ingestion
 (3) Digestion (4) Absorption</p> <p>4. The chlorophyll containing partner of lichen is</p> <p>(1) Fungus (2) Virus
 (3) Protozoa (4) Alga</p> <p>5. Select the incorrect statement.</p> <p>(1) Xylem and phloem are the two vascular tissues
 (2) Transpiration helps in cooling of the plant
 (3) The transpiration creates a suction pull that helps in upward movement of water through xylem
 (4) The evaporation of water occurs through alveoli present on the surface of roots</p> | Column I | Column II | a. RBCs | i. Clotting of blood | b. WBCs | ii. Fluid part of the blood | c. Platelets | iii. Fight germs | d. Plasma | iv. Transport oxygen | <p>6. During inhalation, which of the following conditions occur?</p> <p>(a) Ribs move up
 (b) Ribs move down
 (c) Diaphragm moves up
 (d) Diaphragm moves down
 (e) Chest cavity increases
 (f) Chest cavity decreases</p> <p>(1) a, f and c (2) d, b and e
 (3) a, d and e (4) c, b and f</p> <p>7. Carbon dioxide + Water → Carbohydrate + Energy
 Which of the following are required for the above reaction to occur?</p> <p>(1) Oxygen and nitrogen
 (2) Chlorophyll and nitrogen
 (3) Chlorophyll and sunlight
 (4) Sunlight and nitrogen</p> <p>8. In cockroaches, exchange of gases occurs through</p> <p>(1) Spiracles (2) Tracheae
 (3) Lungs (4) Skin</p> <p>9. The secretion of largest digestive gland of the body which plays an important role in the digestion of fats is stored in</p> <p>(1) Gall bladder (2) Pancreas
 (3) Liver (4) Stomach</p> <p>10. Which of the following animals release uric acid as waste product from their body?</p> <p>(1) Lizards and birds
 (2) Humans and fish
 (3) Fish and snakes
 (4) Frog and fish</p> |
|--|-----------------------------|-----------|---------|----------------------|---------|-----------------------------|--------------|------------------|-----------|----------------------|--|
| Column I | Column II | | | | | | | | | | |
| a. RBCs | i. Clotting of blood | | | | | | | | | | |
| b. WBCs | ii. Fluid part of the blood | | | | | | | | | | |
| c. Platelets | iii. Fight germs | | | | | | | | | | |
| d. Plasma | iv. Transport oxygen | | | | | | | | | | |

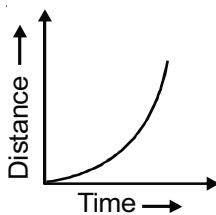
Space For Rough Work

11. The normal temperature of human body is
 (1) 25°C (2) 37°C
 (3) 32°F (4) 80°F
12. Sea breeze blows during
 (1) Day
 (2) Night
 (3) Winters only
 (4) Summers only
13. Which of the following, would you prefer to make the handle of a cooking pan?
 (1) Wax (2) Steel
 (3) Wood (4) Mercury
14. High speed winds blow away weak roofs because
 (1) Pressure below the roofs decreases
 (2) Pressure above the roofs increases
 (3) Pressure above the roofs decreases
 (4) Pressure difference becomes zero
15. The centre of a cyclone is a region of
 (1) Low pressure
 (2) High pressure
 (3) High temperature
 (4) Low temperature
16. The instrument used to measure wind speed is called
 (1) Odometer (2) Speedometer
 (3) Anemometer (4) Barometer
17. A boy goes straight for 2 s at a speed of 2 m/s. He then turns back and moves for 2 s at speed 0.5 m/s. How far is he from the starting point now?
 (1) 1 m (2) 5 m
 (3) 3 m (4) 2 m
18. Which of the following distance time graphs corresponds to an object at rest?
- 

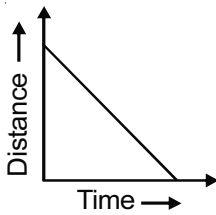
(1)



(2)



(3)



