ATOMIC ENERGY CENTRAL SCHOOL NO. 2, MUMBAI
MULTIPLE CHOICE QUESTIONS EXAMINATION – 2(**MCQ-2**)

DATE : 05.08.2025 CLASS : **IX** MAX. MARKS: 120

SECTION – A (MATHEMATICS)

1 $6x^2 + 17x + 5 = ?$
a) (5x + 2) (2x + 1) b) (2x +1) (3x + 5) c) (2x + 5) (3x + 1) d) (6x + 5) (x + 1)

2 Which of the following rational numbers is equivalent to a decimal that terminates? a) 1/3
b) 3/8 c) 5/6 d) 8/9

3 If $f(x) = x^2 - 5x + 1$, then the value of f(2) + f(- 1) is
a) - 1 b) - 2 c) 2 d) 1

4 The zeroes of the polynomial $3x^2 - 5x - 2$, are:
a) $\frac{1}{3}, 2$ b) $\frac{-1}{3}, -2$ c) $\frac{-1}{3}, 2$ d) $\frac{1}{3}, -2$

5 If$x + \frac{1}{x} = 3$, then the value of $x^2 + \frac{1}{x^2}$ is
a) 9 b) 7 c) 1 d) 0

6 $(x + y)^3 - (x - y)^3$ can be factorized as
a) $2x(3x^2 + y^2)$ b) $2y(3x^2 + y^2)$ c) $2x(x^2 + 3y^2)$ d) $2y(3y^2 + x^2)$

7 The perpendicular distance of the point P (3, 4) from the y - axis is
a) 7 b) 3 c) 4 d) 5

8 Which of these is obtained by factorizing the polynomial $10x^2 - 9x + 2$?
a) $(2x-1)(5x-2)$ b) $(2x-1)(5x+2)$ c) $(2x+1)(5x+2)$ d) $(2x+1)(5x-2)$

9 Points (1, - 1), (2, - 2), (4, - 5), (- 3, - 4)
a) lie in IV quadrant b) lie in III quadrant
c) lie in II quadrant d) Do not lie in the same quadrant

10 The equation of y - axis is:
a) y = 0 b) x = 0 c) $y \neq x$ d) y = x

11 Ordinate of all points on the y - axis is
a) 1 b) 0 c) - 1 d) any number

12 The point O (0, 0) lies on:
a) y - axis b) both x - axis and y - axis c) x - axis d) any quadrant

13 If P(3, 9) and Q(- 3, - 4), then (abscissa of P) - (ordinate of Q) is
a) 7 b) - 1 c) 1 d) - 7

14 The taxi fare in a city is as follows: For the first kilometer, the fare is₹ 8 and for the subsequent distance it is ₹ 5 per kilometer. Taking the distance covered as x km and total fare as ₹ y, write a linear equation for this information.
a) y = 5x – 3 b) x = 5y – 3 c) y = 5x + 3 d) x = 5y + 3

15 Consider the polynomial in z $(z)=z^2 - 2z + 3$. What is the value of the polynomial at $z=-1$?
a) 2 b) 3 c) 5 d) 6

16 Any point on the line y = x is of the form
a) (a, - a) b) (0, a) c) (a, 0) d) (a, a)

17 Which of the following pair is a solution of the equation 3x – 2y = 7?
a) (- 2, 1) b) (5, 1) c) (1, - 2) d) (1, 5)

18 How many linear equations are satisfied by x = 2 and y = - 3?
a) Infinitely many b) Three c) Two d) Only one

19 The graph of the linear equation 2x + 3y = 6 meets the y - axis at the point.
a) (0, 3) b) (3, 0) c) (2, 0) d) (0, 2)

20 The graph of a linear equation x - 5y + 3 = 0 cuts the x - axis at the point
a) (3, 0) b) (- 5, 0) c) (- 3, 0) d) (5, 0)

