

# *Talent Search Exam. 2023*

## *for class-VII*

**Duration:1:30 Hr**

**Max. Marks 240**

### **INSTRUCTIONS**





#### **A. General :**

1. This booklet is your Question Paper. DO NOT break seal of Booklet until the invigilator instructs to do so. Total Questions to be Attempted 60: **Physics : 10, Chemistry : 10, Biology : 10, Mathematics : 20 & MAT : 10 Questions.**
2. The Answer Sheet is provided to you separately which is a machine readable Optical Response Sheet (ORS). You have to mark your answers in the ORS by darkening bubble, as per your answer choice, by using black & blue ball point pen.
3. Things NOT ALLOWED in EXAM HALL : Blank Paper, clipboard, log table, slide rule, calculator, camera, mobile and any electronic or electrical gadget. If you are carrying any of these then keep them at a place specified by invigilator at your own risk.
4. 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 :**

5. On Side-1 of Answer Sheet write your Name and Roll Number in the respective boxes. Do not write anything on Side-2.
6. **Marking Scheme:**
  - a. If darkened bubble is RIGHT answer : 4 Marks.
  - b. If no bubble is darkened in any question: No Mark.
  - c. If darkened bubble is WRONG answer: -1 Mark (Minus One Mark).
7. Think wisely before darkening bubble as there is negative marking for wrong answer

### **PROCEDURE OF FILLING UP THE ANSWER IN ANSWER SHEET**

Avoid Improper Marking			Proper Marking	
				
Partially Filled	Lightly Filled	Tick-Cross Marked	Fully darken	

Name of the candidate (In Capital Letters)

Roll Number

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

.....  
(Signature of the candidate)

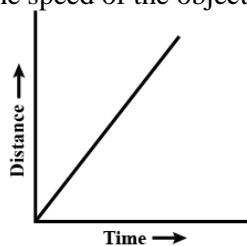
I have verified all the information filled in by the candidate.

.....  
(Signature of the Invigilator)

**You can never quit. Winners never quit, and quitters never win.**

## [Science ]

1. Distance time graph is shown. What can be concluded about the speed of the object?



- (a) Increases (b) Decreases  
(c) Remains the same (d) Both (a) & (b)
2. What is the acceleration of a particle moving with uniform velocity?  
(a)  $1 \text{ ms}^{-2}$  (b)  $2 \text{ ms}^{-2}$   
(c) 0 (d)  $3 \text{ ms}^{-2}$
3. A person, seated in a tree branch, is at rest with reference to  
(a) a moving car  
(b) the moon  
(c) the sun  
(d) an electric pole on the ground
4. Which of the following has uniform speed?  
(a) A rocket moving in space  
(b) A train starting from a station  
(c) A dog chasing a cat  
(d) A man walking on the road
5. At what temperature, if any, do the Fahrenheit and Kelvin scales give the same reading? (Take LFP of Kelvin scale as  $273.15 \text{ K}$ )  
(a)  $574.6^\circ\text{F}$  (b)  $-574.6^\circ\text{F}$   
(c)  $474.6^\circ\text{F}$  (d)  $-474.6^\circ\text{F}$
6. Convert  $-40^\circ\text{F}$  into Kelvin scale.  
(a)  $313 \text{ K}$  (b)  $-473 \text{ K}$   
(c)  $233 \text{ K}$  (d)  $-484 \text{ K}$
7. Which of the following is the correct conversion of calorie to joule?  
(a)  $4.2 \text{ cal} = 1 \text{ joule}$  (b)  $1 \text{ cal} = \frac{1}{4.2} \text{ joule}$   
(c)  $4.2 \text{ joule} = 1 \text{ cal}$  (d) All of these
8. What do you call the transfer of heat from a hot body to a cold body without heating the intervening medium?  
(a) Conduction (b) Convection  
(c) Radiation (d) Any of these
9. Which of the following is the S.I. unit of density?  
(a)  $\text{g/cm}^3$  (b)  $\text{g/cm}^2$   
(c)  $\text{kg/m}^2$  (d)  $\text{kg/m}^3$
10. What is the mass of an object whose weight is  $980 \text{ N}$ ? (Take  $g = 9.98 \text{ m/s}^2$ )  
(a)  $19 \text{ kg}$  (b)  $1000 \text{ kg}$   
(c)  $100 \text{ kg}$  (d)  $1 \text{ kg}$
11. Which of the following statements is incorrect?  
(a) The wool obtained from patanwadi breed of sheep is used for hosiery  
(b) Silk is the weakest of all natural fibres  
(c) Synthetic fibres are made from chemicals  
(d) Question does not provide sufficient data or vague

