Shiv Chhatrapati Shikshan Sanstha's

SANT TUKARAM NATIONAL MODEL JUNIOR COLLEGE, LATUR

(Affiliated to Central Board of Secondary Education, New Delhi. Affiliation No. - 1130272)

SET A

Screening Test CBSE (2026)
PCB

Question Booklet Sr. No.
SAMPLE PAPER

Total no. of pages = 24

Time: 3.00 Hrs. **Marks: = 720**

Important Instructions:

1. First you fill the particulars on this page of the Test Booklet as well as OMR with Black or Blue Ball Pen. Use of pencil strictly prohibited.
2. Do not open this Test Booklet until you are asked to do so.
3. This Test Booklet contains of 180 questions.
4. There are four sections in the question paper i.e. **Section-A (80 marks), Section-B (160 marks), Section-C (160 marks) and Section-D (320 marks).**
5. The **Section-A** contains three parts i.e. Part I, Part II and Part III.
6. The **Part I** contains 5 questions of English, each question carries four marks.
7. The **Part II** contains 5 questions of Mental Ability, each question carries four marks.
8. The **Part III** contains 10 questions of Basic Mathematics, each question carries four marks.
9. **In Section-A**, there is no negative marking.
10. The **Section-B** contains 40 questions of Physics, each question carries four marks.
11. The **Section-C** contains 40 questions of Chemistry, each question carries four marks.
12. The **Section-D** contains 80 questions of Biology, each question carries four marks.
13. In the **Section-B, C & D,** each question carries 4 marks. There is negative marking system. For each wrong answer 1 mark will be deducted.
14. There are four choices for every question, out of which only one is correct.
15. Filling up more than one response in any question will be treated as wrong response and mark for this will be deducted according to negative system.
16. Rough work is to be done on the space provided in the Test Booklet only.
17. On the completion of the test, the candidate must hand over the OMR to the Invigilator on duty. However, candidates are allowed to carry this question paper with them.
18. Do not fold or make any stray marks on the Answer Sheet.

Name of the candidate (in Capital letters): _____

Seat Number: In figures

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Space for Rough Work

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Section-A (80 marks)

Part I – English (20 marks)

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1. **_____ people who migrated here died in the floods.**
   (A) A few (B) Few
   (C) The few (D) Many

2. **Which tense is used to show the completion of an action by a certain time in the future**?
   (A) Future perfect tense (B) Present indefinite tense
   (C) Future perfect continuous tense (D) Both (A) and (C)

3. **The fox is ___ than the goat. The appropriate option will be –**
   (A) clever (B) cleverer
   (C) cleverest (D) most clever

4. **Jacob said, "Have you read this book?"**
   (A) Jacob asked me if I have read this book.
   (B) Jacob asked me if I had read that book.
   (C) Jacob asked me if I would read this book.
   (D) Jacob asked me if I had been reading this book.

5. **Choose the right verb in coordination with the subject** from the given example:
   The United States of America _____ going to conduct elections soon.
   (A) are (B) is
   (C) have (D) has

Section-A

Part II – Mental Ability (20 marks)

6. Find the next number in the series: 64, 58,52,46, ?
   (A) 40 (B) 38
   (C) 42 (D) 44

7. In a certain code language, THEN is written as RLBS. Which word will be written as AEPJ in that code language?
   (A) CGDE (B) CEAS
   (C) SGHE (D) CASE

8. The distance between A and B is 20m and that between C and D is 40m. C is to the West of D, which is to the East of A at a distance of 50m. B is to the North of C. In which direction is D with respect to B?
   (A) North-east (B) South-west
   (C) South-east (D) North-west

9. If 9^{th} of the month falls on the day preceding Sunday, then on what day will 1^{st} of the month fall?

(A) Friday (B) Saturday

(C) Sunday (D) Monday

10. There are six members, P,Q,R,S,T and U in a family. T is the brother of P's husband. U is the mother of T. Q is the daughter of S and P and the granddaughter of R. How is R related to T?

(A) Father (B) Son

(C) Brother (D) Uncle.

Section A

Part III – Basic Mathematics (40 marks)

11. If x-y=4 and xy=21, then find the value of $x^3 - y^3$

(A) 361 (B) 316

(C) 405 (D) 540

12. Simplify: $(x^2 + y^2 - z^2)^2 - (x^2 - y^2 + z^2)^2$

(A) $x^4 + y^4$ (B) $x^4 - y^4$

(C) $4x^2y^2 - 4z^2x^2$ (D) $4x^2y^2 - z^2x^2$

13. If $x\tan45^0\sin30^0 = \cos30^0 \tan30^0$, then x is equal to

(A) $\sqrt{3}$ (B) $\frac{1}{2}$

(C) $\frac{1}{\sqrt{2}}$ (D) 1

14. If $\sin\theta + \sin^2\theta = 1$, then $\cos^2\theta + \cos^4\theta =$

(A) -1 (B) 0

(C) 1 (D) 2

15. If x = $\log_a bc$, y = $\log_b ac$, z = $\log_c ba$ then $\frac{1}{x+1} + \frac{1}{y+1} + \frac{1}{z+1} =$

(A) 2 (B) 0

(C) 1 (D) ∞

16. Find the value of $\frac{\log_3 5 \times \log_{25} 27 \times \log_{49} 7}{\log_{81} 3}$

(A) 1 (B) $\frac{2}{3}$

(C) 3 (D) 6

17. A and B can do a piece of work in 72 days; B and C can do it in 120 days; A and C can do it in 90 days. In what time can A alone do it ?