21 If a straight line falling on two straight lines makes the interior angles on the same side of it, whose sum is 120°, then the two straight lines, if produced indefinitely, meet on the side on which the sum of angles is
a) greater than 180° b) not less than 120° c) greater than 120° d) is equal to 120°

22 In Ancient India, Altars with combination of shapes like rectangles, triangles and trapeziums were used for:
a) societal rituals b) Household rituals
c) Public worship d) Both Public worship and Household rituals

23 Statement 1: A straight line can be drawn joining any two points.
Statement 2: Two distinct lines can have only one point common. Which of these is true?
a) Statement 1 is a postulate and Statement 2 is a theorem.
b) Statement 1 is a theorem and Statement 2 is a postulate.
c) Both statements are theorems. d)Both statements are postulates.

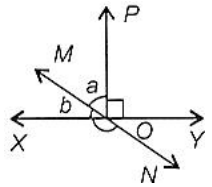
24 Thales belongs to the country:
a) Babylonia b) Egypt c) Rome d) Greece

25 The total number of propositions in the Euclid's Elements is
a) 460 b) 32 c) 465 d) 13

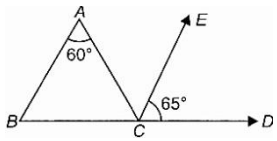
26 If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 2 : 3, then the greatest of two angles is
a) 136^o b) 54^o c) 108^o d) 72^o

27 Angles of a triangle are in the ratio 2 : 4 : 3. The smallest angle of the triangle is
a) 40° b) 80° c) 60° d) 20°

28 If one of the angles of a triangle is 130°, then the angle between the bisectors of the other two angles can be
a) 50° b) 145° c) 65° d) 155°

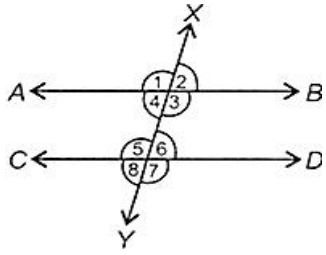
29 

In the given figure (not drawn to scale), lines XY and MN intersect at O. If∠ POY=90°and a : b = 2 : 3, then ∠ XON is equal to _____.
a) 126° b) 180° c) 90° d) 130°

30 

In the given figure (not drawn to scale), if CE II BA, then the value of∠ ACB is
a) 90° b) 70° c) 60° d) 55°

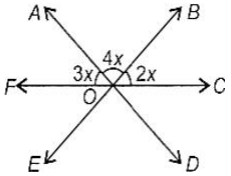
31 Use the given figure to match Column - I with Column - ll, if AB || CD.



Column-I	Column-II
(a) Corresponding angles	(i) ∠ 1 = ∠ 7
(b) Alternate interior angles	(ii) ∠ 4 + ∠ 5 = 180°
(c) Alternate exterior angles	(iii) ∠ 1 = ∠ 5
(d) Co-interior angles	(iv) ∠ 4 = ∠ 6

a) (a) - (iii), (b) - (ii), (c) - (iv), (d) - (i) **b)** (a) - (iv), (b) - (ii), (c) - (i), (d) - (iii)

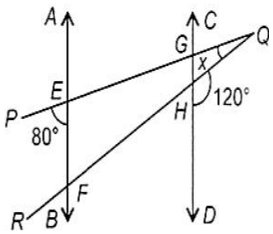
c) (a) - (iii), (b) - (iv), (c) - (i), (d) - (ii) **d)** (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)

32 

In the given figure (not drawn to scale), find the value of∠ DOC.
a) 30° b) 60° c) 75° d) 50°

33 Which of the following statements is CORRECT?
a) If two angles forming a linear pair, then each of these angle is of measure 90°.
b) Both of the angles forming a linear pair can be obtuse angles.
c) Angles forming a linear pair can both be acute angles.
d) Bisectors of the adjacent angles forming a linear pair form a right angle.

