ATOMIC ENERGY CENTRAL SCHOOL NO. 2, MUMBAI

MULTIPLE CHOICE QUESTIONS EXAMINATIONS (MCQ 3)

Class:- IX **Mathematics,Science and Social Science.** **Date:- 31.08.2023**

Time :- 3 hrs **Max.Marks :- 120.**

Section A(Mathematics)

1 The value of $(x^{a-b})^{a+b} \times (x^{b-c})^{b+c} \times (x^{c-a})^{c+a}$ is **[1]**

a) 3
b) 2
c) 1
d) 0

2 The value of $(243)^{1/5}$ is **[1]**

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

3 The value of $(32)^{\frac{1}{5}} + (-7)^0 + (64)^{\frac{1}{2}}$ is **[1]**

a) 10
b) 0
c) 11
d) 1

4 If $\sqrt{5^n} = 125$, then $5^{\sqrt[n]{64}} =$ **[1]**

a) $\frac{1}{5}$
b) 25
c) $\frac{1}{125}$
d) 625

5 **[1]**

The value of $\left(\frac{12^{\frac{1}{5}}}{27^{\frac{1}{5}}}\right)^{\frac{5}{2}}$

a) $\frac{4}{9}$
b) $\frac{2}{3}$
c) $\frac{12}{27}$
d) none of these

6 If $x + \frac{1}{x} = 2$, then $x^3 + \frac{1}{x^3} =$ **[1]**

a) 14
b) 64
c) 2
d) 8

7 A polynomial containing one nonzero term is called a _____. **[1]**

a) trinomial
b) binomial
c) none of these
d) monomial

8 The expression $x^4 + 4$ can be factorized as **[1]**

a) $(x^2 + 2x + 2)(x^2 - 2x + 2)$
b) $(x^2 - 2x - 2)(x^2 - 2x + 2)$
c) $(x^2 + 2x + 2)(x^2 + 2x - 2)$
d) $(x^2 + 2)(x^2 - 2)$

9 $(4x^2 + 4x - 3) = ?$ **[1]**
a) $(2x + 3)(2x - 1)$
b) $(2x - 1)(2x - 3)$
c) $(2x + 1)(2x - 3)$
d) None of these

10 If $p(x) = x + 3$, then $p(x) + p(-x)$ is equal to **[1]**
a) 2x
b) 3
c) 0
d) 6

11 Zero of the zero polynomial is **[1]**
a) 1
b) Any real number
c) Not defined
d) 0

12 If the y co - ordinate of a point is zero, then this point always lies: **[1]**
a) in quadrant I
b) on y - axis
c) on x - axis
d) in quadrant II

13 If a and b are both positive, then the point (a, b) lies in quadrant **[1]**
a) III
b) II
c) IV
d) II none of these

14 The equation of y - axis is: **[1]**
a) $x = 0$
b) $y = x$
c) $y = 0$
d) none of these

15 If the line represented by the equation $3x + ky = 9$ passes through the points (2, 3), then the value of k is **[1]**
a) 2
b) 1
c) 3
d) 4

16 The cost of 2 kg of apples and 1 kg of grapes on a day was found to be 160. **[1]**
A linear equation in two variables to represent the above data is
a) $x - 2y = 160$
b) $2x + y = 160$
c) $x + y = 160$
d) $2x - y = 160$

17 For the equation $5x – 7y = 35$, if $y = 5$, then the value of 'x' is **[1]**
a) 12
b) - 12
c) - 14
d) 14

18 In Ancient India, Altars with combination of shapes like rectangles, triangles and trapeziums were used for: **[1]**
a) Both Public worshipandHousehold rituals
b) Public worship
c) Household rituals
d) None of these

19 The number of line segments determined by three collinear points is **[1]**

a) 1
b) 4
c) 3
d) 2

20 Pythagoras was a student of: **[1]**
a) Euclid
b) Thales
c) Both Thales and Euclid
d) Archimedes

21 The angles of a triangle are in the ratio 5 : 3 : 7, the triangle is **[1]**
a) An isosceles triangle.
b) An obtuse angled triangle
c) A right triangle
d) An acute angled triangle

22 If one angle of a triangle is equal to the sum of the other two angles, then the triangle is **[1]**
a) an isosceles triangle
b) an equilateral triangle
c) a right triangle
d) an obtuse angled triangle

23 Two angles measure $(70 + 2x)^o$ and $(3x – 15)^o$. If each angle is the supplement of the other, then the value of x is : **[1]**
a) 30
b) 20
c) 250^0
d) 25