(A) 100 days (B) 120 days

(C) 140 days (D) 80 days

18. 40 men take 8 days to earn Rs 2000. How many men will earn Rs 200 in 2 days?

(A) 10 (B) 16

(C) 8 (D) 20

19. The area of a rhombus is 150 cm^2 . The length of one of its diagonals is 10 cm. What is the length of the other diagonal ?

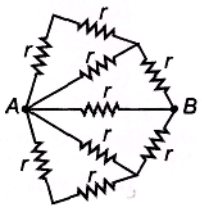
(A) 30cm (B) 25cm
(C) 20cm (D) 35cm

20. The volume of a right circular cylinder whose height is 40 cm and the circumference of its base is 66 cm is
(A) 55440 cm^3 (B) 34650 cm^3
(C) 7720 cm^3 (D) 13860 cm^3

Section-B (160 marks)

Physics

21. The network shown in figure is an arrangement of nine identical resistors. The resistance of the network between points A and B is 1.5 Ω. The resistance r is



(A) 1.1 Ω (B) 3.3 Ω
(C) 1.4 Ω (D) 1.8 Ω

22. A wire of resistance 6R is bent in the form of a circle. What is the effective resistance between the ends of the diameter?
(A) 2/3 ohm (B) 3/2 ohm
(C) 1/3 ohm (D) 1 ohm

23. A wire of resistance 9 ohm is broken in two parts. The length ratio being 1 : 2. The two pieces are connected in parallel. The net resistance will be
(A) 2 ohm (B) 3 ohm
(C) 4 ohm (D) 6 ohm

24. Two bulbs 60 W and 100 W designed for voltage 220 V are connected in series across 220 V source. The net power dissipated is
(A) 80 W (B) 160 W
(C) 37.5 W (D) 60 W

25. **Assertion:** In an open circuit, the current passes from one terminal of the electric cell to another.
Reason: Generally, the metal disc of a cell acts as a positive terminal.
(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.

26. The force exerted on a current-carrying wire placed in a magnetic field is zero when the angle between the wire and the direction of magnetic field is:
(A) 45^o (B) 60^o
(C) 90^o (D) 180^o

27. At the time of short circuit, the current in the circuit:
(A) Reduces substantially (B) Does not change
(C) Increases heavily (D) Varies continuously

28. The fuse in electrical circuits has:
(A)Low resistivity, high melting point (B)High resistivity, low melting point
(C)Low resistivity, low melting point (D)High resistivity, high melting point

29. To avoid risk of electrical shock, which phenomena is used?
(A) Over loading (B) Short circuiting
(C) Earthing (D) None of these

30. A spherical mirror and a spherical lens each have a focal length of -10 cm. The mirror and the lens are likely to be
(A) both concave
(B) both convex
(C) the mirror is concave and the lens is convex
(D) the mirror is convex and the lens is concave

31. Large number of thin stripes of black paint are made on the surface of a convex lens of focal length 20 cm to catch the image of a white horse. The image will be
(A) a zebra of black stripes (B) a horse of black stripes
(C) a horse of less brightness (D) a zebra of less brightness

32. If the refractive indices for water and diamond relative to air are 1.33 and 2.44 respectively, then the refractive index of diamond relative to water is-
(A) 0.55 (B) 1.80
(C) 3.19 (D) None of these

33. There is an equiconvex lens of focal length of 20cm. If the lens is cut into two equal parts perpendicular to the principle axis, the focal lengths of each part will be
(A) 20 cm (B) 10 cm
(C) 40 cm (D) 15 cm

34. An object is placed 20.0 cm in front of a concave mirror whose focal length is 25.0 cm. Where is the image located?
(A) 1.0×10^2 cm in front of the mirror (B) 1.0×10^2 cm behind the mirror
(C) 5.0×10^1 cm in front of the mirror (D) 5.0×10^1 cm behind the mirror

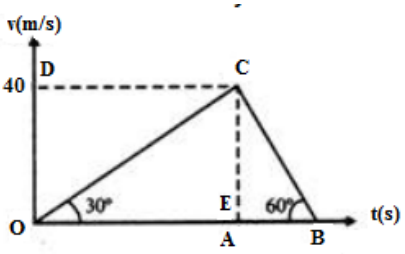
35. A passenger in an aeroplane
(A) should see a rainbow
(B) may see a primary and a secondary rainbow as concentric circles
(C) may see a primary and a secondary rainbow as concentric arcs
(D) should never see a secondary rainbow

36. A normal eye is not able to see objects closer than 25 cm because
(A) the focal length of the eye is 25 cm
(B) the distance of the retina from the eye lens is 25 cm
(C) the eye is not able to increase the focal length beyond a limit
(D) the eye is not able to decrease the focal length beyond a limit

37. **Assertion:** Pupil is black in colour.
Reason: Pupil is black in colour as no light is reflected in it.
(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.

38. **Assertion:** Cannot see the distant object clearly.
Reason: The far point of an eye suffering j, from myopia is less than infinity.
(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.

39. What is the ratio of the average acceleration during the intervals OA and AB in the velocity-time graph as shown below?