34 An exterior angle of a triangle is 105° and its two interior opposite angles are equal. Each of these equal angles is
a) $37\frac{1}{2}^{o}$ b) $72\frac{1}{2}^{o}$ c) 75° d) $52\frac{1}{2}^{o}$

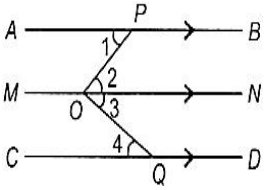
35 

In the given figure (not drawn to scale), AB || CD and PQ, QR intersects AB and CD both at E, F and G, FI respectively. Find the value of x.
a) 20° b) 100° c) 30° d) 40°

36 Two complementary angles are such that two times the measure of one is equal to three times the measure of the other. The measure of the smaller angle is
a) 36° b) 30° c) 20^{o} d) 45°

37 Two complementary angles are such that twice the measure of the one is equal to three times the measure of the other. The larger of the two measures.
a) 72° b) 63° c) 36° d) 54°

38 How many triangles can be drawn having angles as 45^{o} , 60^{o} and 85^{o} ?
a) Two b) Infinitely many c) None d) Only one

39 

In the given figure (not drawn to scale),∠ APO = 42° and ∠ CQO = 38°. Find the value of ∠ POQ.
a) 68° b) 126° c) 72° d) 80°

40 Two straight lines AB and CD cut each other at O. If ∠BOD = 63°, then ∠BOC =
a) 63° b) 153° c) 117° d) 17°

SECTION – B (SCIENCE)

41.Which organelle digests worn-out cell parts?
A) Ribosome B) Lysosome C) Nucleus D) Vacuole

42.Tracheids and vessels are components of:
A) Phloem B) Xylem C) Parenchyma D) Collenchyma

43.Plastids are found only in:
A) Animal cells B) Fungal cells C) Plant cells D) Virus

44.The fluid-filled sac used for storage in plant cells is the:
A) Nucleus B) Lysosome C) Vacuole D) Golgi body

45.In which solution does a cell gain water by osmosis and swell up?
A) Hypertonic B) Hypotonic C) Isotonic D) Ionic

46.The cell organelle involved in forming complex sugars from simple sugars are
A) endoplasmic reticulum B) ribosomes C) plastids D) Golgi apparatus.

47.Which of the following cell organelles helps detoxify poisons and drugs in liver cells?
A) Rough ER B) Lysosomes C) Smooth ER D) Golgi bodies

48.In an experiment, water mixed with a coloured dye was poured into a beaker and a freshly cut balsam stem was placed in it. After a few hours, coloured lines were seen moving up in the stem. When examined under a microscope, these coloured lines were seen in long tube-like structures. The coloured lines observed are due to movement through:
A) Phloem B) Parenchyma C) Collenchyma D) Xylem

49.During a lab activity, students observed two tissues under a microscope:
- Sample A had loosely packed cells with large vacuoles and intercellular spaces.
- Sample B had elongated living cells with uneven thickening at the corners.

Identify the two tissues.
A) A – Collenchyma, B – Parenchyma B) A – Parenchyma, B – Collenchyma
C) A – Sclerenchyma, B – Collenchyma D) A – Xylem, B – Parenchyma

50.Riya conducted an experiment to study onion peel under a microscope. She noticed a large central vacuole, cell wall, and green organelles in the cells. Her friend Amit observed cheek cells and noticed that they had a distinct nucleus but no cell wall or green structures.
The green organelles observed by Riya are:
A) Mitochondria B) Ribosomes C) Chloroplasts D) Nucleolus

51.Which of these is not related to endoplasmic reticulum?
(a) It behaves as transport channel for proteins between nucleus and cytoplasm.
(b) It transports materials between various regions in cytoplasm.
(c) It can be the site of energy generation.
(d) It can be the site for some biochemical activities of the cell.

