

Talent Search Exam -2022

Class-vii

TEST
CODE **7000**

BOOKLET **B**

Duration: 1:30 Hours

Max. Marks: 240

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

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

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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.

.....
(Signature of the Invigilator)

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

SCIENCE

- Process of change of state from gaseous state to liquid state is called
(a) freezing (b) sublimation
(c) boiling (d) condensation
- Substances which allow heat to pass through them are called
(a) conductors (b) insulators
(c) moderators (d) none of these
- When you pour hot tea suddenly into a glass tumbler, it cracks. Because
(a) glass cannot resist heat
(b) glass expands unevenly around the place of contact with the tea
(c) tea has chemicals which react with glass tumblers
(d) the reason is yet to be discovered by the Scientists
- What part of second is called nanosecond?
(a) One hundredth (b) One thousandth
(c) One millionth (d) One billionth
- A body is in uniform motion. On which type of path should it travel so that its motion can be called periodic motion?
(a) Straight path (b) Curved path
(c) Circular path (d) none of these
- A ship is moving at a speed of 56 km/h. One second later it is moving at 58 km/h. What is its acceleration?
(a) 7200 km/h^2 (b) 3295 km/h^2
(c) 5490 km/h^2 (d) 8200 km/h^2
- Pick the odd one out of the following:
(a) Monsoon (b) Typhoon
(c) Hurricane (d) Cyclone
- Which of the following does not show oscillatory motion?
(a) Swing (b) Fan
(c) See-saw (d) Pendulum
- Speed of wind depends on
(a) difference between temperature of two places
(b) difference between atmospheric pressure of two places
(c) rotation of Earth on its axis
(d) all of these
- While drinking a soft drink with the help of a straw the pressure in the straw is _____ and the pressure in the bottle is _____.
(a) high, less (b) high, high
(c) less, less (d) less, high
- Which of the following statements is/are correct?
I. Acids are sour in taste and corrosive in nature
II. Fruits and vegetables contain inorganic acids
III. All bases are soluble in water
IV. Bases produce salts with all metals.

V. Milk of magnesia is an aqueous solution of magnesium carbonate.

- (a) II and IV only (b) I only
(c) III and V only (d) I, II, III, IV and V
12. Seema conducted an experiment to test the nature of four different samples. She noted down her observations in the given table.

Sample	Effect on		
	Turmeric solution	China rose indicator	Methyl orange indicator
W	Red	Green	Yellow
X	Yellow	Magenta	Red
Y	Yellow	Light pink	Orange
Z	Red	Green	Yellow

Which of the following conclusions can be drawn from this experiment?

- (a) W and Z are basic, X is acidic and Y is neutral in nature
(b) W is acidic, X is basic, Y and Z are neutral in nature.
(c) W and Z are acidic, X is basic and Y is neutral in nature.
(d) Y is neutral, W and X are basic and Z is acidic in nature.
13. Which of the following acids are not present in acid rain?
(a) Sulphuric acid (b) Nitric acid
(c) Carbonic acid (d) Hydrochloric acid
14. Two solutions A and B have pH value 2 and 5 respectively, their nature will be as follows
(a) A and B both acidic
(b) A alkaline, B acidic
(c) B alkaline, A acidic
(d) A and B both alkaline
15. The equation, $\text{Mg}_{(s)} + \text{CuO}_{(s)} \rightarrow \text{MgO}_{(s)} + \text{Cu}_{(s)}$ represents
i. decomposition reaction
ii. displacement reaction
iii. combination reaction
iv. double displacement reaction
v. redox reaction
(a) i and ii (b) iii and iv
(c) ii and v (d) iv and v
16. Classify each of the following reactions:
1. $\text{Zn}_{(s)} + 2\text{AgNO}_{3(aq)} \rightarrow \text{Zn}(\text{NO}_3)_{2(aq)} + 2\text{Ag}_{(s)}$
2. $\text{Ca}(\text{OH})_{2(s)} \xrightarrow{\text{Heating}} \text{CaO}_{(s)} + \text{H}_2\text{O}_{(g)}$
3. $\text{Cu}(\text{NO}_3)_{2(aq)} + \text{Na}_2\text{S}_{(aq)} \rightarrow 2\text{NaNO}_{3(aq)} + \text{CuS}_{(s)} \downarrow$
4. $\text{H}_2\text{SO}_{3(aq)} + 2\text{KOH}_{(aq)} \rightarrow \text{K}_2\text{SO}_{3(aq)} + 2\text{H}_2\text{O}_{(l)}$

	1	2	3	4
(a)	Precipitation	Neutralization	Decomposition	Redox reaction
(b)	Neutralization	Precipitation	Redox reaction	Decomposition
(c)	Redox reaction	Decomposition	Precipitation	Neutralization
(d)	Decomposition	Redox reaction	Neutralization	Precipitation