(A) ½ (B) ⅓

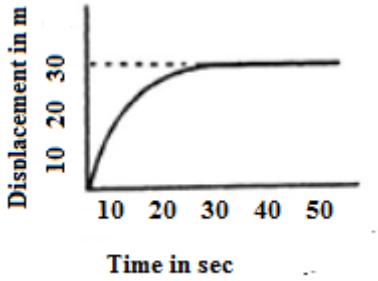
(C) 1 (D) 3

40. A body covers 16, 18, 20, 22 meters in 5th, 6th, 7th and 8th seconds respectively. Which of the following statements is true about the body?
(A) The body moves with a uniform velocity from rest
(B) The body from rest moves with uniform acceleration
(C) The body moves with an initial velocity and moves with uniform acceleration
(D) The body moves with an initial velocity and then moves with uniform velocity

41. What can be said about the displacement of the body if it covers a distance of zero?

(A)It is zero (B) It cannot be zero
(C) It may or may not be zero (D) It is negative

42. What does the displacement of the particle shown in the graph indicate?



(A) It indicates a constant velocity
(B) It indicates a constant acceleration
(C) It indicates that the particle starts with a constant velocity and is accelerated
(D) It indicates that the motion is retarded and the particle stops

43. A 150 m long train is moving with a uniform velocity of 45 km/h. The time taken by the train to cross a bridge of length 850 m is

(A) 56 s (B) 68 s
(C) 80 s (D) 92 s

44. According to Galileo's experiment for a double inclined plane, if slope of second plane is zero and planes are smooth, then a ball is released from rest on one of the planes rolls down and move on the second plane …X… distance. Here, X is

(A) zero (B) infinite
(C) equal to length of first plane (D) None of these

45. A constant force acting on a body of mass 3 kg change its speed from 2 ms^{-1} to 3.5 ms^{-1} in 25 s, in the direction of the motion of the body. What is the magnitude and direction of the force?

(A) 0.18 N in the direction of motion (B) 0.32 N in the direction of motion
(C) 0.64 N in the direction of motion (D) 0.16 N in the direction of motion

46. 1-kg object is lying on the ground. An unbalanced force of magnitude 1 N is applied to the object. Which of these options explains the motion of the object as a result of the acting force?

(A) The object will accelerate in the direction of the applied force.
(B) The object will accelerate in a direction perpendicular to the applied force.
(C) The object will decelerate in the direction of the applied force.
(D) The object will remain at rest

47. Two equal masses m each moving in the opposite direction with the same speed v collide and stick to each other. The velocity of the combined mass is

(A) v (B) 2v
(C) v/2 (D) zero

48. If the density of Earth is doubled keeping its radius constant then acceleration due to gravity will become (the present value is 9.8 ms^{-2})

(A) 9.8 ms^{-2} (B) 4.9 ms^{-2}

(C) 19.6 ms^{-2} (D) 2.45 ms^{-2}

49. Where the value of gravitational acceleration is less due to the diurnal motion of earth?

(A)At Polar region (B)At equator

(C)Tropic of Cancer or Tropic of Capricorn (D)None of this

50. What is the approximate mass of Sun?

(A)2 x 10^{34} kg (B)2 x 10^{32} kg

(C)2 x 10^{30} kg (D)2 x 10^{28} kg

51. The equation $F = G m_1 m_2 / r^2$ is valid for

(A)rectangular bodies (B) circular bodies

(C) elliptical bodies (D) spherical bodies

52. What happens to the acceleration due to gravity with the increase in altitude from the surface of the earth?

(A)Increases (B)Decreases

(C)First decreases and then increases (D)Remains same

53. If force and displacement of the particle (in direction of force) are doubled, work should be

(A)doubled (B) 4 times

(C) halved (D) 1/4 times

54. One kilowatt is approximately equal to

(A) 1.34 hp (B) 1.56 hp

(C) 2.50 hp (D) 1.83 hp

55. A body rolls down on inclined plane, it has

(A)only kinetic energy

(B)only potential energy

(C)both kinetic energy and potential energy

(D)neither kinetic energy nor potential energy

56. A ball is thrown upward from a point P , reaches the highest point Q .

(A)kinetic energy at P is equal to kinetic energy at Q

(B)potential energy at P is equal to kinetic energy at Q

(C)kinetic energy at P is equal to potential energy at Q

(D) potential energy at P is equal to potential energy at Q

57. A part of longitudinal wave in which particles of medium are farther away than the normal particles is called:

(A) Rarefaction (B) Trough
(C) Compression (D) Crest

58. A thunder clap is heard 5.5 seconds after lightning flash. The distance of the flash is (Velocity of sound in air = 330 m/s)

(A) 1750 m (B) 1815 m
(C) 3000 m (D) 3500 m

59. In the compression region of the medium in case of longitudinal wave:

(A) The volume monetarily decreases (B) The density momentarily
(C) The pressure monetarily increases (D) All the Above

60. A bat hears the echo of its squeak after 0.1 second. How far is the obstacle from the bat? Speed of sound is 344 m/s.

(A) 170m (B) 17.2m
(C) 180m (D) 18m

Section-C (160 marks)

Chemistry

61. Which one of the following is incorrect about the Greenhouse Effect?

(A) Life on earth is possible due to the greenhouse effect
(B) Greenhouse effect is a natural process that maintains the earth's temperature
(C) More is the emission of greenhouse gases, more is the temperature of the earth's atmosphere
(D)Increased emission of greenhouse gases is a natural process

62. Which of the following particles is called the particulate pollutants?

(A) Ozone (B) Radon
(C) Fly Ash (D) Ethylene

63. Properties of three substances X, Y and Z are given below:

X: Heavy and non-magnetic
Y: Light and non-magnetic
Z: Magnetic

If X, Y are and Z of same size and colour then, which of the following can be used to separate these particles from their mixture?