(4)
19. Mark the incorrect statement among the following.
 (1) Speed of an object is given by the distance travelled by it per unit time
 (2) A nano second is one billionth of a second
 (3) The motion in a straight line is called uniform motion
 (4) An oscillating simple pendulum undergoes periodic motion
20. A person driving a car observes the readings of its odometer in a time gap of 15 minutes to be 36580 km and 36590 km. The average speed of the car in this time period is
 (1) 10 km/h (2) 40 km/h
 (3) 20 km/h (4) 5 km/h
21. The colour of litmus paper in distilled water is
 (1) Red (2) Mauve
 (3) Blue (4) Green
22. Which of the following solutions is not basic in nature?
 (1) Lime water solution
 (2) Baking soda solution
 (3) Common salt solution
 (4) Milk of magnesia solution

Space For Rough Work

23. A drop of vinegar is added to phenolphthalein indicator and its colour gets changed into
 (1) Colourless (2) Pink
 (3) Yellow (4) Blue
24. Sericulture is
 (1) Sheep rearing (2) Bee keeping
 (3) Fish culture (4) Silk worm rearing
25. Neutralisation reaction results in the formation of
 (1) Salt and acid (2) Acid and water
 (3) Salt and acid (4) Salt and water
26. Which of the following is not a physical change?
 (1) Conversion of water into vapours
 (2) Souring of milk
 (3) Dissolution of sugar in water
 (4) Freezing of water
27. When an iron nail is placed in a beaker containing copper sulphate solution for some time, the colour of the solution turns
 (1) Blue to colourless (2) Green to blue
 (3) Blue to green (4) Colourless to green
28. Consider the following statements.
 I. Burning is a chemical change
 II. Burning is always accompanied by production of heat
 Choose the correct option.
 (1) Statement I is correct, statement II is incorrect
 (2) Statement I is incorrect, statement II is correct
 (3) Both the statements are correct
 (4) Both the statements are incorrect
29. The gas produced when vinegar is added to baking soda solution is
 (1) Carbon dioxide
 (2) Oxygen
 (3) Hydrogen
 (4) Sulphur dioxide
30. The sheared skin of sheep is thoroughly washed in tanks to remove grease, dust and dirt and the process is called
 (1) Scouring (2) Sorting
 (3) Spinning (4) Shearing

MATHEMATICS

31. There are 42 coins in a collection of 20 paise coins and 25 paise coins. If the total value of the collection is ₹ 9.25, then the number of 25 paise coins is
 (1) 15 (2) 17
 (3) 20 (4) 25
32. If in $\triangle PQR$, M is a point on the side QR , then which of the following is true?
 (1) $PQ + QR + RP < 2PM$
 (2) $PQ + QR + RP = 2PM$
 (3) $PQ + QR + RP > 2PM$
 (4) $PQ + QR + RP \leq 2PM$
33. Mean of first 10 composite numbers is
 (1) 11.2 (2) 9.4
 (3) 10.8 (4) 11.8
34. The cost of a maths book is ₹ $38\frac{3}{4}$ and the cost of a science book is ₹ $27\frac{9}{2}$. By how much is the maths book costlier than the science book?
 (1) ₹ $4\frac{1}{7}$ (2) ₹ $7\frac{1}{4}$
 (3) ₹ $1\frac{4}{7}$ (4) ₹ $2\frac{1}{8}$

