

SAMPLE TEST PAPER

A TALENT SEARCH EXAM 2019

Time : 2 hours

Class : 8th STAGE - 2

Max. Marks : 240

Name :

Roll No.:

INSTRUCTIONS

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.
You are not allowed to leave the examination hall before the end of the test.

[A] General :

1. Attempt ALL the questions. Answer have to be marked on the **OMR** sheets
2. This question paper contains **60 questions**.
3. The question paper consists of **FIVE Parts Mathematics (Q.No. 1 to 20), Physics (Q.No. 21 to 30), Chemistry (Q.No. 31 to 40), Biology (Q.No. 41 to 50) & Mental Ability (Q.No. 51 to 60)**
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 tapes, 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 section contains (1-15) multiple choice questions. Each questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

Q.1 Find the value of given mixed fraction and express in decimal form.

$$6\frac{1}{4} - 5\frac{3}{4} + 6\frac{2}{4}$$

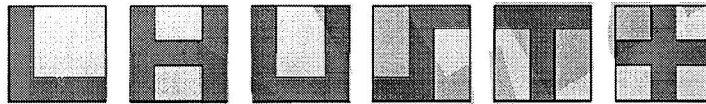
$$4\frac{1}{5} + 6\frac{2}{5} - 2\frac{3}{5}$$

- (A) 0.875 (B) 0.675 (C) 1.225 (D) 0.450

Q.2 In $\triangle ABC$, $m\angle BAC = 70^\circ$. Point D lies on \overline{BC} such that $\angle ACD$ become exterior of $\triangle ABC$. If $m\angle ACD = 120^\circ$ then the value of $\angle ABC$ is _____.

- (A) 50° (B) 60° (C) 20° (D) None of these

Q.3 Kritika shades various shapes on square sheets of paper, as shown. How many of these shapes have the same perimeter as the sheet of paper itself ?



- (A) 2 (B) 3 (C) 4 (D) 5

Space for rough work

- Q.4 A bag contains some marbles. Half of the marbles are given to A, $\frac{1}{3}$ of the remaining to B and the remaining to C. If C has twice that of B, then the number of marbles is
- (A) exactly 12 (B) exactly 18
(C) no unique solution (D) none of these
- Q.5 If the sum of interior angles of a polygon is 3 times the sum of its exterior angles, then the number of sides of the polygon is
- (A) 6 (B) 8 (C) 10 (D) 12
- Q.6 Three numbers are in the ratio 2 : 3 : 4, if sum of their cubes is 33957, then the sum of numbers is
- (A) 14 (B) 21 (C) 28 (D) 63
- Q.7 How many numbers in a set $\left\{\frac{5}{4}, \frac{11}{8}, \frac{13}{5}, \frac{7}{4}, \frac{97}{59}\right\}$ are between 1 and 2 ?
- (A) 1 (B) 2 (C) 3 (D) 4
- Q.8 Due to virus problems, Bill Getes computer changes one fraction into another in a particular pattern. It changes $\frac{1}{3}$ into $\frac{7}{3}$, $\frac{1}{7}$ into 1 and $\frac{2}{5}$ into $\frac{14}{5}$. What fraction will the computer change into $\frac{3}{2}$?
- (A) $\frac{1}{3}$ (B) $\frac{3}{14}$ (C) $\frac{2}{3}$ (D) $\frac{3}{98}$
- Q.9 In the ratio of the areas of two circles is 100 : 1, then the ratio of their radii is :
- (A) 1 : 100 (B) 100 : 1 (C) 10 : 1 (D) 1 : 10

Space for rough work

Q.10 By what number $\left(\frac{3}{4}\right)^{-3}$ should be divided so that quotient becomes 128 ?

- (A) $\frac{1}{54}$ (B) $\frac{1}{72}$ (C) $\frac{1}{90}$ (D) $\frac{1}{108}$

Q.11 The simplification of :

$$7\frac{1}{2} - \left[2\frac{1}{4} \div \left\{ 1\frac{1}{4} - \frac{1}{2} \left(1\frac{1}{2} - \frac{1}{3} - \frac{1}{6} \right) \right\} \right] \text{ yields :}$$

- (A) $\frac{2}{9}$ (B) $4\frac{1}{2}$ (C) $9\frac{1}{2}$ (D) $1\frac{77}{228}$

Q.12 If the present age of Jacob's father is three times that of Jacob, after five years, sum of their ages would be 70 years, then the present age of Jacob's father is :

- (A) 39 years (B) 45 years (C) 54 years (D) 60 years

Q.13 If the weight of 73 bages of cement is 4106.25 kg, what will be the weight of 96 bags ?