17. Which of the following will result in a chemical change?

- (a) Mixing of milk and sugar
- (b) Mixing of milk and curd
- (c) Mixing of milk and water
- (d) Mixing of water and salad

18. Fabric from yarn is made by

- (a) sheaving
- (b) spinning
- (c) weaving and knitting
- (d) combing

19. The best known type of silk is obtained from

- (a) mulberry silk
- (b) moonga silk
- (c) tussar silk
- (d) eri silk

20. Which of the following fibres is considered as the strongest natural fibre?

- (a) Cotton
- (b) Jute
- (c) Wool
- (d) Silk

21. Which of the following options contains end-products of photosynthesis?

- (a) $C_6H_{12}O_6 + O_2$
- (b) $CO_2 + H_2O$
- (c) $C_6H_{12}O_6 + CO_2$
- (d) $CO_2 + O_2$

22. Which of the following organisms is not an autotroph?

- (a) Pitcher plant
- (b) Mango tree
- (c) Alga
- (d) Fungus

23. Match column I with column II and select the correct option.

Column I	Column II
A. Algae	(i) Parasite
B. Lichens	(ii) Autotrophic
C. Bread mould	(iii) Symbiosis
D. Rafflesia	(iv) Spoilage of food

- (a) A – (ii), B – (iii), C – (iv), D – (i)
- (b) A – (iii), B – (ii), C – (iv), D – (i)
- (c) A – (i), B – (iii), C – (ii), D – (iv)
- (d) A – (iv), B – (iii), C – (i), D – (ii)

24. Hydrochloric acid in stomach

- (a) helps in the digestion of fat
- (b) kills bacteria ingested with food
- (c) converts starch into sugars
- (d) converts proteins into amino acids

25. Which of the following options shows the correct sequence of the flow of food from mouth to anus?

- (a) Mouth → Oesophagus → Stomach → Small intestine → Large intestine → Anus
- (b) Mouth → Large intestine → Oesophagus → Stomach → Small intestine → Anus
- (c) Mouth → Small intestine → Large intestine →

Oesophagus → Stomach → Anus

(d) Mouth → Stomach → Small intestine → Large intestine → Oesophagus → Anus

26. To measure the relative humidity, we use the instrument

- (a) thermometer
- (b) barometer
- (c) hygrometer
- (d) rain gauge

27. Match column I with column II and select the correct option.

	Column I		Column II
1	Meteorologist	A.	The average weather condition at a particular place over 30 years
2	Weather forecasting	B.	The daily changes in precipitation, pressure, humidity, and wind conditions in a given place
3	Migration	C.	A person who studies the weather
4	Weather forecasting	D.	The use of computer technology and data from earth stations and satellites all over the world to predict weather
5	Climate	E.	The seasonal movement of a complete population of animals from one area to another

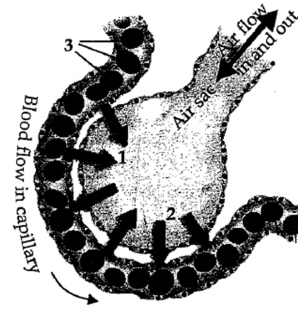
- (a) 1 – (C), 2 – (D), 3 – (E), 4 – (B), 5 – (A)
- (b) 1 – (C), 2 – (E), 3 – (B), 4 – (A), 5 – (D)
- (c) 1 – (A), 2 – (D), 3 – (E), 4 – (C), 5 – (B)
- (d) 1 – (B), 2 – (C), 3 – (C), 4 – (A), 5 – (D)

28. Match column I with column II and select the correct option.

	Column I		Column II
A.	Process of inhalation and exhalation	(i)	Stomata
B.	process of conversion of carbohydrate into alcohol and CO_2	(ii)	Breathing
C.	Main organs of human respiratory system	(iii)	Fermentation
D.	Plant respiration	(iv)	Lungs

- (a) A – (ii), B – (iii), C – (iv), D – (i)
- (b) A – (iii), B – (ii), C – (iv), D – (i)
- (c) A – (iii), B – (i), C – (ii), D – (iv)
- (d) A – (ii), B – (iv), C – (i), D – (iii)

29. Which of the following group of organisms respire through skin?
- Frog and fish
 - Earthworm and frog
 - Hydra and cockroach
 - All of these
30. Identify the labels (1, 2 and 3) in the given figure showing exchange of gases between alveoli and blood capillaries. Select the correct option.