12. Read the given passage.

The cotton plant is grown in i soil and (ii) climate. Its fibre are then separated from the seeds by the process of (iii). The fibres are then made into yarn by the processes of (iv). The yarn is (v) in beautiful colours and then (vi) to get cotton fabric. Which of the following options correctly fills any two blanks in the given passage?

- (a) (ii)-Cold, (vi)-Weaved  
(b) (v)-Spinned, (iv)-Knitting  
(c) (i)-Black, (iii)-Ginning  
(d) (i)-Clayey, (v)-Spinned

13. Match column-I with column-II and select the correct option from the given codes:

	Column-I		Column-II
P.	Used as a preservative	(i)	$\text{KNO}_3$
Q.	Used in medicines as well as in fire extinguishers	(ii)	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
R.	Used as a fungicide and in electroplating	(iii)	$\text{NaCl}$
S.	used in fireworks	(iv)	$\text{NaHCO}_3$

- (a) P-(iii), Q-(iv), R-(i), S-(ii)  
(b) P-(ii), Q-(iii), R-(i), S-(iv)  
(c) P-(i), Q-(iv), R-(iii), S-(ii)  
(d) P-(iii), Q-(iv), R-(ii), S-(i)

14. How does the excessive used of chemical fertilizers in the agricultural fields affect the pH of soil?

- (a) Drops the pH in acidic range  
(b) pH is no effect (neutral)  
(c) Drops the pH in basic range  
(d) All of the above

15. When vinegar is reacted with baking soda, the product formed is

- (a) Acetic acid  
(b) Sodium hydrogen carbonate  
(c) Carbon dioxide  
(d) Lime water

16. The damaging effect of acid rain is caused due to

- (a) Carbonic acid (b) Sulphuric acid  
(c) Oxalic acid (d) All of these

17. Which of the following represents an incorrect match?

- (a) Ant's sting - Formic acid  
(b) Wasp sting - Acetic acid  
(c) Spinach - Oxalic acid  
(d) Citrus fruits - Ascorbic acid

18. The human activity which is a big concern regarding water management is

- (a) Industrialisation (b) Mechanisation  
(c) Modernisation (d) Beautification

19. The type of toilet in which human excreta is treated by earthworms is called

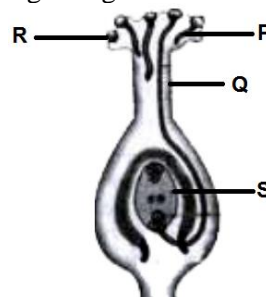
- (a) Vermi-composting toilet  
(b) Vermi-processing toilet  
(c) Vermi-treated toilet  
(d) Toilet

20. Temperature, solids and odour of water are considered as  
 (a) physical characteristics  
 (b) chemical characteristics  
 (c) biological characteristics  
 (d) mechanical characteristics
21. After photosynthesis, carbohydrates ultimately get converted into  
 (a) starch (b) glycogen  
 (c) glucose (d) carbon dioxide
22. Match column-I with column-II and column-III and select correct option from the given codes:

Column-I	Column-II	Column-III
(p) Mouth	(i) Pepsin	(L) Emulsifies fats
(q) Stomach	(ii) Lipase	(M) Changes starch to sugar
(r) Liver	(iii) Bile	(N) Changes fats into fatty acids and glycerol
(s) Pancreas	(iv) Salivary amylase	(O) Breaks protein to peptones