- (A) 6300 kg (B) 5400 kg (C) 5400.70 kg (D) 6300.82 kg

Q.14 The cube root of $\frac{1728}{3375}$ is _____.

- (A) $\frac{12}{17}$ (B) $\frac{12}{15}$ (C) $\frac{15}{17}$ (D) $\frac{13}{15}$

Space for rough work

- Q.15 When we square any whole number then which one of the following digit should not come at unit's place:
 (A) 4 (B) 2 (C) 9 (D) 1
- Q.16 A sold a commodity to B with 10% profit. If B resold the same commodity to A with a loss of 10%, then A will have
 (A) 1% loss (B) 11% loss (C) 1% profit (D) 11% profit
- Q.17 Half of a number is 12. What is $\frac{3}{4}$ of the same number?
 (A) 24 (B) 36 (C) 9 (D) 18
- Q.18 The value of $\sqrt{5 + \sqrt{11 + \sqrt{19 + \sqrt{29 + \sqrt{49}}}}}$ on simplifying is
 (A) 3 (B) 2 (C) 1 (D) 4
- Q.19 If $x + \frac{1}{2} + 2 = 0$, then the value of $x^{33} + x^{32} + x^{13} + x^{12} + x + 1$ is
 (A) 2 (B) 0 (C) 3 (D) 4
- Q.20 ABCD is a parallelogram in which diagonals AC and BD intersect at point O. If $\angle BAO = 20^\circ$, $\angle COD = 133^\circ$, then the value of $\angle ODC$ is
 (A) 25° (B) 22° (C) 35° (D) 27°

Space for rough work

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

This section contains (21-30) multiple choice questions. Each questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

- Q.21 An athlete completes one round of a circular track of radius R in 40 s. His displacement at the end of 2 minutes will be :
- (A) $2\pi R$ (B) $6\pi R$ (C) $2R$ (D) zero
- Q.22 The numerical ratio of displacement to distance is :
- (A) always less than one (B) always equal to one
(C) always more than one (D) equal to or less than one
- Q.23 Which of the following is not a unit of distance ?
- (A) Angstrom (B) Parsec (C) Light year (D) Leap year
- Q.24 Four bodies are of m, 2m, 3m, 4m. In which body acceleration produced will be maximum on applying equal amount of force an each one of them.
- (A) m (B) 2m (C) 3m (D) 4m
- Q.25 An explosion takes place on moon. The sound of explosion will reach the earth
- (A) after eight minutes (B) after eight hours (C) never (D) at once

Space for rough work

- Q.26 Sound waves in air are :
- (A) Longitudinal (B) transverse
(C) Logitudinal as well as transverse (D) neither longitudinal nor transverse
- Q.27 Light is :
- (A) an electromagnetic radiation (B) a transverse wave
(C) massless (D) all of the above
- Q.28 Reason for the formation of shadow is that :
- (A) Light can bend around the opaque bodies
(B) Light rays cannot pierce through the opaque bodies
(C) Opaque bodies allow the light to pass through them
(D) Light shows the phenomenon of diffraction around the objects
- Q.29 A horizontal force of 100 N acts on a body which is at rest. What is the force of friction between the body and the floor ?
- (A) 50 N (B) 100 N (C) 150 N (D) 200 N
- Q.30 Electric current is :
- (A) flow of charge per unit time (B) work done per unit time
(C) resistance per unit time (D) all of the above

Space for rough work

PART - III (CHEMISTRY)**(SINGLE CORRECT ANSWER TYPE)**

This section contains (31-40) multiple choice questions. Each questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

Q.31 Which of the following statements is/are correct about an aqueous solution of an acid and of a base ?

- | | | | |
|---------------------------------------|-------------------------------------|------------------|-------------------|
| (i) Higher the pH, stronger the acid | (ii) Higher the pH, weaker the acid | | |
| (iii) Lower the pH, stronger the base | (iv) Lower the pH, weaker the base | | |
| (A) (i) and (iii) | (B) (ii) and (iii) | (C) (i) and (iv) | (D) (ii) and (iv) |

Q.32 Which of the following is not an example of physical change ?