Space For Rough Work

35. The perimeter and area of a parallelogram with equal sides is 36 cm and 90 cm^2 respectively. Its altitude is
 (1) 7 cm (2) 8 cm
 (3) 9 cm (4) 10 cm
36. A man 180 cm tall is at a distance of 320 cm from the foot of a light source situated at the top of a pole. If the total height of the light source and the pole is 4.2 m, then the shortest distance between the top of the man and the source of light is
 (1) 380 cm (2) 350 cm
 (3) 370 cm (4) 400 cm
37. If the mean of 5 numbers is 13.6 and on excluding one number, the mean becomes 13, then the excluded number is
 (1) 15 (2) 16
 (3) 17 (4) 18
38. "Sum of two integers is less than both the integers". This is possible only when
 (1) Both are positive integers
 (2) Both are negative integers
 (3) Larger number is negative and smaller is positive
 (4) Smaller number is negative and larger is positive
39. Value of $3\frac{4}{7} - 4\frac{1}{6} + 2\frac{1}{3} + 3\frac{1}{8} - 5\frac{2}{7} - 2\frac{3}{5}$ is
 (1) $\frac{2539}{840}$ (2) $\frac{2359}{840}$
 (3) $\frac{-2539}{840}$ (4) $\frac{-2359}{840}$
40. Raju lent ₹ 5000 to Mahima for 2 years and ₹ 3000 to Kittu for 4 years on simple interest at the same rate of interest and received ₹ 2200 in all from both of them as interest. The rate of interest per annum is
 (1) 5% (2) 10%
 (3) $7\frac{1}{2}\%$ (4) 8%
41. The price of commodity A increases by 15 paise every year, while the price of commodity B increases by 25 paise every year. If in the year 2004, the price of commodity A was ₹13.5 and that of B was ₹10.5, then in which year the price of commodity B will be equal to the price of commodity A?
 (1) 2036 (2) 2035
 (3) 2033 (4) 2034
42. If 27 trousers of equal size can be made from 954 m of cloth, then the length of cloth required for each trouser is
 (1) $\frac{106}{3}\text{m}$ (2) $\frac{107}{5}\text{m}$
 (3) $\frac{158}{7}\text{m}$ (4) $\frac{97}{3}\text{m}$
43. An elevator descends into a mine shaft at the rate 7 m/minute. If the descent starts from 15 m above the ground level, then the time taken by it to reach 307 m below the ground is
 (1) 46 minutes (2) 45 minutes
 (3) 44 minutes (4) 43 minutes
44. Which of the following is correct?
 (1) $\frac{0}{10} = 10$ (2) $\frac{10}{0} = 0$
 (3) $\frac{10}{0} = \frac{0}{10}$ (4) $\frac{0}{10} = 0$
45. Simple interest on a certain amount is $\frac{9}{16}$ of the principal. If the numbers representing the rate of interest (in percent) and time (in years) be equal, then the rate of interest is
 (1) $2\frac{1}{7}\%$ (2) $7\frac{1}{2}\%$
 (3) $7\frac{3}{5}\%$ (4) $5\frac{3}{7}\%$

Space For Rough Work

46. How many of the given statements is/are correct?

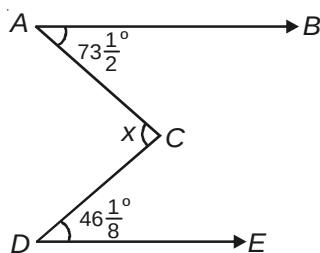
- (a) Rational number 0 is neither positive nor negative
 (b) 1 is neither prime nor composite
 (c) Rational number $\frac{p}{q}$ is in its standard form if p and q have no common divisor
 (d) To convert a rational number into its equivalent rational number, either multiply or divide both its numerator and denominator with any integer

- (1) 4 (2) 3
 (3) 2 (4) 1

47. A bag contains 32 balls, of which 7 are red, 8 are black, 5 are blue and the rest are violet. If the probability of drawing an 'x' coloured ball is 0.375, then which colour is represented by 'x'?

- (1) Red (2) Blue
 (3) Violet (4) Black

48. In the given figure, the value of 'x' is



- (1) 118.736° (2) 120.845°
 (3) 121.365° (4) 119.625°

49. If the mean of the given data is 11.4, then the value of p is

x : 13 5 $p + 1$ 17 11

f : 4 6 4 p 8

- (1) 12 (2) 7
 (3) 10 (4) 8

50. Raju is two years older than Laxman who is twice as old as Sita. If the total of the ages of Raju, Laxman and Sita is 57 years, then the age of Laxman is

- (1) 24 years (2) 22 years
 (3) 11 years (4) 25 years

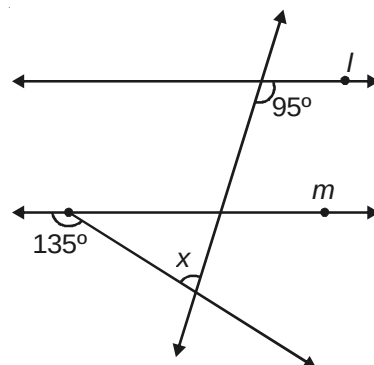
51. Subtracting 8% of x from x is equivalent to multiplying x by how much?