52.Match the scientists with their contributions:

Column A	Column B
a) Robert Hooke	i) Discovered nucleus
b) Anton van Leeuwenhoek	ii) Coined the term ‘cell’
c) Robert Brown	iii) Observed living cells
d) Schleiden & Schwann	iv) Cell theory

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

Question numbers 53 to 56 are **Assertion – Reason** type . Choose the correct option
A) Both A and R are true, and R is the correct explanation of A
B) Both A and R are true, but R is not the correct explanation of A
C) A is true, but R is false
D) A is false, but R is true

53.**Assertion (A):** Mitochondria are known as the powerhouse of the cell.
Reason (R): They help in digestion of foreign material.

54. **Assertion (A):** Plant cells do not burst in hypotonic solution.
Reason (R): Plant cells have a cell wall that prevents bursting.

55. Assertion (A): Boiling is a bulk phenomenon
Reason (R): Boiling results in vaporisation of water from its surface

56. Assertion (A): Ice at 273 K is more effective in cooling than water at the same temperature.
Reason (R): Ice absorbs latent heat from surroundings to melt

57. In a classroom demonstration, a teacher heated camphor in a watch glass. The students observed that the camphor directly changed into vapour without becoming liquid. Later, another group heated water, and steam formed after boiling.
The process observed with camphor is:
A) Melting B) Evaporation C) Sublimation D) Condensation

58. Which of the following would increase the rate of evaporation?
A) Decreasing temperature B) Increasing surface area
C) Increasing humidity D) Keeping the liquid covered
59. Which of the following statements is correct about the particles of matter?
A) They are visible through the naked eye
B) They have spaces between them and move continuously
C) They do not attract each other D) They are at rest
60. When a solid is heated, it changes into a liquid. Which of the following best explains this?
A) Particles lose energy and move closer B) Intermolecular force increases
C) Kinetic energy of particles increases and they overcome force of attraction
D) Volume decreases rapidly
61. Priya spilled some acetone on her palm. She felt a cooling sensation. Her teacher explained that the particles of acetone absorbed heat from her skin and evaporated quickly. Why did Priya feel a cooling effect?
A) Acetone is cold by nature B) Evaporation causes cooling
C) Acetone boils at room temperature D) Acetone freezes on skin
62. On converting a solid into liquid, heat is absorbed but temperature remains constant. This heat is called:
A) Specific heat B) Latent heat of fusion C) Heat of combustion D) Boiling point
63. 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
64. Which of the following is not an example of Osmosis?
A) Swelling up of a raisin on keeping in water. B) Spreading of virus on sneezing.
C) Earthworm dying on coming in contact with common salt.
D) Shrinking of grapes kept in thick sugar syrup.
65. A form of matter that has no fixed shape but has a fixed volume. An example of this form of matter is ——————
A) carbon dioxide B) ice C) water vapour D) kerosene
66. The temperature of melting ice remains constant for some time even if we continue to supply heat to the beaker. This is because of the heat energy is
A) radiated out B) used to overcome the forces of attraction between the particles
C) used to change the pressure on the particles D) used to bring the particles of matter closer
67 Match the processes with the changes of state:

Column A	**Column B**
a) Fusion	i) Liquid to gas
b) Vaporisation	ii) Liquid to solid
c) Condensation	iii) Vapour to liquid
d) Solidification	iv) Solid to liquid

A) a-iii, b-ii, c-iv, d-I B) a-i, b-iii, c-ii, d-iv C) a-iv, b-i, c-iii, d-ii D) a-ii, b-iv, c-i, d-iii
68. According to the third law of motion, action and reaction
(a) always act on the same body (b) always act on different bodies in opposite directions
(c) have same magnitude and directions (d) act on either body at normal to each other
69. The inertia of an object tends to cause the object
(a) to increase its speed (b) to decrease its speed
(c) to resist any change in its state of motion (d) to decelerate due to friction

