TS Polycet 2025 Memory Based Question Paper

Mathematics

1. The roots of the quadratic equation $x^2 - 16 = 0$ are:

(1) $4, -4$

(2) $8, -8$

(3) $16, -16$

(4) $2, -2$

---

2. If α, β are the roots of $2x^2 - 4x + 5 = 0$, then $(\alpha + 1)(\beta + 1) =$:

(1) $\frac{11}{2}$

(2) 2

(3) 1

(4) 0

---

3. The value of $\frac{1-\tan^2 45^\circ}{1+\tan^2 45^\circ}$ is:

(1) 1

(2) 0

(3) -1

(4) ∞

---

4. The value of $1 + \sec 19^\circ \sin 71^\circ$ is:

(1) 2

(2) 1

(3) 3

(4) 1.5

---

5. The pair of linear equations $2x - 3y = 8$ and $4x - 6y = 9$ represents the following:

(A) The system has a unique solution.

(B) The system has infinitely many solutions.

(C) The system has no solution.

(D) The system represents two parallel lines.

---

6. The solution of system of equations $\frac{x}{2025} + \frac{y}{2026} = 2$ and $\frac{2x}{2025} - \frac{y}{2026} = 1$ is:

(1) $x = 4025,\ y = 2026$

(2) $x = 4040,\ y = 2025$

(3) $x = 2025,\ y = 2026$

(4) $x = 4030,\ y = 2027$

---

7. The roots of quadratic equation $2x^2 + x - 4 = 0$ are:

(1) $\frac{-1 \pm \sqrt{33}}{4}$

(2) $\frac{-1 \pm \sqrt{33}}{2}$

(3) $\frac{-1 \pm \sqrt{33}}{2}$

(4) $\frac{-1 \pm \sqrt{33}}{4}$

---

8. The total surface area of a hemisphere solid having radius 7 cm is:

(1) $616\,\text{cm}^2$

(2) $462\,\text{cm}^2$

(3) $154\,\text{cm}^2$

(4) $77\,\text{cm}^2$

---

9. If $\frac{5}{x+1} + \frac{1}{y-3} = 2$ and $\frac{6}{x+1} - \frac{3}{y-3} = 1$, then $x = \ldots$:

(1) 1

(2) 2

(3) 3

(4) 4

---

10. Which term of G.P. $2, 2\sqrt{2}, 4, \ldots$ is 128?

(1) 7

(2) 8

(3) 13

(4) 10

---

11. The terms 4, 7, 10, . . . form an A.P. The sum of the first 15 terms is?

(A) 340

(B) 360

(C) 375

(D) 390

---

12. If a line is passing through the points (2, 5) and (x, 3) and its slope is 2. Then the value of 'x' is?

(1) 6

(2) 7

(3) 8

(4) 9

13. The distance of point (2, 4) from the x-axis is?

(A) 2

(B) 4

(C) 6

(D) 8

---

14. The area of the triangle with vertices $(1, 1), (-4, 6), (-3, -5)$ **is?**

(1) 20

(2) 24

(3) 30

(4) 35

---

15. If $A = 45°$**, then the value of** $\sin A + \cos A + \cos 2A$ **is?**

(A) $\sqrt{2}$

(B) 1

(C) 2

(D) 0

---

16. $\cot(90° - \theta) = ?$

(A) $\sin\theta$

(B) $\cos\theta$

(C) $\tan\theta$

(D) $\sec\theta$

17. If A is the set of odd numbers less than 6 and B is the set of prime factors of 30, then:

(1) $A \cup B = \{1, 3, 5, 2, 3, 5\}$

(2) $A \cap B = \{3, 5\}$

(3) $A \neq B$

(4) $A \cup B = \{1, 3, 5, 2, 3\}$

18. If the pair of equations $3x + 4y = k$ and $9x + 12y = 6$ has infinite number of solutions, then the value of k is:

(A) 1

(B) 2

(C) 3

(D) 4

---

19. The product of the zeroes of a polynomial $x^3 - 3x^2 + x + 1$ is:

(A) 1

(B) -1

(C) 3

(D) -3

---

20. The sum of the first n natural numbers is:

(A) $\frac{n(n+1)}{2}$

(B) $\frac{n(n-1)}{2}$

(C) n^2

(D) $n(n + 1)$

---

21. In the sequence $18, a, 14, 32$, the common difference is:

(1) 2

(2) 8

(3) 4

(4) 6

---

22. If $x < 0$ and $y > 0$, then the point $P(x, y)$ is in which quadrant?

(1) First Quadrant

(2) Second Quadrant

(3) Third Quadrant

(4) Fourth Quadrant

---

23. What is the value of $\csc 31^\circ \sec 59^\circ$?

(1) 0

(2) 1

(3) Undefined

(4) 2

---

24. If a, b, c are in A.P., then $\frac{a-b}{b-c}$ is equal to:

(1) 1

(2) 2

(3) 0

(4) Undefined

---

25. If a, b, c are in A.P., then $\frac{a-b}{b-c}$ is equal to:

1. 1

2. 2

3. 0

4. Undefined

---

26. If $A = \{1, 2, 3, 4, 5\}$ and $B = \{1, 3, 5, 7\}$, then $n(A \cap B) = \ldots$:

(1) 3

(2) 4

(3) 2

(4) 1

---

27. The zeroes of the quadratic polynomial $x^2 + x - 2$ are:

(1) $-2, 1$

(2) $-1, 2$

(3) $1, 2$

(4) $-1, -2$

---

28. Which of the following statement regarding the probability of an event is correct?

(1) Probability of an event is always negative.

(2) Probability of an event is always between 0 and 1.

(3) Probability of an event is always greater than 1.

(4) Probability of an event is always greater than 0.

---

29. What is the probability of getting a number 7 in a single throw of a dice?

(1) 0

(2) $\frac{1}{8}$

(3) $\frac{1}{12}$

(4) $\frac{1}{36}$

---

30. If one card is selected from a well-shuffled deck of 52 cards, then the probability of getting an ace card is:

(1) $\frac{4}{52}$

(2) $\frac{1}{13}$

(3) $\frac{1}{52}$

(4) $\frac{4}{13}$

---

31. The mean of 20, 30, 38, 40, 50, 56, 60 is:

(A) 42

(B) 44

(C) 46

(D) 48

---

32. If the equations $x + 2y = 5$ and $3x + ky = 10$ are inconsistent, then the value of k is:

(A) 4

(B) 6

(C) 8

(D) 10

---

33. If the pair of linear equations $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ represent coincident lines, then:

(A) $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

(B) $\frac{a_1}{a_2} = \frac{b_1}{b_2}$

(C) $\frac{a_1}{a_2} = \frac{c_1}{c_2}$

(D) $\frac{b_1}{b_2} = \frac{c_1}{c_2}$

---

34. From the top of the tower 60 meters high, the angle of depression of an object is 60°, then the distance of the object from the base of the tower is:

(A) $\frac{60}{\sqrt{3}}$ m

(B) $60\sqrt{3}$ m

(C) 60 m

(D) $30\sqrt{3}$ m

---

35. The angle of elevation of the top of the building from a point 10 meters away from the base of the building is 60°, then the height of the building is:

(A) $\frac{10}{\sqrt{3}}$ m

(B) $10\sqrt{3}$ m

(C) 10 m

(D) $\frac{10}{3}$ m

---

36. 5 + $\sqrt{7}$ is:

