



SAMPLE TEST PAPER

(FOR STUDENTS MOVING FROM CLASS 8th TO 9th)

Time : 2 Hours

Maximum Marks : 240

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

INSTRUCTIONS

A. General :

1. This booklet is your Question paper containing 60 questions.
2. Blank papers, log tables, slide rules any electronic items like calculators, cellular phones, pagers, etc. are not allowed inside the examination hall.
3. A machine-readable Objective Response Sheet (ORS), is provided separately for answering the questions.
4. Write your **Name** and **Roll No.** in the boxes provided below on this page.

B. Question paper format

This paper consists of 3 **Parts I, II & III.**

- **Part - I** has **25 questions on Science**

- **Part - II** has **20 questions on Mathematics**

- **Part - III** has **15 questions on Logical Aptitude.**

C. Marking scheme :

All are multiple choice questions with only one correct answer. **Each correct answer carries +4 marks and each wrong answer will get -1 mark.**

D. Filling the ORS:

1. Write all the information (Roll No., Test ID, Name, Mobile Nos., Center, Class, Set, Test date) given in the upper rectangle of the ORS, carefully using black/blue pen & do not write these anywhere else.
2. For each question, darken the correct choice in the ORS. Using **black/blue pen** for example, if the correct choice 'B' then marks as shown below.
A B C D
3. If more than one circles is darkened, it will be considered incorrect. Do not use white fluid, eraser etc. to change the answer.

E. For your rough work use the rough space provided inside this booklet.

F. Before handing over the ORS (answer sheet) to the invigilator present in the Examination Room/Hall, ensure that all the entries made on the ORS are correct. Nothing should be entertained once the ORS is handed over to the invigilator.

G. Students using any unfair means or involving himself/her self in any act of indiscipline will be barred from taking the examination.

Name of the candidate

Roll No.

T R C A T

I have read all the instructions and shall abide by them

I have verified all the information filled in by the Candidate

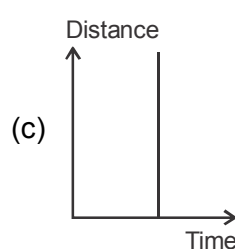
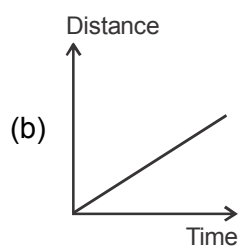
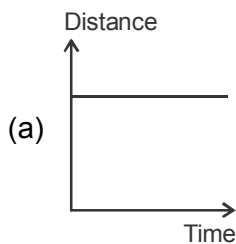
Signature of the Candidate

Signature of Invigilator

PART - I

SCIENCE

- Force involved in opening a door is an example of -
(a) Contact force (b) Non contact force
(c) Spring force (d) Magnetic force
- As we go to high altitude atmospheric pressure _____
(a) Increases (b) Decreases (c) Remains same (d) None of these
- Pressure due to a box placed on a table of side $10\text{ m} \times 10\text{ m}$ is 40 Pascals, then force exerted by the box is :
(a) 8 N (b) $\frac{8}{10}\text{ N}$ (c) 8000 N (d) 80 N
- Above _____ dB, the sound becomes physically painful.
(a) 60 (b) 40 (c) 120 (d) 80
- Speed of sound in solid is _____ the speed of sound in liquid.
(a) Same as (b) Greater than
(c) less than (d) Sometime greater and sometime less
- The safety device based on heating effect of electric current is called _____.
(a) Fuse (b) Transformer (c) Switch (d) Battery
- If angle of reflection from mirror is 30 degrees then angle of incidence is :
(a) 0 degree (b) 90 degree (c) 60 degree (d) 30 degree
- An image which can be obtained on screen is called _____ image.
(a) Real (b) Inverted (c) Virtual (d) erect
- Motion of train on straight line is :
(a) circular (b) oscillatory (c) linear (d) None of these
- Which of the following graph shows a car moving with constant speed :