70. A passenger in a moving train tosses a coin which falls behind him. It means that motion of the train is
(a) accelerated (b) uniform (c) retarded (d) along circular tracks
71. A goalkeeper in a game of football pulls his hands backwards after holding the ball shot at the goal. This enables the goal keeper to
(a) exert larger force on the ball (b) reduce the force exerted by the ball on hands
(c) increase the rate of change of momentum (d) decrease the rate of change of momentum
72.When a 12 N force acts on 3 kg mass for a second, the change in velocity is (in m/s)
(a) 36 (b) 4 (c) 2 (d) 18
73. Which of the following is a vector quantity?
(a) Speed (b) Distance (c) Displacement (d) Time
74. A person rides a motor bike at the speed of 30m/s. The person applies the brake and the velocity of motor bike comes down to 20m/s in 3s. What is the magnitude of acceleration of motor bike?
(a)-3.3 m/sec (b) -6.6m/sec (c)10m/sec (d)16.6m/sec
75. A block is at rest on a table. A girl applies a force towards the right. The applied force is equal to the frictional force between block and the surface. What will happen to the block?
(a)it starts rotating (b) it does not move
(c)it will start sliding towards left (d)it will start sliding towards right
76. Which of the given example can be illustrated using the Newton's first law of motion?
(a)rowing of boat (b)rocket propulsion
(c)wearing a seat belt in a car (d)releasing an arrow from bow
77. A ball of 150 g is hit with a bat; the ball starts travelling with a velocity of 3m/s. What is the momentum of the ball?
(a)0.05kgm/s (b)0.45kgm/s (c)50kgm/s (d)450kgm/s
78. A car travels 3km of distance in 10minutes to reach the destination. On the return journey ,the car travels the same distance in 15 minutes. What is the average speed of car in entire journey?
(a)3 m/s (b)4 m/s (c)5 m/s (d)6 m/s
79. A boy walks 10m in straight path moving away from a lamp pole in a garden and walks 5m back on the same path. What is the displacement of the boy from the lamp pole?
(a)0m (b)5m (c)10m (d)15m
80. A car travels 5 km towards north than turns right and travels 3km further, the car again turns right and travel 1 km and comes to rest. What is the distance travelled and displacement of the car?
(a) Distance: 5km and Displacement: 9km (b) Distance: 9km and Displacement:5km
(c) Distance: 9km and Displacement: 7km (d) Distance: 7km and Displacement:9km

SECTION – C (SOCIAL SCIENCE)

81 What was the secret police of Russia called?
a) Soviet b) Cheka c) Comintern d) Duma

82 Who was the leader of the Bolsheviks?
a) Julius Martov b) Louis Blanc c) Vladimir Lenin d) Karl Marx

83 Which groupdid not believe in Universal Adult Franchise in Russia?
a) Liberals b) Conservatives c) Kulaks d) Radicals

84 Who was the writer of the books The Communist Manifestoand Das Capital?
a) Vladimir Lenin b) Julius Martov c) Rasputin d) Karl Marx

85 Who was the emperor of Russia at the start of the First World War?
a) Valdimir Lenin b) Carl Marx c) Tsar Nicholas II d) Louis XVI

86 Which of the following refers to women's right to vote?
a) Suffragette b) Universal suffrage c) Jadidist d) April Theses

87 What was the name of the Russian Parliament?
a) Reichstag b) National Guard c) Duma d) City hall

88 What was the collectivefarm called in Russia?
a) Kulaks b) Perestroika c) Soviets d) Kolkhoz

89 When was Comintern formed?
a) 1971 b) 1918 c) 1933 d) 1919

90 Which group opposed privileges enjoyedbylandowners and wealthy society?
a) Conservatives b) Liberals c) Kulaks d) Radicals

91 Who propounded the idea of a communist society?
a) Robert Owen b) Rousseau c) Karl Marx d) Napoleon

92 Who put forward the concept of April theses?
a) Lenin b) Stalin c) Rasputin d) Karl Marx

93 The river in Petrograd was named as?
a) Lima b) Neva c) Suree d) Kaveri

94 Name the vessel used in October Revolution.
a) Titanic b) Columbia c) Aurora d) INS - Vikrant

95 Name the Committee organized by Leon Trotskii during February Revolution.
a) Russian socialist Committee b) Russian Military Committee
c) Red committee d) Military Revolutionary Committee