24 If two angles are complements of each other than each angle is **[1]**
a) a reflex angle
b) an acute angle
c) a straight angle
d) an obtuse angle

25 Two straight lines AB and CD cut each other at O. If ∠BOD = 63°, then ∠BOC = **[1]**
a) 117°
b) 17°
c) 153°
d) 63°

26 When two straight lines intersect: **[1]**
(i) Adjacent angles are complementary
(ii) Adjacent angles are supplementary.
(iii) Opposite angles are equal.
(iv) Opposite angles are supplementary.
Of these statements
a) (ii) and (iv) are correct
b) (i) and (iv) are correct
c) (ii) and (iii) are correct
d) (i) and (iii) are correct

27 If two angles are supplementary and the larger is 20^o less then three times the smaller, then the angles are **[1]**
a) $72\frac{1^o}{2}$, $17\frac{1^o}{2}$
b) 140^o , 40^o
c) 130^o , 50^o
d) $62\frac{1^o}{2}$, $27\frac{1^o}{2}$

28 Two lines AB and CD intersect at O. If ∠AOC + ∠COB + ∠BOD = 270°, then ∠AOC = **[1]**
a) 90°
b) 70°

c) 80°
d) 180°

29 The measure of an angle is five times its complement. The angle measures **[1]**
a) 75°
b) 65°
c) 25°
d) 35°

30 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 **[1]**
a) 30°
b) 45°
c) 36°
d) 45°

31 If$\triangle PQR \cong \triangle EFD$, then $\angle E =$ **[1]**
a) $\angle R$
b) $\angle P$
c) $\angle Q$
d) None of these

32 In triangles ABC and PQR three equality relations between some parts are as follows: AB = QP, $\angle B = \angle P$, BC = PR. **[1]**
State which of the congruence conditions applies:
a) SSS
b) AAS
c) SAS
d) ASA

33 If the altitudes from two vertices of a triangle to the opposite sides are equal then the triangle is **[1]**
a) equilateral
b) scalene
c) right angled
d) isosceles

34 The base BC of triangle ABC is produced both ways and the measure of exterior angles formed are 94° and 126°. Then,∠ BAC = **[1]**
a) 40°
b) 54°
c) 44°
d) 94°

35 It is given that$\triangle$ ABC $\cong \triangle$ FDE and AB = 5 cm, ∠ B = 40° and ∠ A = 80°. Then which of the following is true? **[1]**
a) DE = 5 cm,∠ E = 60°
b) DF = 5 cm,∠ E = 60°
c) DF = 5 cm,∠ F = 60°
d) DE = 5 cm,∠ D = 40°

36 In$\triangle$ PQR, ∠ R = ∠ P and QR = 4 cm and PR = 5 cm. Then the length of PQ is **[1]**
a) 2.5 cm
b) 4 cm
c) 5 cm
d) 2 cm

37 If AB = QR, BC= PR and CA = PQ, then **[1]**
a) $\triangle$ CBA $\cong \triangle$ PRQ
b) $\triangle$ PQR $\cong \triangle$ BCA
c) $\triangle$ ABC $\cong \triangle$ PQR
d) $\triangle$ BAC $\cong \triangle$ RPQ

38 In$\triangle ABC$, $\angle C = \angle A$ and BC = 6 cm and AC = 5 cm. Then the length of AB is: **[1]**
a) 2.5 cm

b) 6 cm
c) 5 cm
d) 3 cm

39 In△ ABC, BC = AB and ∠ B = 80°. Then ∠ A is equal to **[1]**
a) 50°
b) 40°
c) 80°
d) 100°

40 If the bisector of the angle A of a△ ABC is perpendicular to the base BC of the triangle then the triangle ABC is: **[1]**
a) Isosceles
b) Obtuse Angled
c) Equilateral
d) Scalene

Section B- (Science)

41 If a moving body comes to rest, then it's acceleration is: **[1]**
a) Negative
b) Positive
c) Constant
d) Zero

42 If the velocity of a body is reducing, it is said to have **[1]**
a) Retardation
b) Both Negative acceleration and Retardation
c) Negative acceleration
d) Positive acceleration

43 A body moves on three - quarters of a circle of radius r. The displacement and distance travelled by it **[1]**
a) displacement = 0, distance =$\frac{3\pi r}{2}$
b) displacement = r, distance = 3r
c) distance = 2r, displacement =$\frac{3\pi r}{2}$
d) displacement =$\sqrt{2}r$ Distance = $\frac{3\pi r}{2}$