(d) None of these

11. Bases are the substances which are bitter in taste and are soapy or slippery in touch.

Which of the following is a type of base :

- (a) Stomach juice
- (b) Milk of Magnesia
- (c) Soda
- (d) Rain water

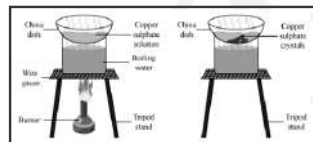
12. Burning of a candle is a type of :

- (a) Physical change only
- (b) Chemical change only
- (c) Physical & chemical change both
- (d) None of these



13. The process of depositing a layer of one metal over another metal surface to protect it from rusting is called:

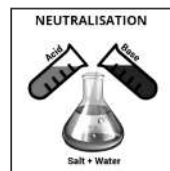
(a) Crystallisation



(b) Amalgamating



(c) Neutralisation



(d) Galvanisation

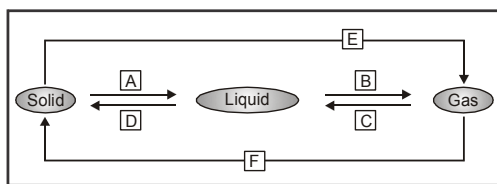


14. The main constituent present in cold drinks is :

- (a) Nitric Acid + Carbonic acid
- (b) Milk of magnesia + Carbonic acid
- (c) Carbonic Acid + Water
- (d) None of these



15. The process of interconversion of matter shows formation of :



(i) Ice from water \longrightarrow _____ (ii) Steam from water \longrightarrow _____

(iii) Water from ice \longrightarrow _____ (iv) Water from steam \longrightarrow _____

Name the process, involved.

(a) freezing, vaporisation, condensation, melting

(b) melting, freezing, condensation, vaporisation

(c) freezing, vaporisation, melting, condensation

(d) None of the above

16. Who gave “Law of conservation of mass” that states that (mass can neither be created nor be destroyed in a chemical reaction) :

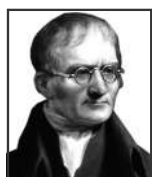
(a) Joseph Proust



(b) Antoine Lavoiser



(c) John Dalton



(d) None of them

17. Which of the following is used in the extraction of metals :

(a) Coal gas

(b) Coke

(c) Coal tar

(d) Petroleum

18. Which of the following isotope is used for the treatment of cancer :

(a) U - 235

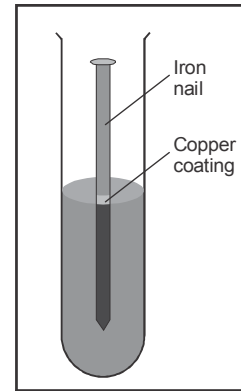
(b) Co - 60

(c) Cl - 35

(d) None of these

19. Blue colour of the copper sulphate solution changes to green colour when an iron nail is dropped into it due to the formation of :

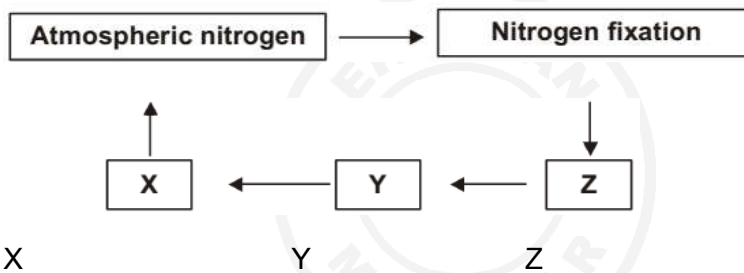
- (a) Iron sulphate ($FeSO_4$)
- (b) Copper chloride ($CuCl_2$)
- (c) Copper sulphate ($CuSO_4$)
- (d) Iron chloride ($FeCl_3$)



20. Which of the following is used as constituent of petroleum for ointments, candles, vaseline etc.

- (a) Bitumen
- (b) Paraffin wax
- (c) Lubricating oil
- (d) Diesel

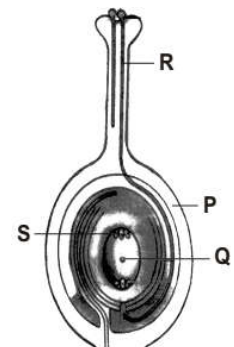
21. Refer the given flow chart and identify X, Y and Z ?