- (1) 0.0092 (2) 0.092
 (3) 0.92 (4) 0.0952

52. Which of the following is not true?

- (1) $1 \text{ cm}^2 = 100 \text{ mm}^2$
 (2) $1 \text{ dm}^2 = 10000 \text{ mm}^2$
 (3) $1 \text{ hectare} = 1000 \text{ m}^2$
 (4) $1 \text{ are} = 100 \text{ m}^2$

53. In the given figure, if $l \parallel m$, then the value of x is



- (1) 45° (2) 50°
 (3) 57° (4) 60°

54. If in $\triangle PQR$, altitudes QM and RN are equal, then the given triangle will always be

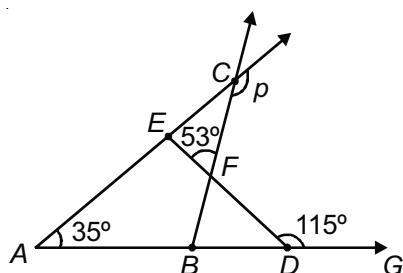
- (1) Isosceles (2) Scalene
 (3) Equilateral (4) Non-determinable

55. The diameter of a wheel of a car is 70 cm. To travel 6600 m, the number of revolutions it will make is

- (1) 2000 (2) 3000
 (3) 2500 (4) 3500

Space For Rough Work

56. In the given figure, the value of p is



- (1) 135°
- (2) 65°
- (3) 153°
- (4) 27°

57. If for the given data : 21, 25, 36, 48, 92, 64, 17, 19 and 28, the median is M_1 and on replacing one observation 21 by 46, the median becomes M_2 , then the difference between M_1 and M_2 is

- (1) 7
- (2) 10
- (3) 12
- (4) 8

58. If $\frac{3}{4}(7p-1) - \left(2p - \frac{1-p}{2}\right) = p + \frac{3}{2}$, then the value of p is

- (1) -8
- (2) $\frac{8}{3}$
- (3) 1
- (4) -3

59. Value of $\frac{[29 - (-2)\{6 - (7 - 3)\}]}{[3 \times \{5 + (-3) \times (-2)\}]}$ is

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

60. A shopkeeper sells a bat and a ball, whose marked price is ₹ 30 at a discount of 15% and gives a ball costing ₹ 1.50 free with each bat. If the shopkeeper still makes a profit of 20%, then the cost price of the bat is

- (1) ₹ 32.15
- (2) ₹ 25.25
- (3) ₹ 19.75
- (4) ₹ 18.75



Space For Rough Work



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Answers

- | | | | | |
|---------|---------|---------|---------|---------|
| 1. (4) | 13. (3) | 25. (4) | 37. (2) | 49. (4) |
| 2. (1) | 14. (3) | 26. (2) | 38. (2) | 50. (2) |
| 3. (2) | 15. (1) | 27. (3) | 39. (3) | 51. (3) |
| 4. (4) | 16. (3) | 28. (3) | 40. (2) | 52. (3) |
| 5. (4) | 17. (3) | 29. (1) | 41. (4) | 53. (2) |
| 6. (3) | 18. (2) | 30. (1) | 42. (1) | 54. (1) |
| 7. (3) | 19. (3) | 31. (2) | 43. (1) | 55. (2) |
| 8. (2) | 20. (2) | 32. (3) | 44. (4) | 56. (3) |
| 9. (1) | 21. (2) | 33. (1) | 45. (2) | 57. (4) |
| 10. (1) | 22. (3) | 34. (2) | 46. (3) | 58. (3) |
| 11. (2) | 23. (1) | 35. (4) | 47. (3) | 59. (1) |
| 12. (1) | 24. (4) | 36. (4) | 48. (4) | 60. (3) |