

SAMPLE TEST PAPER A TALENT SEARCH EXAM 2021



Time : 30 Minutes

Class : 9th STAGE - 1

Max. Marks : 100

INSTRUCTIONS

DO NOT BREAK THE SEAL WITHOUT BEING INSTRUCTED TO DO SO BY THE INVIGILATOR

[A] General :

1. Attempt ALL the questions. Answer have to be **darkened** on the **OMR** sheet.
2. This question paper contains **25 questions**.
3. The question paper consists of **THREE Parts**, e.g. **Mathematics (1 to 10), Science (11 to 20) & Mental Ability (21 to 25)**
4. Blank spaces are provided at the bottom of each page for rough work. No additional sheets will be provided for rough work.
5. Blank paper, clipboard, log tabs, slide rules, calculators, cellular phones, pagers and electronic gadgets in any form are **NOT** allowed.
6. Do not Tamper / mutilate the **OMR sheet** or this booklet.
7. Do not break the seals of the question-paper booklet before instructed to do so by the invigilator.
8. **SUBMIT** the OMR sheet to the invigilator after completing the test & take away the test paper with you.

[B] Filling of OMR Sheet :

9. In all the parts, each question will have 4 choices out of which **only one choice is correct**
10. Use only Black/Blue ball point pen for filling the OMR sheet.
11. On the OMR sheet, darken the appropriate bubble for each character of your name, Registration No., Phone No. etc.

[C] Marking Scheme :

12. For each right answer you will be **awarded 4 marks** if you darken the bubble corresponding to the correct answer and **zero marks** if no bubble is darkened. In case of bubbling of incorrect answer, **minus one (-1)** mark will be awarded.

Best of Luck

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PART - I MATHEMATICS**(SINGLE CORRECT ANSWER TYPE)**

- This Part contains **TEN** questions.
- Each question has **FOUR** options [A], [B], [C] and [D]. **ONLY ONE** of these four options is correct.
- For each question, darken the bubble(s) corresponding to all the correct option(s) in the OMR.

Q.1 Which of the following is the greatest ?

(A) 7^2

(B) $(49)^{3/2}$

(C) $\left(\frac{1}{343}\right)^{-1/3}$

(D) $(2401)^{-1/4}$

Q.2 If $x = \frac{\sqrt{3} + \sqrt{2}}{\sqrt{3} - \sqrt{2}}$ and $y = 1$ then the value of $\frac{x-y}{x-3y}$ is

(A) $\frac{5}{\sqrt{6}-4}$

(B) $\frac{5}{\sqrt{6}+4}$

(C) $\frac{\sqrt{6}-4}{5}$

(D) $\frac{\sqrt{6}+4}{5}$

Q.3 Solve $\left|3 - \frac{2x}{5}\right| \leq 4$.

(A) $\frac{5}{2} \leq x \leq \frac{35}{2}$

(B) $\frac{-5}{2} \leq x \leq \frac{35}{2}$

(C) $\frac{-35}{2} \leq x \leq \frac{-5}{2}$

(D) None of these

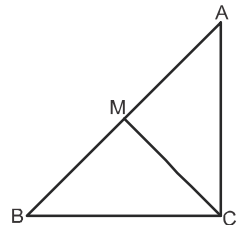
Q.4 In the following figure, $\triangle ABC$ is right angled at C and M is the mid-point of hypotenuse AB. if $AC = 32$ cm and $BC = 60$ cm, then find the length of CM.

(A) 32 cm

(B) 30 cm

(C) 17 cm

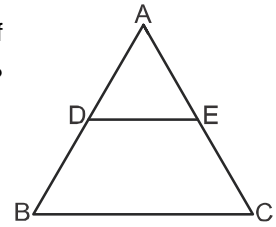
(D) 34 cm



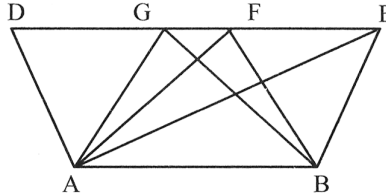
Space for rough works

Q.5 In the following figure, ABC is an equilateral triangle. DE is parallel to BC and equal to half the length of BC. If $AD + EC + CB = 24$ cm, then what is the perimeter of triangle ADE?

- (A) 12 cm (B) 16
(C) 18 cm (D) Cannot be determined.



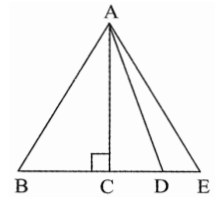
Q.6 In the given figure, $\overline{AB} \parallel \overline{DE}$ and area of the parallelogram ABFD is 24cm^2 . Find the area of $\triangle AFB$, $\triangle AGB$ and $\triangle AEB$.



- (A) 8cm^2 (B) 12cm^2 (C) 10cm^2 (D) 14cm^2

Q.7 In the shown figure (not to scale), AC is the median as well as altitude to BD. In $\triangle ACE$, AD is the median to CE. Which of the following is true?

- (A) $AB + CD > AE$ (B) $AB + BC = AE$
(C) $AB + DE < AE$ (D) None of the above



Q.8 If a regular hexagon is inscribed in a circle of radius 4 cm, then find the area of the polygon in cm^2 .

- (A) $6\sqrt{3}$ (B) $24\sqrt{3}$ (C) $4\sqrt{3}$ (D) $48\sqrt{3}$

Q.9 A largest possible right-circular cylinder is cut out from a wooden cube of edge 7 cm. Find the volume of the wood left over after cutting the cylinder (in cu cm).