- (a) p-(iv) (M); q-(i)(O); r-(iii)(L); s-(ii)(N)  
 (b) p-(iv) (N); q-(i)(L); r-(ii)(O); s-(iii)(N)  
 (c) p-(i) (N); q-(iii)(M); r-(ii)(L); s-(iv)(O)  
 (d) p-(iv) (O); q-(iii)(N); r-(ii)(M); s-(i)(L)
23. Given below is a list of few adaptations shown by an animal.  
 (i) Two thick layers of fur  
 (ii) A layer of fat under the skin  
 (iii) Webbed feet and flippers  
 (iv) Strong sense of smell  
 How many of these adaptations are shown by polar bear?  
 (a) (i) and (ii) only (b) (i), (iii) and (iv) only  
 (c) (i), (ii) and (iv) only (d) (i), (ii), (iii) and (iv)
24. Availability of water and minerals in the soil for maximum absorption by roots is in the  
 (a) B-horizon (b) C-horizon  
 (c) A-horizon (d) Surface of soil
25. When we do heavy exercise anaerobic respiration takes place in which of the following cells?  
 (a) Bone cells  
 (b) Liver cells  
 (c) Muscle cells

- (d) Question does not provide sufficient data or is vague
26. Which of the following statement is correct?  
 (a) The right atrium contains the oxygenated blood .  
 (b) The left ventricle pumps the oxygen rich blood to left atrium  
 (c) The left atrium pumps the oxygen-rich blood to left ventricle.  
 (d) Question does not provide sufficient data or is vague
27. Blood pressure is regulated by hormone:  
 (a) secreted by adrenal glands  
 (b) secreted by pancreas  
 (c) secreted by liver  
 (d) all of the above
28. Observe the given figure and select the correct statement(s) regarding P-S.



- (i) The given figure shows the process of pollination  
 (ii) P secretes sugary solution which stimulates the germination of R.  
 (iii) Male gametes are formed inside the Q  
 (iv) S contains fertilized ovule which contains zygote  
 (a) (i) and (iii) only (b) (ii), (iii) and (iv) only  
 (c) (i), (ii) and (iv) only (d) (iv) only
29. Which of the following plant part produces new plant in Bryophyllum?  
 (a) Leaves (b) Flower  
 (c) Roots (d) Stem
30. Arrange the following components of a food chain in proper sequence-grass, frog, eagle, insects, snake  
 (a) Grass → insects → frog → snake → eagle  
 (b) Grass → snake → insects → frog → eagle  
 (c) grass → snake → eagle → insects → frog  
 (d) all are possible

## [Mathematics]

31. Simplify:  $\frac{3.6 \times 0.48 \times 2.50}{0.12 \times 0.09 \times 0.5}$

- (a) 80 (b) 800  
(c) 8000 (d) 80,000

32. Simplify:

$$20 - [-15 + \{4 \div (-1) - 3\} \times 6]$$

- (a) 41 (b) -41  
(c) -1 (d) 77

33. The cost of 28 toys of the same kind is Rs. 3462.20, then the cost of each toy is

- (a) Rs. 123 (b) Rs. 123.65  
(c) Rs. 124.65 (d) Rs. 122.65

34. If  $x\%$  of 24 = 64, then the value of  $x$  is

- (a)  $37\frac{1}{2}$  (b)  $133\frac{1}{3}$   
(c)  $266\frac{2}{3}$  (d)  $66\frac{2}{3}$

35. A letter is chosen at random from the word 'MATHEMATICS'. The probability that it is a vowel is

- (a)  $\frac{3}{11}$  (b)  $\frac{6}{11}$   
(c)  $\frac{4}{11}$  (d)  $\frac{7}{11}$