- (a) Denitrification Ammonification Nitrification
- (b) Ammonification Nitrification Denitrification
- (c) Nitrification Ammonification Denitrification
- (d) Denitrification Nitrification Ammonification

22. Which of the following statements is/are correct regarding the given figure?

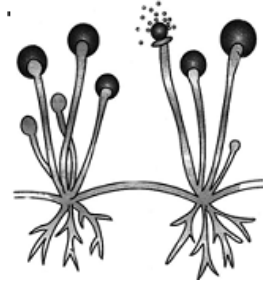
- (i) The part labelled 'P' gives rise to fruit.
- (ii) The part labelled 'R' is responsible for transfer of female gamete.
- (iii) The part labelled 'Q' transforms into endosperm.
- (iv) The part labelled 'S' is a male gamete.



- (a) (i) only
- (b) (i) & (iii)
- (c) (iii) & (iv)
- (d) (i) & (ii)

23. Identify the microorganism in the given figure and the method of its reproduction.

Microorganism	Method of reproduction
(a) Viruses	Binary fission
(b) Fungi	Budding
(c) Algae	Conjugation
(d) Fungi	Spore formation



24. Which of these includes production of earthworms and worms ?

- (a) Sericulture (b) Horticulture (c) Pisciculture (d) Vermiculture

25. How are earthworms useful to farmers ?

- (a) They help in nitrogen fixation in the soil (b) They help in killing pests
(c) They make the soil airy, soft and fertile (d) They help in pulling out of weeds

SPACE FOR ROUGH WORK



PART - II

MATHEMATICS

26. Which symbol combination in the given order can be used between the numbers to satisfy :
 $8 * 4 * 2 = 16$
- (a) +, × (b) ×, - (c) +, ÷ (d) ÷, ×
27. If a polygon has 5 interior angles each of 172° and remaining interior angles each of 160° , then number of sides of the polygon is :
- (a) 10 (b) 22 (c) 21 (d) 27
28. If $\left(\frac{125}{8}\right)^n \times \left(\frac{8}{125}\right)^{-5} = \left(\frac{5}{2}\right)^{18}$, then n equals to :
- (a) 1 (b) 2 (c) 3 (d) None of these
29. Raksha is walking towards South direction and Dipu is walking towards South-East direction from the same place starting at same time. If both of them want to reach on a road which is directed East to West.
- Who will reach sooner ?
- (a) Raksha (b) Dipu
(c) Both at the same time (d) Can not be determined
30. If '÷' & '+' operators and '6' & '3' interchange their places then which is true :
- (a) $3 + 6 \div 2 = 5$ (b) $6 \div 3 + 2 = 8$ (c) $3 + 6 \div 5 = 7$ (d) $3 \div 6 + 1 = 6$
31. There is a road of 3 m wide at outside of a square park of a colony. The perimeter of the park with road is 484 m. What will be the area of the road :
- (a) 1400 sq.m (b) 1416 sq.m (c) 1024 sq.m (d) None of these
32. If $x^2 + 5x + 1 = 0$ then $x + \frac{1}{x} = ?$
- (a) 0 (b) 1 (c) 5 (d) -5
33. Area of a rectangular card is $(9p^2 - 4q^2)$ sq.m and width is $(3p - 2q)$ m. What will be the length of the card :
- (a) $3p + 2q$ (b) $3p - 2q$ (c) $9p^2 + 4q^2$ (d) None of these