(A) Handpicking followed by filtration
(B) winnowing followed by Magnetic separation
(C) Magnetic separation followed by sieving
(D) Sublimation followed by distillation

64. An elements *X* has an atomic number of 16. With which of the following elements will it show similar chemical properties?

(A) Ne (B) N
(C) O (D) Be

65. Which of the following properties of colloids does not depend on the charge on particles?

(A) Coagulation (B) Electro-osmosis
(C) Electrophoresis (D) Tyndall effect

66. Automobile exhaust and smoke coming out from the vehicles and industries are the examples of which type of colloid?

(A) solid in liquid (B) solid in gas
(C) solid in solid (D) liquid in solid

67. Copper sulphate solution can be safely kept in a container made of

(A) aluminium (B) lead
(C) silver (D) zinc

68. How many long wire can be drawn from a gram of gold?

(A) 3 centimeter (B) 3 meter
(C) 3 kilometer (D) 300 meter

69. There are four metals K, L M and N. Identify them by using the hints given below.
K forms basic oxide.
L forms amphoteric oxide.
Oxide of M dissolves in water to form alkali.
N does not react with water at all.

(A) K→Zn, L→Al, M→Na, N→Fe
(B) K→Fe, L→Na, M→K, N→Zn
(C) K→K, L→Cu, M→Pb, N→Na
(D) K→Cu, L→Zn, M→K, N→Pb

70. Which one of the following oxides gives pink colour with phenolphthalein indicator in aqueous solutions?

(A) N_2O (B) NO
(C) CaO (D) CO_2

71. Metals which are extracted by heating, electrolysis and by reduction with carbon respectively are

(A) Copper, magnesium, zinc (B) Mercury, aluminium, lead
(C) Mercury, sodium, calcium (D) Both (A) and (B)

72. Match the column - I with column - II

List – I	List- II
(P) PbS → PbO	(1) roasting
(Q) CaCO3 → CaO	(2) calcination
(R) ZnS → Zn	(3) Carbon reduction
(S) Cu_2S → Cu	(4) self-reduction

(A) P Q R S
1,4 2 1,3 1,4
(B) P Q R S
2 3 1 4
(C) P Q R S
2 3 4 1
(D) P Q R S
3 4 2 1,3

73. On which factor, conductance of metals is responsible?

(A) ions (B) delocalized electrons
(C) atomic kernel (D) number of atoms

74. The sharp melting point of crystalline solids is due to.....

(A) A regular arrangement of constituent particles observed over a short distance in the crystal lattice
(B) A regular arrangement of constituent particles observed over a long distance in the crystal Lattice
(C) Same arrangement of constituent particles in different directions
(D) Different arrangement of constituent particles in different directions

75. The critical point of a substance refers to:

(A) The temperature at which it turns into a gas
(B) The pressure at which it turns into a liquid
(C) The point where the liquid and gas phases become indistinguishable.
(D) The highest temperature it can reach

76. Which of the following statements is true about the kinetic theory of gases?

(A) Gases consist of large, closely-packed particles.
(B) Gas particles have strong intermolecular forces.
(C) The average kinetic energy of gas particles is directly proportional to the absolute temperature.
(D) Gas particles have fixed positions in a container.

77. A hypothetical element is found to have the following isotopes:
Element-107 (51.84%, 107.3 amu)
Element-109 (48.16%, 108.9 amu)
Using the given information, calculate for its atomic mass.

(A)107.9 amu (B)108.5 amu
(C)108.1 amu (D)106.6 amu

78. amu is measure of

(A) mass of one mole of atom (B) mass of one atom of that element
(C) mass of one (D) none of these

79. The first aerated drinks were prepared by adding baking soda to lemonade (the juice of lemons + water + sugar). Which component of lemon-juice would the baking soda react with to produce the "fizz"?

(A) Citric acid (B) Nitric acid
(C) Stearic acid (D) Carbonic acid

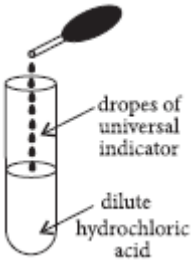
80. Which of the following solutions has the lowest pH value?

(A) 0. 1 Molar NaCl solution (B) 0.01 Molar NaHCO3 solution
(C) 0. 00 1 Molar Na2CO3 solution (D) 0.01 Molar NaOH solution

81. On passing excess CO2 in aqueous solution of sodium carbonate, the substance obtained is:

(A) NaOH (B) $NaHCO_3$
(C) $Na_2CO_3.10H_2O$ (D) $Na_2CO_3.H_2O$

82. A student adds a few drops of the universal indicator to a solution of dilute hydrochloric acid in the way shown here. He would observe that the colour of the solution changes from colourless to



(A) red (B) yellow
(C) violet (D) green

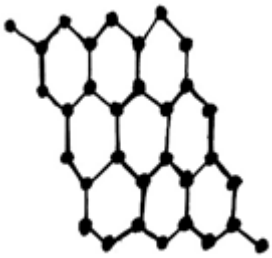
83. What is the pH level of the human body?
(A) 7, Neutral
(B) between 7 – 7.54, it is neutral or slightly basic
(C) between 5.5. – 7, it is neutral or slightly acidic
(D) None of the above

84. P is produced by the action of chlorine on dry slaked lime.
Q is a non-corrosive base and used for faster cooking.
On heating R at 373K, it becomes calcium sulphate hemihydrate.
Identify P, Q and R respectively:
(A) $CaOCl_2$, $NaHCO_3$, gypsum (B) CaO, Na_2CO_3, $CaOCl_2$
(C) $CaOCl_2$, Na_2CO_3, NH_4Cl (D) $Ca(OH)_2$, $NaHCO_3$, $CaSO_4$

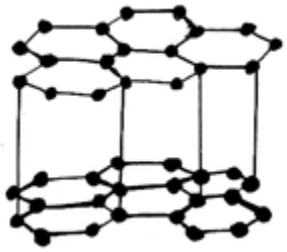
85. Which of the following is the structure of Graphite?