36. The mean of the first ten natural numbers is

- (a) 5 (b) 5.5  
(c) 6 (d) 6.5

37. If  $\frac{x-1}{x+1} = \frac{7}{9}$ , then the value of  $x$  is

- (a) 6 (b) 7  
(c) 8 (d) 10

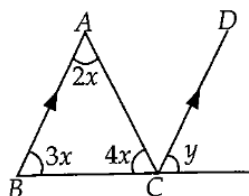
38. Two complementary angles differ by  $10^\circ$ . The larger angle is

- (a)  $60^\circ$  (b)  $50^\circ$   
(c)  $64^\circ$  (d)  $54^\circ$

39. How many days are there in  $x$  weeks and  $x$  days?

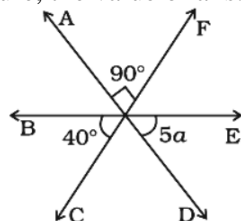
- (a)  $7x^2$  (b) 7  
(c)  $8x$  (d)  $14x$

40. In the given figure,  $CD \parallel AB$ . Find the value of  $y$ .



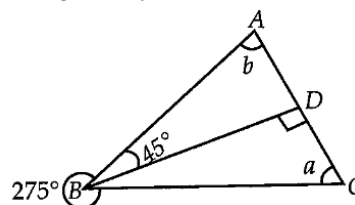
- (a)  $40^\circ$  (b)  $60^\circ$   
(c)  $80^\circ$  (d)  $50^\circ$

41. In figure, the value of  $a$  is:



- (a)  $20^\circ$  (b)  $15^\circ$   
(c)  $5^\circ$  (d)  $10^\circ$

42. In the given figure, by how much  $a$  is bigger than  $b$ ?

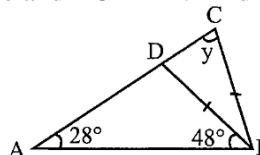


- (a)  $50^\circ$  (b)  $45^\circ$   
(c)  $5^\circ$  (d)  $10^\circ$

43. If the angles of triangle are  $3x$ ,  $5x$  and  $4x$ , then find the smallest angle of the triangle.

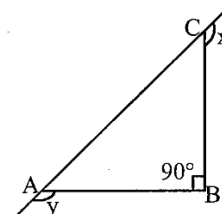
- (a)  $15^\circ$  (b)  $45^\circ$   
(c)  $60^\circ$  (d)  $30^\circ$

44. In the given figure (not drawn to scale), ABC is a triangle and  $BC = BD$ . Find the value of  $y$ .



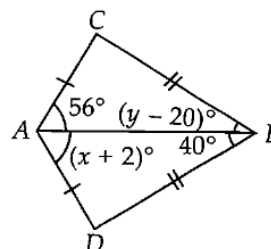
- (a)  $73^\circ$  (b)  $74^\circ$   
(c)  $75^\circ$  (d)  $76^\circ$

45. In a  $\triangle ABC$ , right angled at  $B$ , which statement is true?



- (a)  $x + y = 180^\circ$  (b)  $x + y = 270^\circ$   
(c)  $x + y = 300^\circ$  (d)  $x + y = 90^\circ$

46. Find the value of  $x$  and  $y$  respectively in the given figure.



- (a)  $58^\circ, 76^\circ$  (b)  $54^\circ, 60^\circ$   
(c)  $38^\circ, 20^\circ$  (d)  $42^\circ, 36^\circ$

47. A man purchased 700 eggs. He found that 20% of them were broken. How many eggs were found broken?

- (a) 20 (b) 70  
(c) 140 (d) 35

48. If  $a\%$  of  $b$  is divided by  $b\%$  of  $a$ , then the answer is

- (a)  $a$  (b) 1  
(c)  $b$  (d) 10

49. If twice of  $A$  is equal to thrice of  $B$  and four times of  $B$  is equal to five times of  $C$ , then find the ratio of  $A$  to  $C$ .