44 A signal from a space ship reaches the ground in 5 minutes. What was the distance of the space ship from the ground station? The speed of the signal is 3×10^{8} m/s. **[1]**
a) 9×10^{7} m
b) 9×10^{10} m
c) 9×10^{6} m
d) 3×10^{6} m

45 Area under a v - t graph represents a physical quantity which has the unit **[1]**
a) ms^{-1}
b) M^{2}
c) M
d) M^{3}

46 Two cars A and B race each other. The Car A ran for 2 min at a speed of 7.5 km/h, slept for 56 min and again ran for 2 min at a speed of 7.5 km/h. The average speed of the car A in the race is: **[1]**
a) 10 km/hr
b) 5 km/hr
c) 0.5 km/hr
d) 50 km/hr

47 Inflated balloon lying on the surface of a floor moves forward when pierced with a pin. The above - mentioned phenomena is due to **[1]**
a) Newton's fist law of motion
b) Conservation of energy
c) Newton's second law of motion
d) Newton's third law of motion

48 An object of mass 2 kg is sliding with a constant velocity of $4ms^{-1}$ on a frictionless horizontal table. The force required to keep the object moving with the same velocity is **[1]**
a) 32 N
b) 2 N
c) 0 N
d) 8 N

49 A plate, a ball and child all have the same mass. The one having more inertia is the **[1]**
a) child
b) plate
c) All have equal inertia
d) ball

50 The one which has the least inertia among the following: 1 kg stone, 2 kg ball, a train compartment and a cup of tea is **[1]**
a) 2 kg ball
b) 1 kg stone
c) a train compartment
d) a cup of tea

51 Bags at the top of school van are tied using a string to avoid the effect of **[1]**
a) inertia
b) acceleration
c) force
d) momentum

52 The unit of momentum can be expressed as **[1]**
a) $\frac{N}{s}$
b) N s
c) kg s^2 /m
d) kg m/s^2

53 The acceleration of a body is to be doubled from its initial value. By what factor is the acting force to be increased? **[1]**
a) half
b) four
c) two
d) one

54 The two major gases present in the air are **[1]**
a) Nitrogen and Carbon dioxide.
b) Nitrogen and Oxygen
c) Hydrogen and Oxygen
d) Nitrogen and Hydrogen

55 Which of the following energy is absorbed during the change of state of a substance? **[1]**
a) Latent heat
b) None of these
c) Heat of solution
d) Specific heat

56 During summer, water kept in an earthen pot becomes cool because of the phenomenon of **[1]**
a) transpiration
b) evaporation
c) osmosis
d) diffusion

57 Which one of the following decreases the extent of evaporation of water? **[1]**
a) Large surface area
b) High temperature
c) High wind speed
d) Large humidity

58 On converting 25°C, 38°C and 66°C to Kelvin scale, the correct sequence of temperature will be **[1]**
a) 298 K, 311 K and 339 K

b) 298 K, 310 K and 338 K
c) 298 K, 300 K and 338 K
d) 273 K, 278 K and 543 K

59 In the experiment, determination of melting point of Ice, the reading of the thermometer must be noted when: **[1]**
a) temperature becomes constant
b) whole of the ice gets melted
c) temperature starts rising
d) ice starts melting

60 A student mixed the white of an egg with water and stirred it well. After sometimes he observe that: **[1]**
a) egg white settles down at the bottom
b) a transparent solution is formed
c) a translucent mixture is formed
d) egg white floats on the surface of the water

61 Which of the following are physical changes? **[1]**
(i) Melting of iron metal
(ii) Rusting of iron
(iii)Bending of an iron rod
(iv)Drawing a wire of iron metal
a) (i), (ii) and (iii)
b) (ii), (iii) and (iv)
c) (i), (ii) and (iv)
d) (i), (iii) and (iv)

62 Which of the following are homogeneous in nature **[1]**
(i) ice
(ii) wood
(iii) soil
(iv) air
a) (iii) and (iv)
b) (i) and (iii)
c) (i) and (iv)
d) (ii) and (iv)

63 Which will not give a stable solution even when stirred for sometimes? **[1]**
a) Milk in water
b) Chalk powder in water
c) Egg albumin in water
d) Sugar in water

64 Tyndall effect is observed in which one of the following? **[1]**
a) True solution
b) Starch + Water
c) Alum + Water
d) NaCl + Water

65 Which of the following are chemical changes? **[1]**
a) Melting of ice
b) The cooking of vegetables.
c) Freezing of water
d) Drying of wet clothes in sun light