(A)

(B)

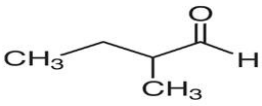


(C)



(D)

86. The IUPAC name of

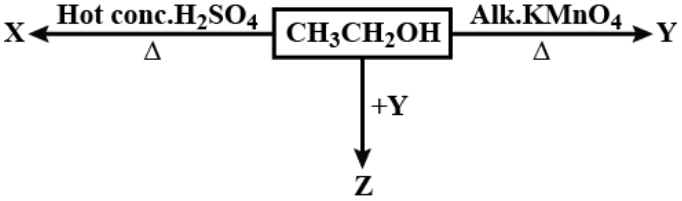


(A) 2-methylbutanal (B) butan-2-aldehyde
(C) 2-ethylbutanal (D) 3-methylisobutyraldehyde

87. The IUPAC name for the compound CH3−C(CH3) =CH−COOH is:
(A) 2-Methyl-2-butenoic acid (B) 3-Methyl-3-butenoic acid
(C) 3-Methyl-2-butenoic acid (D) 2-Methyl-3-butenoic acid

88. Ethanol is made unfit for drinking by adding
(A) propanol (B) methanal
(C) methanol (D) ethanal

89. Identify X, Y and Z respectively in the given reaction



(A) CH3COOH, CH2=CH2, CH3COOCH3
(B) CH2=CH2, CH3COOH, CH3COOCH2CH3
(C) HCHO, CH3CH3, CH3CH2COOH
(D) CH3CH3, HCHO, CH3COOH

90. 1 mole of ethyne on complete combustion gives
(A) 2 moles of carbon monoxide half -mole of water
(B) 4 moles of carbon dioxide and 1 mole of water
(C) 2 moles of carbon dioxide and 1 mole of water
(D) 2 moles of carbon dioxide and 2 moles water

91. Mr. Natrium wanted to bake a cake for his wife (who was a professor of chemistry) on the occasion of their 11th wedding anniversary. Realizing that the ingredient "baking powder" was required for his recipe, he looked around the house for it, but to no avail. Browsing through the shelves of his wife's mini-laboratory, he found a near-empty bottle labelled "Baking Soda", and emptied its contents into the cake-mixture. What would his cake be like?
(A) It would explode
(B) It would taste bitter
(C) It would never solidify completely
(D) It would get burnt quickly

92. Which of the following statement(s) is/are true for the process of anodizing?
(A) Anodizing is an electrochemical process.
(B) Aluminum is ideally suited to anodizing, although other nonferrous metals, such as magnesium and titanium, also can be anodized.
(C) It converts the metal surface into a decorative, durable, corrosion-resistant, anodic oxide finish.
(D) All of the above

93. Anodized aluminum is:
(A) Al obtained at anode.
(B) Al prepared electrolytically
(C) Alloy of Al containing 95% of Al
(D) Al electrolytically coated with aluminium oxide.

94. Bleaching powder dissolves in water to form:
(A) $Ca(OH)_2,Cl_2$ (B) Ca^{+2}, Cl^-, ClO_2^-
(C) Ca^{2+},C^{1-}, ClO^{-4} (D) Ca^{2+}, Cl^-,ClO^{-3}

95. Which of the following reactions evolves heat?
(A) $C+O_2 \rightarrow CO_2$ (B) $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$
(C) $CaO+H_2O \rightarrow Ca(OH)_2$ (D) All of these

96. Which of the following combination of reactants will lead to the formation of reddish-brown precipitate?
(A) $AgNO_{3(aq)} + NH_4OH_{(aq)}$ (B) $Pb(NO3)_{2(aq)} + Kl_{(aq)}$
(C) $FeCl_{3(aq)} + NH_4OH_{(aq)}$ (D) $CuSO_{4(aq)} + H_2S_{(g)}$

97. Ferrous sulphate, on heating, gives:
(A) SO_2 (B) SO_3
(C) SO_3 and SO_2 (D) none of the above

98. What is the oxidation number of chlorine in $HClO_4$?
(A) +3 (B) +5
(C) +7 (D) +8

99. White silver chloride in sunlight turns to:
(A) grey (B) red
(C) green (D) yellow

100. $Mg + CuO \rightarrow MgO + Cu$
Which of the following is wrong relating to the above reaction?
(A) CuO gets reduced. (B) Mg gets oxidized.
(C) CuO gets oxidized. (D) It is a redox reaction.

Section-D (160 marks)

Biology

101. In stomach, hydrochloric acid creates an acidic medium so that
(A) Enzyme trypsin digests the protein (B) Enzyme pepsin digests the starch
(C) Enzyme pepsin digests the protein (D) Enzyme trypsin digests the starch.