96 Who headed the party after the death of Lenin?
a) Stalin b) Kerenskii c) Trotsky d) Father apon

97 What was budeonovka?
a) The secret police b) A bat c) A hat d) The Russian army

98 Which of the following islands of India are called Coral Islands?
a) Great Nicobar b) Lakshadweep c) Andaman d) Narcondam

99 Ghats that are discontinuous and irregular and dissected by rivers draining into the Bay of Bengal.
a) Eastern b) Southwestern c) Northern d) Western

100 Which riveris the tributary of the Indus:
a) The Beas, the Ravi b) The Satluj c) The Jhelum,The Chenab d) All of these

101 Lakshadweep Islands are formed by:
a) Volcanic eruption b) Earthquake c) Coral polyps d) Metamorphic rocks

102 Which of the following is considered the ancient landmass on the earth's surface?
a) Deserts b) Peninsular Plateau c) Northern plains d) Himalayas

103 The northernmost range of the Himalayas is known as:
a) Pir Panjal Range b) Shiwaliks c) Himadri d) Himachal

104 Which physiographic division of India is composed of igneous and metamorphic rocks with rising hills and wide valleys?
a)The Northern Plains b)The Himalayan Mountains c) Peninsular Plateau d)The Coastal Plains

105 The highest peak in the Eastern Ghats is

a) Kanchenjunga b) Khasi c) Mahendragiri d) Anai Mudi

106 The newer younger deposits of flood plains are called:
a) Bhangar b) Terai c) Khadar d) Bhabar

107 Which of the following parallel ranges are known as Lesser Himalayas?
a) Purvanchal b) Himachal c) Shiwaliks d) Himadri

108 The eastward extension of the Central Highlands are known as:
a) Bundelkhand and Baghelkhand b) Aravali range
c) Maikal range and Mahadev hills d) Chota Nagpur plateau

109 The lesser Himalayas are also called
a) Himachal b) Himadri c) Himad d) Shivalik

110 The employment structure is characterised by self - employment in the ____
a) Primary sector b) Secondary sector c) All of these d) Tertiary sector

111 Economic activities have been divided into which of the two parts?
a) Production and non - production activities b) Primary and Secondary activities
c) Service and Secondary activities d) Market and non - market activities

112 Which one of these is the most labour absorbing sector of the economy?
a) Agriculture b) Industries c) Transportation d) Service

113 _____have been developed to equip a large number of high school students with occupations related to knowledge and skills.
a)Vocational streams b)Sarva Siksha Abhiyan
c)Mid-day meal scheme d) Navodaya Vidyalaya

114 When people appear to be employed, this kind of unemployment is called:
a) Educated unemployment b) All of these
c) Disguised unemployment d) Seasonal unemployment

115 Which of the following is not the aim of India's National policy relating to health?
a) Special focus on the underprivileged segment of the population
b) Improving the accessibility of healthcare and family welfare
c) Improving the accessibility of nutritional service
d) Special focus on the privileged segment of the population

116 The household work done by women is not recognised in the _____.
a) Household Income b) National Income. c) Gross Income d) Business Income

117 When the youth with matriculation, graduation and post graduation degrees are not able to find job it is called as _____.
a) Disguised unemployment b) Seasonal unemployment
c) Educated unemployment d) Structural unemployment

118 Educated unemployment is a special feature in:
a) Urban Areas b) Rural Areas c) Residential area d) Coastal Areas

119 Which work, done mostly by woman, is not considered in the National Income?
a) Own business work b) Teaching work in schools
c) Work done in a private company d) Household work

120 The secondary sector is also called as
a) Manufacturing sector b) Basic sector
c) Service sector d) Agricultural sector