- | | |
|-------------------------------|----------------------------|
| (A) Dissolving sugar in water | (B) Casting iron in moulds |
| (C) Setting of cement | (D) Magnetisation of iron |

Q.33 Generally non-metals are non-lustrous. Exception to this property is

- | | | | |
|--------------|--------------|-------------|------------|
| (A) fluorine | (B) chlorine | (C) bromine | (D) iodine |
|--------------|--------------|-------------|------------|

Q.34 The magnitude of charge on an electron in coulomb is

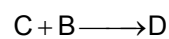
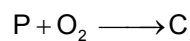
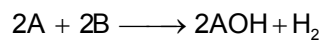
- | | | | |
|---------------------------|--------------------------|--------------------------|-------------------|
| (A) 1.76×10^{11} | (B) 1.6×10^{19} | (C) 9.1×10^{11} | (D) None of these |
|---------------------------|--------------------------|--------------------------|-------------------|

Q.35 Which one of the following is a physical change ?

- | | |
|-------------------------|-----------------------|
| (A) Digestion of food | (B) Boiling of an egg |
| (C) Making a cup of tea | (D) None of these |

Space for rough work

Q.36 Study the following equations and select the correct option.



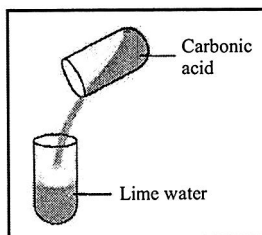
	A	B	C	D
(A)	S	H ₂ O	POH	H ₃ PO ₃
(B)	Na	H ₂ O	PO ₃	P ₃ O ₃
(C)	K	H ₂ O	P ₂ O ₅	H ₃ PO ₄
(D)	C	H ₂ O	P ₂ O ₅	P ₂ O ₅

Q.37 Coal gas is a mixture of :

- (A) CO and H₂ only
- (B) H₂ saturated and unsaturated hydrocarbons, CO, CO₂, N₂ and O₂
- (C) Saturated and unsaturated hydrocarbons only
- (D) CO, CO₂ and CH₄ only

Space for rough work

Q.38 Observe the given figure carefully and select the correct option.



- I. A white precipitate is obtained.
II. Effervescence is observed in the test tube containing lime water.
- (A) II only (B) I only
(C) Both I and II (D) Neither I nor II

Q.39 The non metal which is a liquid at room temperature is

- (A) chlorine (B) nitrogen
(C) bromine (D) hydrogen

Q.40 Which of the following elements belongs to the group that includes the most active metals ?

- (A) Aluminium (B) Sodium
(C) Iron (D) Mercury

Space for rough work

PART - IV (BIOLOGY)**(SINGLE CORRECT ANSWER TYPE)**

This section contains (41-50) multiple choice questions. Each questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

Q.41 Which statement about the mammalian circulatory system is correct ?

- (A) The thickness of walls of veins is greater than that of arteries.
- (B) The order of decreasing velocity of blood flow is : veins > capillaries > arteries.
- (C) The total surface area of the capillaries is considerably greater than that of all the arteries and veins combined.
- (D) In order to return blood to the heart, the blood pressure in veins is higher than it is in the arteries.

Q.42 Match column I with column II and select the correct option from the codes given below.

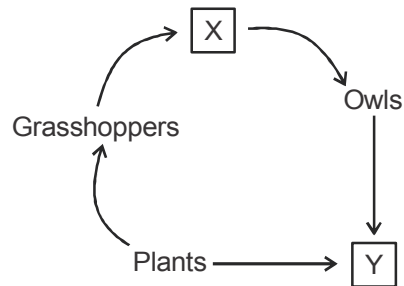
Column I	Column II
(a) Earthworm	(i) Pulmonary respiration
(b) Human	(ii) Branchial respiration
(c) Prawn	(iii) Tracheal respiration
(d) Insects	(iv) Cutaneous respiration
(A) (a) - (i), (b) - (ii), (c) - (iii), (d) - (iv)	(B) (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)
(C) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i)	(D) (a) - (iv), (b) - (ii), (c) - (i), (d) - (iii)

Space for rough work

Q.43 Select the incorrect statement.

- (A) Phloem tubes are only found in the leaves of plants as this is where the sugars are made.
- (B) Volume of blood in an average human adult is 10 liters.
- (C) Blood contains many more white blood cells than red blood cells.
- (D) All of the above

Q.44 Study the food chain carefully.