102. Smaller subunit of 80 S ribosome is composed of
(A) 40S (B) 60S.
(C) 50S (D) 30S.

103. Mendel's contribution to genetics is
(A) Theory of natural selection (B) Theory of incomplete dominance
(C) Principle of genetic recombination (D) Law of independent assortment

104. The inner lining of stomach is protected from harmful effect of hydrochloric acid by one of the following
(A) Mucus (B) Pepsin
(C) Trypsin (D) Bile

105. The end products of fermentation of glucose by yeast are

(A) ethanol, CO_2 and 36 ATP (B) CO_2, H_2O and 36 ATP

(C) ethanol, CO_2 and 2ATP (D) lactic acid, CO_2 and 2 ATP.

106. Which of the following is an acquired trait?

(A) Hair colour (B) Height

(C) Eye colour (D) Cut nose

107. Tissue found in hard covering of seeds and nuts is

(A) Parenchyma (B) Collenchyma

(C) Sclerenchyma (D) Lateral meristem.

108. How many mitotic divisions are needed for a single cell to make 64 cells?

(A) 7 (B) 14

(C) 6 (D) 64

109. Pyruvic acid is converted to lactic acid in the---------- of muscle cells.

(A) Cytoplasm (B) Mitochondria

(C) Golgi body (D) None of these

110. Oxygenated blood reaches heart through

(A) Pulmonary vein (B) Pulmonary artery

(C) Vena cava (D) Aorta

111. Which of the following is not true for plants?

(A) Slow transport system (B) High energy needs

(C) Not mobile (D) Large number of dead cells

112. Which of the following are possible outcomes of Mendel's Experiment?

i) 3 tall 1 short plant

ii) 24 tall and 8 short plants

iii) 8 tall and 0 short plants

iv) 4 tall plants and 1 medium height plant

(A) i, iii and iv (B) ii, iii and iv

(C) i and iv (D) i, ii and iii

113. Which of the following statements are not true regarding muscular tissues?

i. Striated muscles are multinucleated and branched

ii. Smooth muscles are uninucleated and spindle shaped

iii. Cardiac muscles are uninucleated and branched

iv. Striations are present in cardiac muscles

(A) i. and iv. (B) only i.

(C) only iv. (D) iii. and iv.

114. Which of the following is an exotic breed of Poultry?

(A)Leghorn (B) Aseel

(C) Red Sindhi (D) Both (a) and (b)

115. The structure of the nuclear membrane facilitates

(A) Organization of spindle

(B) Nucleo-cytoplasmic exchange of materials

(C) Anaphasic separation of daughter chromosomes

(D) Synapsis of chromosomes.

116. If a cross is made between hybrid tall and red flowered plant (TtRr) with dwarf and white flowered one(ttrr).

What will be the genotypes of plants of F1 generation?

(A) TtRr, TtRR, TTRr, Ttrr in the ratio of 1:1:1:1

(B) TtRr, Ttrr, ttRr, ttrr in the ratio of 1:1:1:1

(C) TtRR, TTRR, ttRr, Ttrr in the ration of 1:1:1:1

(D) TTRR, TtRR, TTRr, Ttrr in the ration of 1:1:1:1

117. Which one of the following is not a part of nephron?

(A) Nephric tubule (B) Ureter

(C) Bowman's capsule (D) Both (a) and (C)

118. If you are provided with root tips of onion in your class and are asked to count the chromosomes which of the following stages can you most conveniently look into?

(A)Metaphase (B)Telophase

(C)Anaphase (D)Prophase

119. Which of the following statement is not correct regarding vaccination?

(A) It specifically remembers the dead microbe

(B) It produces antibodies when the pathogen attacks the body

(C) It blocks the food supply of the pathogen

(D) It provides immunity against the pathogen

120. The matrix of cartilage is composed of

(A) Calcium and phosphorus compounds (B) Sugars and proteins

(C) Sugars and lipids (D) Lipids and proteins.

121. Select the Rabi crop out of the following.

(A) Paddy (B) Maize

(C) Soybean (D) Wheat

122. Amoeba excretes through

(A) Contractile vacuole (B) Food vacuole

(C) Nephridia (D) Kidney.

123. In Column-I, Organelle is given and in Column-II its function is given, select the correct option

Column-I	Column-II
P. Mitochondria	1. Suicide bag
Q. Chloroplast	2. Synthesis of steroids
R. Lysosome	3. Photosynthesis
S. SER	4. ATP- formation and storage

(A) (P – 4) (Q – 3) (R – 2) (S – 1) (B) (P – 2) (Q – 1) (R – 4) (S – 3)
(C) (P – 4) (Q – 3) (R – 1) (S – 2) (D) (P – 1) (Q – 2) (R – 3) (S – 4)

124. Which of the following is an inherited trait?

(A) Height of a person (B) Weight of a person

(C) Both (A) and ((B) (D) None of these

125. We suddenly withdraw our hand when a pin pricks. The response of this action is

(A) Nerve impulse (B) Muscle contraction

(C) Reflex action (D) Reflex arc

126. What is the primary purpose of the cell cycle?

(A) Repair damaged cells (B) Generate energy

(C) Produce new cells (D) Eliminate waste products

127. The quality of honey depends upon

(A) The duration of which honeybees stay in beehives

(B) Pasturage

(C) The honey collection capacity of honey bee

(D) All of these.