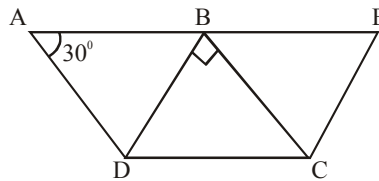
34. What will be the factors of $(3 + 2a - a^2)$:

- (a) $(3 - a)(a + 1)$ (b) $(3 + a)(a - 1)$ (c) $(a - 3)(1 - a)$ (d) $(a + 1)(a - 3)$

35. If a & b are positive integers and $a^2 - b^2 = 9 \times 11$ then what will be the value of a & b respectively?

- (a) 18 & 15 (b) 1 & 10 (c) 5 & 4 (d) 5 & 6

36. Find $\angle BEC$ from given figure if $\angle BAD = 30^\circ$ and $\angle DBC = 90^\circ$:



- (a) 60° (b) 30° (c) 150° (d) 120°

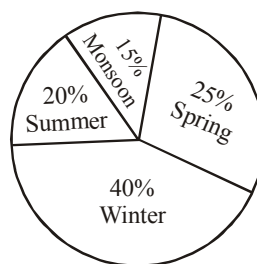
37. In a survey of students of class VIII the following record was found :

If above data is represented by a pie chart then how much central angle will be captured by acting?

- (a) 90° (b) 84° (c) 104° (d) None of these

38. Given pie chart shows that the percentage of persons who like a season :

If 72 persons like winter season then how many persons like monsoon :



- (a) 20 (b) 36 (c) 27 (d) None of these

39. $2(a^2 + b^2)$ can be expressed in the form of :

- (a) $(a + b)^2 + (a - b)^2$ (b) $(a + b)^2 - (a - b)^2$ (c) $2(a + b)(a - b)$ (d) None of these

40. What should be multiplied to $-\frac{3}{5}$ to get multiplicative identity ?

- (a) $\frac{3}{5}$ (b) $\frac{5}{3}$ (c) $\frac{-5}{3}$ (d) 1

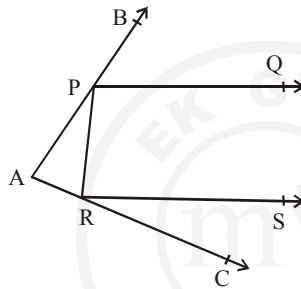
41. For what value of t , $x^2 - tx + \frac{1}{4}$ will be a perfect square :

- (a) ± 1 (b) ± 2 (c) 0 (d) None of these

42. If adjacent angles of a parallelogram are equal then it must be a :

- (a) Rhombus (b) Square (c) Rectangle (d) Kite

43. If $PQ \parallel RS$, $\angle BPQ = 40^\circ$, $\angle BPR = 155^\circ$ & $\angle CRS = 70^\circ$ then $\angle PAR = ?$



- (a) 100° (b) 155° (c) 70° (d) 110°

44. 30 persons take 15 days time to repair $\frac{3}{7}$ of a road. If 10 more persons join then how many days will be required to repairs the remaining road ?

- (a) 15 days (b) 10 days (c) 25 days (d) None of these

45. If water is freezed into ice then volume is increased by 10%. Similarly, if ice is melted into water then by what percentage volume will be decreased :

- (a) 10% (b) 90% (c) $9\frac{1}{11}\%$ (d) None of these

SPACE FOR ROUGH WORK

PART - III

LOGICAL APTITUDE

46. Find out the number from alternatives which will come in place of question mark '?' to continue the sequence 40, 90, 61, 52, ?, 94

- (a) 46 (b) 63 (c) 76 (d) 84

47.