66 The substance which does not form a true solution in water is: **[1]**
a) alum
b) egg albumin
c) common salt
d) sugar

67 Amoeba acquires its food through **:** **[1]**
a) Exocytosis & Endocytosis
b) Exocytosis

c) Plasmolysis
d) Endocytosis

68 "Viruses are non - cellular organisms" - this statement is a: **[1]**
a) Partially false
b) True statement
c) False statement
d) Partially true

69 Ribosomes are the center for **:** **[1]**
a) Respiration
b) Fat synthesis
c) Photosynthesis
d) Proteins synthesis

70 The statement 'cells arise only from pre - existing cells' was given by: **[1]**
a) Louis Pasteur
b) Schwann
c) Schleiden
d) Rudolf Virchow

71 Which cell organelle plays a crucial role in detoxifying many poison and drugs in a cell? **[1]**
a) Lysosomes
b) Vacuoles
c) Smooth endoplasmic reticulum
d) Golgi apparatus

72 In the plant cells, many substances important for life are stored in: **[1]**
a) plastids
b) lysosomes
c) mitochondria
d) vacuoles

73 If a plant cell is kept in a hypotonic solution, it will: **[1]**
a) increase in its volume
b) the decrease in its volume
c) burst
d) maintain the same volume

74 Tendons help to connect **[1]**
a) muscle to muscle
b) muscle to bone
c) bone to cartage
d) bone to bone

75 Which connective tissue supports and provides flexibility to the body parts? **[1]**
a) Tendon
b) Bone
c) Cartilage
d) Ligament

76 The common characteristic of xylem tracheids and sieve tubes is that both are: **[1]**
a) thick - walled cells
b) dead cells
c) living cells
d) meant for conduction

77 Cartilage is not found in **[1]**
a) nose
b) ear
c) larynx
d) kidney

78 Voluntary muscles are found in **[1]**
a) limbs
b) alimentary canal

c) iris of the eye
d) bronchi of lungs

79 Which of the following is a dead cell? **[1]**
a) Sieve tube
b) Tracheid
c) Parenchyma
d) Companion cell

80 Nerve cell does not contain **[1]**
a) axon
b) nerve endings
c) dendrites
d) tendons

Section C – (Social Science)

81 What was the unit of currency in France that discontinued in 1794? **[1]**
a) Livre
b) Taille
c) Pound
d) Tithe

82 Taille was to be paid directly to? **[1]**
a) Church
b) State
c) Landlords
d) Kings

83 The execution of Louis XVI and Marie Antoinette was done at which place? **[1]**
a) The Palace of Versailles
b) Palais Bourbon
c) Place de la Concorde
d) Palace of Tuileries

84 The duty to protect citizen's natural rights was vested to whom? **[1]**
a) Kings
b) Lawyers
c) State
d) Court officials

85 Whom did Louis XVI get married? **[1]**
a) Olympe de Gouges
b) Marie Antoinette
c) Marie de Medicis
d) Nanine Vallain

86 Which of the following is not the reason of empty treasury? **[1]**
a) Food supplies to the ordinary citizens.
b) The cost of maintaining an extravagant court.
c) To meet its regular expenses.
d) Long years of war.

87 What is the Old Regime? **[1]**
a) The society and institutions of France before 1789
b) The period when the storming of the Bastille occurred
c) The period when the French society divided into a different estate.
d) The society and institutions of France after 1789

88 **Strength lies in unity** is portrayed by which political symbols? **[1]**
a) The broken chain
b) The bundle of rods or fasces
c) Sceptre
d) The Law tablet

89 Which one of the following is the Standard Meridian of India? **[1]**
a) 82 degree 30' North

b) 82 degree 30’ East
c) 82 degree 30’ West
d) 82 degree 30’ South

90 Uttarakhand, Uttar Pradesh, Bihar, West Bengal and Sikkim have common frontiers with **[1]**
a) Myanmar
b) Bhutan
c) China
d) Nepal

91 The landmass of India has an area of? **[1]**
a) 3.28 million sq km
b) 9.59 million sq km
c) 8.54 million sq km
d) 7.68 million sq km

92 Which of the following neighbouring countries share the longest land boundary with India? **[1]**
a) China
b) Bangladesh
c) Nepal
d) Pakistan

93 The easternmost longitude of India is **[1]**
a) 97° 25’ E
b) 77° 6’ E
c) 82° 32’ E
d) 68° 7’ E

94 The latitudinal extent influences **[1]**
a) Change in sea direction
b) Duration of day and night
c) Change in weather conditions
d) Effect the ecosystem