Which of these can we say about organisms X and Y based on the above figure ?

- (A) X is a carnivore, Y is a herbivore
- (B) X is an omnivore, Y is a carnivore
- (C) X is a herbivore, Y is a herbivore
- (D) X is a carnivore, Y is an omnivore

Q.45 Which is the odd one out?

Karan swiss; Karan fries; Sahiwal; Frieswal

- (A) Sahiwal
- (B) Karan swiss
- (C) Karan fries
- (D) Frieswal

Space for rough work

- Q.46 Combine is a machine used for
(A) irrigation (B) sowing (C) transplantation (D) harvesting
- Q.47 Given below are steps written randomly for the experiment to show that light is essential for photosynthesis.
(i) Pluck the leaf to be experimented
(ii) Cover a portion of leaf on both sides by using strips of black paper
(iii) Keep the plant in dark place for three days to destracth its leaves
(iv) Test the experimental leaf for the presence of starch
(v) Expose the plant to sunlight for four hours
(vi) Remove the black paper strips from the leaf
Which of the following sequences of steps is to be followed for the successful run of the experiment ?
(A) (i), (iii), (ii), (iv), (v), (vi) (B) (ii), (i), (v), (vi), (iii), (iv)
(C) (iii), (ii), (v), (i), (vi), (iv) (D) (v), (ii), (i), (iii), (iv), (vi)
- Q.48 In which part of alimentary canal does the digestion of fats get completed ?
(A) Stomach (B) Food pipe
(C) Small intestine (D) Large interstine
- Q.49 Unicellular organisms rarely grow larger than 1 mm in diameter. Beyond this size,
(A) cells become visible to predators.
(B) it is not possible for mitosis (cell division) to occur.
(C) cell membranes begin to disintegrate.
(D) diffusion alone is not adequate for nutrient supply.
- Q.50 Which of the following is an example of cell devoid of nuclear membrane and mitochondria ?
(A) Bacterial cell (B) Sperm (C) Protist (D) Sponge cell

Space for rough work

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

This section contains (51-60) multiple choice questions. Each questions has four choices (A), (B), (C) and (D) out of which **ONLY ONE** is correct.

- Q.51 The British conquest of Bengal began with the Battle of :
- (A) Plassey (B) Mysore (C) Lapse (D) Buxar
- Q.52 Who introduced Doctrine of Lapse ?
- (A) Sardar Nizamata Adalt (B) Lord Dalhousie
(C) Capatain Hudson (D) Queen Elizabeth-1
- Q.53 Where is fort Willian Located.
- (A) Madras (B) Bombay (C) Jhansi (D) Calcutta
- Q.54 One number is missing in the series. You have to understand the pattern of the series and insert the number.
6, 126, ?, 9, 108, 12, 7, 133, 19, 12, 72, 6
- (A) 21 (B) 23 (C) 30 (D) 35
- Q.55 A wooden cube is painted with purple on all the four adjoining faces and yellow on two opposite faces then it is into 216 identical smaller cubes then how many cubes are there having two different colour on them.
- (A) 24 (B) 20 (C) 40 (D) 48

Space for rough work

- Q.56 Amit ranks seventh from the top and twenty eighth from the bottom in a class. How many students are there in the class ?
- (A) 37 (B) 36 (C) 34 (D) 38
- Q.57 Q's mother is sister of P and daughter of M. S is daughter of P and sister of T. How is M related to T ?
- (A) Grandmother (B) Father
(C) Grandfather (D) Granfather or Grandmother
- Q.58 If 'EAT' is written as 22267. How will you write LIP.
- (A) 141710 (B) 91211 (C) 151811 (D) 81012
- Q.59 A man is facing North-West. He turns 90° in the clockwise direction and then 180° in the anticlockwise direction and then another 90° in the same direction. Which direction is he facing now.
- (A) South (B) South - West (C) West (D) South-East
- Q.60 Given interchanges : Signs + and \times and numbers 4 and 5. Now which of the following equation is correct ?
- (A) $5 \times 4 + 20 = 40$ (B) $5 \times 4 + 20 = 85$
(C) $5 \times 4 + 20 = 104$ (D) $5 \times 4 + 20 = 95$

Space for rough work

SAMPLE TEST PAPER ANSWER KEY

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

V-MAT REWARDS & RECOGNITION



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V-MAT- 2017 Glimpses



V-MAT -2018 Glimpse



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