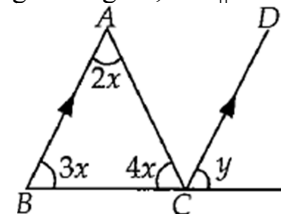


- | | | | |
|-----|-----------------|-----------------|-----------------|
| | 1 | 2 | 3 |
| (a) | CO ₂ | O ₂ | RBCs |
| (b) | O ₂ | CO ₂ | RBCs |
| (c) | RBCs | O ₂ | CO ₂ |
| (d) | CO ₂ | RBCs | O ₂ |

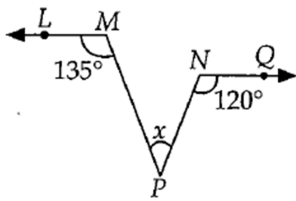
MATHEMATICS

31. Find the value of $(a \times b) - (a + b)$, if $a = -4$ and $b = 3$
- 4
 - 11
 - 11
 - 4
32. The product of all integers between -3 and 2 is
- 12
 - 6
 - 0
 - none of these
33. Which one is correct?
- All natural numbers are whole numbers, all whole numbers are integers.
 - All whole numbers are integers, all integers are natural numbers.
 - All integers are whole numbers, all natural numbers are integers.
 - All integers are whole numbers, all integers are natural numbers.
34. $\frac{4}{15}$ of $\frac{5}{7}$ of a number is greater than $\frac{4}{9}$ of $\frac{1}{4}$ of the same number by 8. What is half of the number?
- 630
 - 315
 - 210
 - 105
35. If $\frac{1}{3.718} = 0.2689$, then the value of $\frac{1}{0.0003718}$ is
- 2689
 - 2.689
 - 26890
 - 0.2689
36. How many $\frac{1}{4}$ are there in $22\frac{1}{2}$?
- 22
 - 44
 - 45
 - 90
37. The arithmetic mean of first 20 odd natural numbers is
- 40
 - 20
 - 25
 - 21
38. Manas spins a spinner that splits into 8 equal sections. The sections are labeled 1, 4, 3, 4, 2, 1, 3,

2. What is the probability that the spinner will land on an even number?
- $\frac{1}{4}$
 - $\frac{1}{2}$
 - $\frac{3}{4}$
 - $\frac{5}{8}$
39. If the median of $k/2$, $k/5$, $k/4$, k and $k/6$ (where $k > 0$) is 9, then find the value of $k/12$.
- 12
 - 6
 - 3
 - 8
40. Solve for x : $\frac{7x+3}{4} + \frac{9x-5}{8} = \frac{16x-3}{16}$
- $\frac{1}{6}$
 - $\frac{5}{3}$
 - $-\frac{3}{5}$
 - $-\frac{1}{6}$
41. The sum of two consecutive multiples of 6 is 114. Find the smaller number.
- 60
 - 66
 - 54
 - 96
42. If $\frac{3}{7}$ of 64% of $\frac{x}{21}$ is 1280, then the value of x is
- 98000
 - 64000
 - 8000
 - 4900
43. In the given figure, $CD \parallel AB$. Find the value of y .

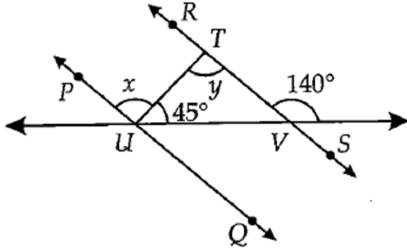


- 40°
 - 60°
 - 80°
 - 50°
44. Given that $LM \parallel NQ$, $\angle LMP = 135^\circ$ and $\angle QNP = 120^\circ$. Find the value of x .



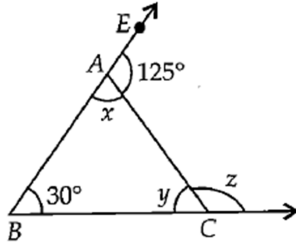
- (a) 60° (b) 75°
(c) 135° (d) 120°

45. In the given figure, $PQ \parallel RS$. Find the values of x and y respectively.



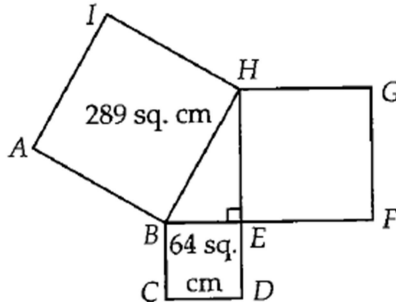
- (a) $85^\circ, 85^\circ$ (b) $95^\circ, 75^\circ$
(c) $85^\circ, 95^\circ$ (d) $95^\circ, 95^\circ$

46. Find the value of z in the given figure.



- (a) 95° (b) 85°
(c) 55° (d) 75°

47. What is the length of the side of the square EFGH?



MAT

Direction (Q. No. 51): In the following question, choose the missing term to complete the given series.

51. 5, 6, 9, 14, 21, 30, 41, ?