95 The administrative headquarters of Lakshadweep **[1]**
a) Amini
b) Agatti
c) Minicoy
d) Kavaratti

96 Which physiographic division of India is composed of igneous and metamorphic rocks with rising hills and wide valleys? **[1]**
a) The Northern Plains
b) The Peninsular Plateau
c) The Himalayan Mountains
d) The Coastal Plains

97 The wet and swampy belt of the Northern Region is known locally as **[1]**
a) Bhabar
b) Doab
c) Bhangar
d) Terai

98 Which two hills are located in the Southeast of Eastern Ghats? **[1]**
a) Manipur hills and Naga hills
b) Shevroy Hills and Kalrayan Hills
c) Patkai Hills and Naga Hills
d) Mizo Hills and Patkai Hills

99 Mountain ranges in the eastern part of India, forming its boundary with Myanmar are collectively called **[1]**
a) Himalayas
b) Purvanchal
c) Uttarakhand
d) Himachal Pradesh

100 Which of the following range is the most continuous and consists loftiest peaks? **[1]**
a) Plateau
b) Shiwaliks
c) Himachal
d) Himadri

101 _____means a rule of the people, for the people and by the people. **[1]**
a) Monarchy
b) Democracy
c) Government
d) Republic

102 How many members are elected to the National People's Congress from all over China? **[1]**
a) 2000
b) 3050
c) 4000
d) 3000

103 Which one of the following is a demerit of democracy? **[1]**
a) Free and fair election
b) Democracy leads to delays in decision making
c) Equality
d) Rule of law

104 Which one of the following is a country having one political party system? **[1]**
a) Nepal
b) China
c) USA
d) India

105 Democracy is based on the fundamental principle of _____. **[1]**
a) equality
b) socialism
c) discrimination
d) secularism

106 Which Pakistan General led a military coup in October 1999? **[1]**
a) Nawaz Sharif
b) None of these
c) Ayub Khan
d) Parvez Musharraf

107 What is Apartheid? **[1]**
a) Gender discrimination
b) Facial discrimination
c) Caste discrimination
d) Racial discrimination

108 Which of the following leaders played an integral part of the integration of princely states? **[1]**
a) Jawaharlal Nehru
b) Sardar Vallabbhai Patel
c) Mr. K.M. Munshi
d) Gandhi Ji

109 Each citizen should respect the spirit of brotherhood and no one should treat a fellow citizen as inferior. Choose one word for this statement? **[1]**
a) Secular
b) Fraternity
c) Liberty
d) Equality

110 When was the Constitution of India completed or adopted? **[1]**
a) 26 October, 1949
b) 26 January, 1950
c) 26 November, 1949

d) 17 December, 1947

111 Where was the 1931 session of the Indian National Congress held? **[1]**
a) Delhi
b) Calcutta
c) Karachi
d) Nagpur

112 Which of these states adopted modern methods of farming at the earliest? **[1]**
a) Uttar Pradesh, Bihar and West Bengal
b) Punjab, Rajasthan and Gujarat
c) Karnataka, Andhra Pradesh and Maharashtra
d) Punjab, Haryana and Uttar Pradesh

113 Who is a person who puts together land, labour and capital? **[1]**
a) Government
b) Entrepreneurs
c) Bank
d) Moneylenders

114 A farmer who works on a piece of 1 hectare of land is treated a **[1]**
a) Medium farmer
b) Small farmer
c) Poor Farmers
d) Large farmer

115 Which Indian village resemblesPalampur? **[1]**
a) Village of Northern U.P.
b) Village of Western U. P.
c) Village of Eastern U. P.
d) Village of Southern U.P.

116 High yielding variety seeds (HYV) were introduced to Indian farmers as a result of **[1]**
a) White Revolution
b) Green Revolution
c) Golden Revolution
d) IT Revolution

117 The concept of White Revolution is associated with **[1]**
a) Vegetables
b) Water
c) Wheat
d) Milk

118 Where did the dalits in Palampur live? **[1]**
a) At one corner of the village
b) No where
c) In the center of the village
d) In the big hall of the village

119 Which one of the following is not an effect of the modern farming? **[1]**
a) Soil degradation
b) Water Pollution
c) Decrease in Groundwater
d) Deforestation

120. How many members had the constituent Assembly that wrote Indian Constitution? [1]
a) 200
(b) 199
(c) 198
(d) 190