- (a) 4 : 5 (b) 2 : 3  
(c) 8 : 15 (d) 15 : 8

50. A sum of Rs. 12,500 amounts to Rs. 15,500 in 4 years at the rate of simple interest. What is the rate of interest?

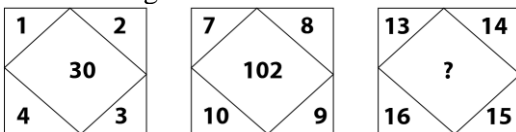
- (a) 6% (b) 8%  
(c) 5% (d) 7%

**[Mat]**

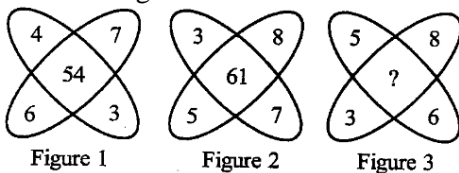
51. Choose the missing term to complete the given series.  
1, 2, 6, 24, ?, 720  
(a) 60 (b) 95  
(c) 120 (d) 150
52. You go towards North, turn right, then right again and then go to the left. In which direction are you facing now?  
(a) North (b) South  
(c) East (d) West
53. Mohit starting from a fixed point goes 15m towards North and then after turning to his right he goes 15 m. Then he goes 10, 15 and 15 metres after turning to his right each time. How far is he from his starting point?  
(a) 20m (b) 5m  
(c) 10m (d) 15m
54. If '+' denotes ' $\div$ ', ' $\div$ ' denotes '-', and ' $\times$ ' denotes '+', then  $12 + 2 \times 9 \div 4$  is \_\_\_\_\_.  
(a) 4 (b) 9  
(c) 11 (d) 18
55. Find the missing number, if a certain rule is followed either row-wise or column-wise.

5	12	4	8
9	15	3	12
8	20	4	?

- (a) 16 (b) 14  
(c) 12 (d) 115
56. Find the missing number, if same rule is followed in all the three figures.



- (a) 58 (b) 174  
(c) 116 (d) 232
57. Find the missing number, if the same rule is followed in all the three figures.



- (a) 52 (b) 54  
(c) 64 (d) 70
58. Which of the following options will complete the given letter series?  
LGI, OJM, RMQ, UPU, \_\_\_\_?  
(a) XSY (b) XST  
(c) SXY (d) STX
59. The following question, choose the correct mirror image of the given Fig. (X) from amongst the options if mirror is placed vertically to the right of the figure.

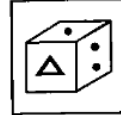
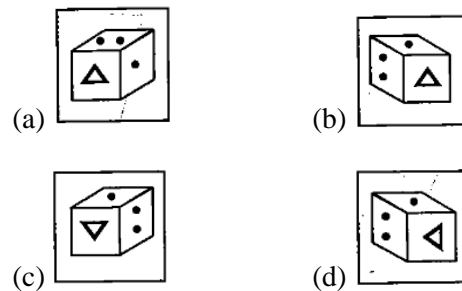
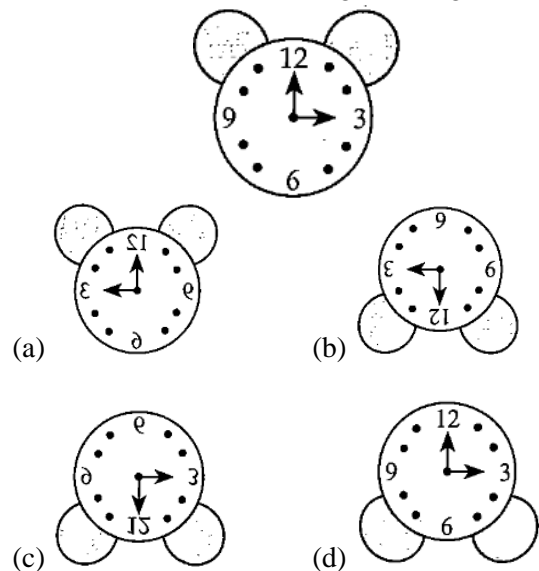


Fig. (X)



60. Select the correct water image of the given figure.



[ For Rough Work ]

[ For Rough Work ]

[ For Rough Work ]