- (a) 21 (b) 54
(c) 61 (d) 72

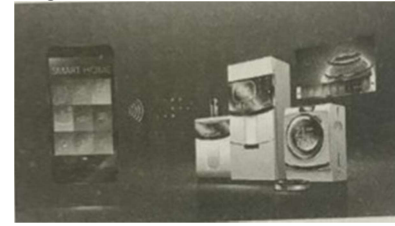
52. Find the missing number, if same rule is followed in all the three figures.



- (a) 361 (b) 625
(c) 729 (d) 964

- (a) 11 cm (b) 9 cm
(c) 15 cm (d) 13 cm

Ajay works as a manager in the most popular electronic showroom of the city, which sells various electronic gadgets following the latest trends. As per annual sales chart, Ajay prepares a small summary to present in the annual meeting.



Based on the above information, answer the following questions.

48. If the annual profit was Rs. 540000 and 15% of it was from sales of mobile phones and 18% from refrigerators. Find the difference between the profits obtained by the sales of mobile phones and refrigerators.

- (a) Rs. 12600 (b) Rs. 15400
(c) Rs. 16200 (d) Rs. 14400

49. 240 laptops were sold in the year 2020 and the sales of laptops were 420 in 2021. Find the increase in the sales of laptops in 2021 than in 2020.

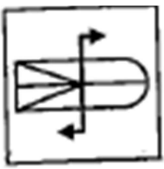
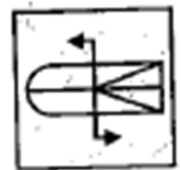
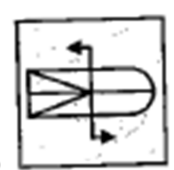
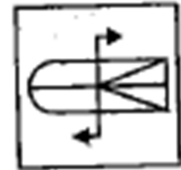
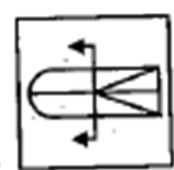
- (a) 45% (b) 90%
(c) 75% (d) 80%


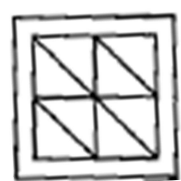
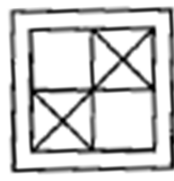
50. Two angles are complementary and equal, then find each of the angles.



- (a) $90^\circ, 90^\circ$ (b) $45^\circ, 45^\circ$
(c) $180^\circ, 180^\circ$
(d) $135^\circ, 45^\circ$

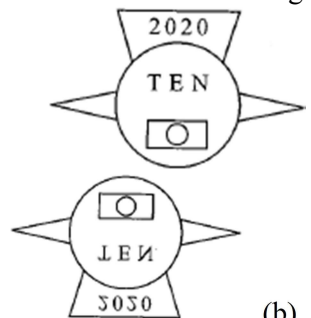

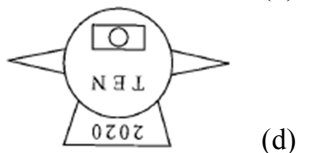
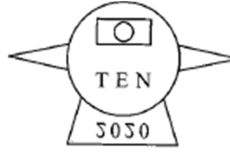
- (c) 45m, North (d) 40m, West
55. If '÷' stands for 'division', '+' stands for 'multiplication', '×' stands for 'subtraction' and '×' stands for 'addition', then which one of the following equations is correct?
- (a) $2 \times 5 \times 6 + 3 \div 2 = 23$
 (b) $2 \times 5 + 6 - 3 \div 2 = 23$
 (c) $2 - 5 \div 6 \times 3 - 2 = 23$
 (d) $2 \div 5 + 6 - 3 + 2 = 23$

Directions (Q. No. 56-57): In each of the following questions, choose the correct mirror image of the given figure (X) from amongst the options if mirror is placed vertically to the right of each figure.

- 56.
- 
- Fig. (X)**
- (a) 
 (b) 
 (c) 
 (d) 

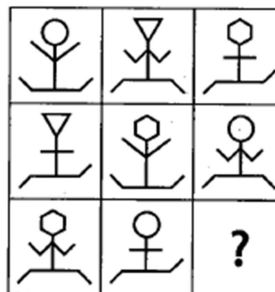
- 57.
- 
- Fig. (X)**
- (a) 
 (b) 


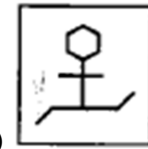


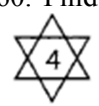

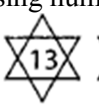
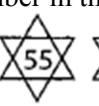
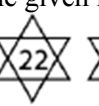


- (c) 
 (d) 
58. Select the correct water image of the given figure.

- (a) 
 (b) 
 (c) 
 (d) 

Direction (Q. No. 59) The following question, find out which of the options completes the figure matrix.

59.



- (a) 
 (b) 
 (c) 
 (d) 
60. Find the missing number in the given number series.
-       
- (a) 32 (b) 60
 (c) 62 (d) 31

For Rough Work

For Rough Work