- (A) 73.5 (B) 82.5 (C) 76 (D) 92

Q.10 A solid sphere of radius 4 cm is melted and recast into 'n' solid hemispheres of radius 2 cm each. Find n.

- (A) 32 (B) 16 (C) 8 (D) 4

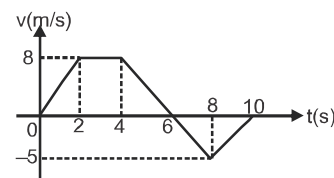
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PART - II SCIENCE**(SINGLE CORRECT ANSWER TYPE)**

- This Part contains **TEN** questions.
- Each question has **FOUR** options [A], [B], [C] and [D]. **ONLY ONE** of these four options is correct.
- For each question, darken the bubble(s) corresponding to all the correct option(s) in the OMR.

Q.11 Starting from rest a body travels 36m in the first 2 second of its journey. Distance it can travel in the 11th second is
 (A) 72 m (B) 108 m (C) 144 m (D) 189 m

Q.12 For a particle moving along x-axis, velocity-time graph is as shown in figure. Find the distance travelled and displacement of the particle ?

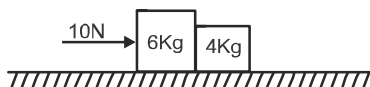


- (A) 42, 22 (B) 42, 42
 (C) 22, 22 (D) 22, 42

Q.13 When a force of constant magnitude always act perpendicular to the motion of a particle then :

- (A) Velocity is constant (B) Acceleration is constant
 (C) K.E. is constant (D) None of these

Q.14 Two blocks are kept in contact with each other on a smooth surface. The force on the lighter block and its acceleration is



- (A) 6N, 1 m/s² (B) 4N, 1 m/s²
 (C) 10N, 1 m/s² (D) 0 N, 0 m/s²

Q.15 Seema visited a Natural Gas Compressing Unit and found that the gas can be liquefied under specific conditions of temperature and pressure. While sharing her experience with friends she got confused. Help her to identify the correct set of conditions

- (A) Low temperature, low pressure (B) High temperature, low pressure
 (C) Low temperature, high pressure (D) High temperature, high pressure

Space for rough works

- Q.16 On converting 25°C, 38°C and 66°C to kelvin scale, the correct sequence of temperature will be
- (A) 298 K, 311 K and 339 K (B) 298 K, 300 K and 338 K
- (C) 273 K, 278 K and 543 K (D) 298 K, 310 K and 338 K
- Q.17 Tincture of iodine has antiseptic properties. This solution is made by dissolving
- (A) iodine in potassium iodide (B) iodine in vaseline
- (C) iodine in water (D) iodine in alcohol
- Q.18 Two chemical species X and Y combine together to form a product P which contains both X and Y



X and Y cannot be broken down into simpler substances by simple chemical reactions. Which of the following concerning the species X, Y and P are correct?

- (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)
- Q.19 Which one is the Physical carrier of carrier of inheritance
- (A) DNA (B) RNA
- (C) Goigi body (D) Cytoplasm
- Q.20 Which one of the following is a Animal hormone
- (A) Thyroxine (B) Bile Juice
- (C) Auxin (D) Cytokinin

Space for rough works

PART - III MENTAL ABILITY**(SINGLE CORRECT ANSWER TYPE)**

- This Part contains **FIVE** questions.
- Each question has **FOUR** options [A], [B], [C] and [D]. **ONLY ONE** of these four options is correct.
- For each question, darken the bubble(s) corresponding to all the correct option(s) in the OMR.

Q.21 If '×' means '+', '-' means '×', '+' means '+' and '+' means '-' then what will be the value of

$$(3 - 15 + 19) \times 8 + 6 = ?$$

- (A) 8 (B) 4 (C) 2 (D) -1

Q.22 Reena walked 4 Kms forward and after turning to her right walked 3 Kms. Again she turned to her right and walked 4 Km. Now, She turned about and she was facing East. In which direction she started to walk ?

- (A) East (B) West
(C) North (D) South

Q.23 If **brightness** is called **darkness**, **darkness** is called **green**, **green** is called **blue**, **blue** is called **red**, **red** is called **white** and **white** is called **yellow** then what is the colour of **blood**?

- (A) red (B) darkness
(C) white (D) yellow

Direction : (90) In the following question, there are four choices. Three of them are alike and form a group, while one of them is different. Find the odd-man-out as directed.

- Q.24 (A) MNO (B) EFG (C) XYZ (D) QRT

Directions : (Q.20) Choose the odd one from the given four choices :

- Q.25 (A) Monkey (B) Rabbits (C) Whale (D) Shark

Space for rough works

SAMPLE TEST PAPER ANSWER KEY

STAGE-1_(CLASS 9th)

- | | | | |
|---------|---------|---------|---------|
| 1. (B) | 2. (D) | 3. (B) | 4. (D) |
| 5. (C) | 6. (B) | 7. (C) | 8. (B) |
| 9. (A) | 10. (B) | 11. (D) | 12. (A) |
| 13. (C) | 14. (B) | 15. (C) | 16. (A) |
| 17. (D) | 18. (D) | 19. (A) | 20. (A) |
| 21. (C) | 22. (A) | 23. (C) | 24. (D) |
| 25. (D) | | | |

Space for rough works

V-MAT REWARDS & RECOGNITION