128. Which of the following is incorrect about areolar tissue?

(A) It helps in repair of tissues (B) It supports internal organs

(C) It stores fat (D) Is found around blood vessels and nerves

129. Which of the following cross can not produce 100% tall in F1generation

(A) TT and tt (B) Tt and TT

(C) TT and TT (D) Tt and tt

130. If our hand is accidentally placed on a hot iron, we quickly pull our hand away. The hot iron represents

(A) Stimulus (B) Response

(C) Impulse (D) Receptor.

131. Cerebellum, medulla and pons are parts of

(A) Forebrain (B) Midbrain

(C) Spinal cord (D) Hindbrain.

132. Feedback mechanism

(A) Helps in reflex action (B) Resets the nerve cell

(C) Regulates the amount of hormone (D) Transmits nerve impulse.

133. If the energy transferred to the tertiary consumer in a food chain is 0.25 J, how much energy is available at the producer level?

(A) 250 J (B) 0.025 J

(C) 25 J (D) 2500 J

134. Which of the following is released at the synaptic cleft?

(A) Hormones (B) Neurotransmitters

(C) Lymph (D) Cerebrospinal fluid

135. Tendons and ligaments are types of

(A) Epithelial tissue (B) Muscular tissue

(C) Connective tissue (D) Nervous tissue.

136. In pea plants, the pods may be inflated (I, dominant) or constricted (i, recessive). What proportion of the offspring would be expected to be inflated if Ii is crossed with ii?

(A) 25% (B) 50%

(C) 75% (D) 100%

137. Hepatitis is caused by

(A) Bacteria (B) Fungi

(C) Virus (D) Protozoa.

138. Plants bend towards a source of light as a result of

i. more growth of cell towards sunlight

ii. more growth of cell away from sunlight

iii. equal distribution of auxin in the stem

iv. unequal distribution of auxin in the stem.

(A) i. and iii. (B) ii. and iv.

(C) ii. and iii. (D) i. and iv.

139. Which of the following gets the minimum energy through the food chain in an ecosystem?

(A) Producer (B) Tertiary consumer

(C) Primary consumer (D) Secondary consumer

140. Ciliated epithelium is present in

(A) Kidney tubules and salivary ducts (B) Trachea and Oviduct

(C) Intestine and stomach (D) Skin and blood capillaries.

141. Match the columns and identify the correct option.

Column I	**Column II**
A. Nucleus	1. Disc-shaped sacs in Golgi apparatus
B. Grana	2. Carriers of genetic information
C. Cisternae	3. Robert Brown
D. Chromosomes	4. Stacks of thylakoids

(A) 4 3 1 2 (B) 3 4 1 2

(C) 3 1 4 2 (D) 3 4 2 1

142. In human sex determination, a zygote which has inherited an X- chromosome from father will be

(A) A male child (B) A female child

(C) Twins (D) Either male or female.

143. The zygote of maize plant has 20 chromosomes. How many chromosomes are present in its endosperm?

(A) 10 (B) 20

(C) 30 (D) 40

144. Unisexual flower is produced by

(A) Papaya (B) Watermelon

(C) Mustard (D) Both (A) and ((B).

145. Which of the following event occurs if ovum does not fertilize?

(A) Implantation (B) Ovulation

(C) Placentation (D) Menstruation

146. Cyperinus and Parthenium are types of

(A) Weeds (B) Pests

(C) Diseases (D) Pesticides.

147. Choose the incorrect statement about plant tissue.

(A) Intercellular spaces are present in parenchyma tissue

(B) Irregular thickening at corners are found in collenchyma tissue

(C) Sclerenchyma tissue has uniform thickening of suberin

(D) Meristematic tissue has large prominent vacuole

148. Protoplasmic strands between adjacent plant cells are

(A) Protoplasmic fibril (B) Desmosome

(C) PIasmodesmata (D) Ectodesma.

149. The third trophic level of a grassland food chain can be

(A) **Snake** (B) Grasshopper

(C) Grass (D) Rabbit.

150. Which of the following are not the functions of ovary at puberty?

i. Production of sperm

ii. Secretion of oestrogen

iii. Production of testosterone

iv. Production of ovum

(A) i. and ii. (B) i. and iv.

(C) ii. and iv. (D) i. and iii.

151. Which of the following is used as a green manure?

(A)Sudan grass (B) Sun hemp

(C) Berseem (D) Parthenium

152. In man, brown eyes ((B) are dominant to blue (b) and dark hair (R) dominant to red hair (r). A man with blue eye and dark hair (whose mother was red haired) marries a woman with brown eyes and red hair (whose father was blue eyed). What are the genotypes of the man and his wife?

(A) bbRr and Bbrr (B) bbRR and BBrr

(C) bbRr and BBrr (D) BBrr and Bbrr

153. It is difficult to make antiviral medicines because

(A) Viruses are not alive outside the host organism

(B) Viruses have very few biochemical pathway of their own

(C) Viruses lack membrane

(D) All of these.