2	19	17
3	?	13
5	7	11

- (a) 8 (b) 85 (c) 21 (d) 23

48. Correct the following equation by interchanging two signs : $8 \times 3 - 12 \div 4 + 14 = 13$

- (a) + and \div (b) - and + (c) \times and - (d) \div and \times

Directions (Q No. 49 - 53):

Six players Alok, Pankaj, Sourabh, Sulabh, Chandan and Akhil sit around a table facing each other but not in same order. Each of them like to play sports as Polo, Baseball, Football, Cricket, Badminton and Hockey not in same order.

Players of Cricket and Football sit opposite to each other. Akhil plays Cricket. Chandan sits immediate left to Football Player. Sulabh sits between Sourabh and Badminton Player. Pankaj sits second left to Alok. Polo and Hockey players sit opposite to each other. Hockey and Baseball players are neighbour. Sulabh does not play Football.

From the given information answer the following questions :

49. Player of Hockey is

- (a) Pankaj (b) Alok (c) Sourabh (d) Sulabh

50. Immediate neighbour of Sourabh is :

- (a) Baseball player (b) Hockey player
(c) Cricket player (d) Badminton player

51. Akhil is related to Cricket in the same way Sourabh is related with :

- (a) Badminton (b) Polo (c) Football (d) Hockey

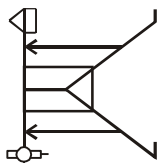
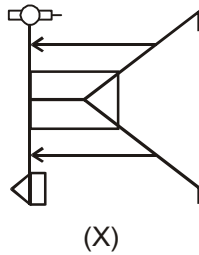
52. The player sitting between Akhil and Polo player is

- (a) Alok (b) Chandan (c) Pankaj (d) Sulabh

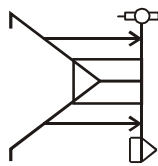
53. Find the odd pair :

- (a) Akhil - Sourabh (b) Pankaj - Chandan
(c) Alok - Sulabh (d) Pankaj - Alok

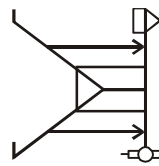
54. Choose the correct mirror image of figure 'X' from given four alternatives :



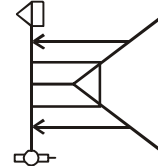
(a)



(b)



(c)



(d)

55. From same point, two men 'X' and 'Y' start walking in opposite direction to each other and cover distances 'P' and 'Q' respectively. Both of them turn right and again walk for same distances then distance between 'X' and 'Y' is :

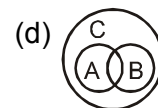
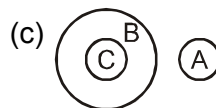
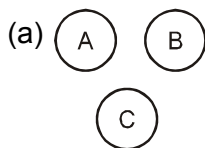
- (a) $2(P^2 + Q^2)$ (b) $2\sqrt{P^2 + Q^2}$ (c) $2(P + Q)$ (d) $\sqrt{2}(P + Q)$

56. In a certain language NIGHT is coded as 'ODDGM', DARK is coded as 'EVOJ', how is GREEN coded in that language?

- (a) H M B D G (b) H M C G D (c) O G H V L (d) F P B A I

57. Which of the following diagram indicates best relation between :

- (A) ISRO (B) NASA (C) CHANDRAYAN



58. Fire crackers should be banned in India

Argument - I - Yes, because it causes severe sound & air pollution.

II - No, because many people will become jobless,

- (a) Argument I is strong (b) Argument II is strong
 (c) Both arguments are strong (d) Neither I nor II argument are strong

59. Quarter to 3 hours back, when seen in a mirror. The reflection of a wall clock without number marking seemed to show 5 : 45. What is correct actual time shown by clock.

(a) 6 : 15

(b) 2 : 30

(c) 8 : 30

(d) 10 : 00

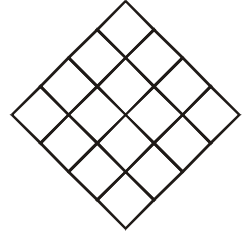
60. No. of Squares in figure

(a) 16

(b) 17

(c) 21

(d) 30



SPACE FOR ROUGH WORK