154. Which of the following constitute a food chain?

(A) Plant, apple, butterfly, man (B) Grass, spider, bee, buffalo

(C) Plant, insect, toad, snake (D) Algae, amoeba, fish, cow

155. Different cells have different sizes. Arrange the following cells in an ascending order of their size. Choose the correct option among the followings

i. Mycoplasma ii. Ostrich eggs iii Human RBC iv.Bacteria

(A) ii, I, iii & iv (B) i, iv, iii & iv

(C) i, iv, iii & ii (D) iii, ii, i& iv

156. common characterstic- feature of plant sieve tube cells and most of mammalian erythrocytes is

(A) Absence of mitochondria (B) Presence of cell wall

(C) Presence of haemoglobin (D) Absence of nucleus

157. The correct sequence of phases of cell cycle is

(A)$G_1 \rightarrow G_2 \rightarrow S \rightarrow M$ (B) $S \rightarrow G_1 \rightarrow G_2 \rightarrow M$

(C) $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$ (D) $M \rightarrow G_1 \rightarrow G_2 \rightarrow S$

158. Which of the following is not a function of epidermis?

(A) It protects the plants from parasitic invasion

(B) It helps the roots to absorb water and nutrients

(C) It regulates gaseous exchange

(D) It allows water loss

159. Which of the following is related to duration of sunlight?

(A) Phototropism (B) Photoperiod

(C) Photolysis (D) None of these

160. Water hyacinth floats on water surface due to

(A) Collenchyma (B) Aerenchyma

(C) Chlorenchyma (D) Sclrenchyma

161. In food chain, herbivores constitute the

(A) First trophic level (B) Second trophic level

(C) Third trophic level (D) Fourth trophic level.

162. The tissue which provides flexibility to plants is

(A) Parenchyma (B) Sclerenchyma

(C) Phloem (D) Collenchyma.

163. The genetic constitution of an individual organism is known as its

(A) Phenotype (B) Homozygous

(C) Genotype (D) Allele.

164. The concept of '*Omnis cellula -e- cellula*' regarding cell division was first proposed by

(A) Theodor Schwann (B) Schleiden

(C) Aristotle (D) Rudolf Virchow

165. Pathogens which cause tuberculosis are transmitted through

(A) contaminated Water (B) sexual contact

(C) air (D) contaminated food

166. Assertion: In humans, males play an important role in determining the sex of the child.

Reason: Males have two X chromosomes.

(A) Both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion.
(C) The assertion is true but the reason is false.
(D) Both the assertion and reason are false.

167. Which of the following disease is spread by droplet infection?

(A) Hepatitis (B) AIDS

(C) Common cold (D) Kala-azar

168. The depletion of ozone in the upper atmosphere is mainly due to emission of

(A) CFC (B) UV rays

(C) greenhouse gases (D) all of these.

169. What is the end result of mitosis in animal cells?

(A) Two identical daughter cells

(B) Four genetically different daughter cells

(C) One daughter cell

(D) Three identical daughter cells

170. Which of the following is an artificial ecosystem?

(A) Crop land (B) Garden

(C) Forest (D) Both (A) and ((B)

171. Tissue present in the kidney tubule is

(A) Simple squamous epithelium (B) Cuboidal epithelium

(C) Columnar epithelium (D) Stratified squamous epithelium.

172. Which of the following is an indigenous breed of cattle?

(A) Brown Swiss (B) Sahiwal

(C) Jersey (D) Both (A) and (B)

173. A protoplast is a cell

(A) Without plasma membrane (B) Without nucleus

(C) Undergoing division (D) Without cell wall

174. If liver is targeted by microbes for infection, there will be

(A) Jaundice (B) Cough and breathlessnes

(C) Fits and unconsciousness (D) None of these.

175. Oxygen is converted to ozone by the action of

(A) CFCs (B) Alpha radiation

(C) UV radiation (D) Gamma radiation

176. Which of the following is not a part of biotic community?

(A)Algae (B) Fish

(C) Oxygen (D) Bacteria

177. Tissue present in the iris of eye is

(A) Striated muscular tissue

(B) Cuboidal epithelium

(C) Smooth muscular tissue

(D) Columnar epithelium.

178. AIDS cannot be transmitted by

(A) Handshake

(B) Sexual contact

(C) Breast feeding

(D) Blood transfusion.

179. Assertion : Tropical rain forests are disappearing fast from developing countries such as India.

Reason : No value is attached to these forests because these are poor in biodiversity.

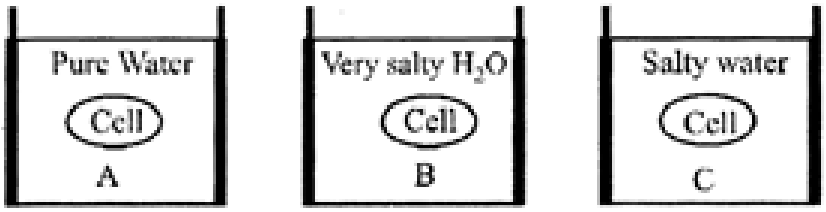
(A) Both the assertion and the reason are true and the reason is a correct explanation of the assertion.

(B) Both the assertion and reason are true but the reason is not a correct explanation of the assertion.

(C) The assertion is true but the reason is false.

(D) Both the assertion and reason are false.

180. Which of the following shows the correct explanation of the given figures?



(A) Cell "A" will lose H_2O,Cell "B" will gain H_2O, Cell "C" neither gain nor loses H_2O

(B) Cell "A"neithergain nor loses H_2O, Cell "B"will gain H_2O, Cell "C"will lose H2O

(C) Cell "A" will gain H_2O,Cell "B"neither gain nor loses H_2O, Cell "C" will lose H_2O.

(D) Cell "A" will gain H_2O, Cell "B" will lose H_2O, Cell "C" neither gain nor loses H_2O.

**********Best of Luck**********