(A) an irrational number

(B) a rational number

(C) an integer

(D) a whole number

---

37. If x, y and z are distinct prime numbers, then the H.C.F. of x^2y^3z and x^3yz^2 is:

(A) x^2yz

(B) xyz^2

(C) $x^3y^3z^3$

(D) $x^2y^2z^2$

---

38. The value of $\log_3 81$ is:

(A) 2

(B) 3

(C) 4

(D) 5

---

39. What is the median of 18, 14, 6, 7, 8?

(A) 7

(B) 8

(C) 6

(D) 14

---

40. If the mean of $x, y, 3, 4$ is 5, then $x + y =?$

(A) 8

(B) 13

(C) 15

(D) 9

---

41. The mean and mode of 5, 3, 9, 1, 9, 8, 9, 4 are m and n respectively, the value of m+n is?

(A) 12

(B) 15

(C) 14

(D) 10

---

42. LCM of 9, 12 and 15 is?

(A) 90

(B) 180

(C) 60

(D) 45

---

43. Median of $x, 20x, \frac{x}{20}, 200x, \frac{x}{200}$ (where $x > 0$) is 20, then the value of x is:

(A) 20

(B) 40

(C) 10

(D) 30

---

44. If $3^x = 9^{x-1}$, then the value of x is:

(A) 2

(B) 1

(C) 0

(D) 3

---

45. Mode of the data $19, 2, 6, 12, 12, 3, 5, 6, 18, 14, 6, 17, 2$ **is:**

(A) 6

(B) 12

(C) 2

(D) 3

---

46. In $\triangle ABC$**,** $DE \parallel BC$**, if** $AD = x + 1$**,** $DB = 3x - 1$**,** $AE = x$**, and** $EC = 4x - 3$**, then the value of** x **is:**

(A) 1

(B) 2

(C) 3

(D) 4

---

47. In $\triangle ABC$**, if** $AB = 6\sqrt{3}$ **cm,** $AC = 12$ **cm and** $BC = 6$ **cm, then the angle** B **is:**

(A) 90°

(B) 60°

(C) 45°

(D) 30°

---

48. A regular brick is in the shape of:

(A) Cube

(B) Cuboid

(C) Cone

(D) Cylinder

---

49. A cylinder and a cone have bases of equal radii and heights, then the ratio of volumes is:

(A) 3:1

(B) 2:1

(C) 1:1

(D) 4:1

---

50. The ratio of the areas of two similar triangles is equal to the ratio of the—— their corresponding sides.

(A) Cube of

(B) Square of

(C) Square root of

(D) Twice of

---

51. In $\triangle PQR$**,** $ST \parallel QR$**,** $PQ = 12$ **cm,** $PR = 24$ **cm, and** $SP = 4$ **cm, then** $PT =$

(A) 8 cm

(B) 6 cm

(C) 12 cm

(D) 10 cm

---

52. The maximum number of parallel tangents that can be drawn to a circle is:

(A) 2

(B) 3

(C) 4

(D) 1

---

53. The parallelogram circumscribing a circle is a:

(A) Square

(B) Rectangle

(C) Rhombus

(D) Trapezium

---

54. $\log 2$ **is:**

(A) A rational number

(B) An irrational number

(C) A whole number

(D) An integer

---

55. The distance between two parallel tangents of a circle of radius 4 cm is:

(A) 8 cm

(B) 4 cm

(C) 16 cm

(D) 2 cm

---

56. In $\triangle ABC$, DE is a line such that $\frac{AD}{DB} = \frac{AE}{EC}$ and $\angle EDA = \angle ACB$, then $\triangle ABC$ is a/an:

(A) Scalene triangle

(B) Isosceles triangle

(C) Equilateral triangle

(D) Right-angled triangle

---

57. All the circles are ——-:

(A) Different

(B) Similar

(C) Equal

(D) Congruent

---

58. If the angle between two radii of a circle is $120°$, then the angle between the tangent and the ends of the radii is:

(A) $30°$

(B) $60°$

(C) $90°$

(D) $120°$

---

59. A line which intersects a circle at two points is called as:

(A) Secant

(B) Tangent

(C) Chord

(D) Arc

60. In the given figure, if $\angle AOB = 125°$, then $\angle COD =$:

(A) $125°$

(B) $55°$

(C) $90°$

(D) $45°$

Physical Science

61. The angle of vision for a healthy human being is about:

(A) $90°$

(B) $180°$

(C) $120°$

(D) $60°$

---

62. What do the cones in our eyes identify?

(A) Shape and size of objects.

(B) Light and dark contrast.

(C) Color.

(D) Motion and depth.

---

63. Which of the following works on the principle of electromagnetic induction?

(A) Electric fan.

(B) Transformer.

(C) Electric heater.

(D) All of the above.

---

64. Which of the following is the lens maker's formula?

(A) $\frac{1}{f} = \left(\frac{1}{v} - \frac{1}{u}\right)$

(B) $\frac{1}{f} = (\mu - 1)\left(\frac{1}{R_1} - \frac{1}{R_2}\right)$

(C) $f = \mu\,(R_1 + R_2)$

(D) $f = (\mu + 1)\left(\frac{R_1 + R_2}{2}\right)$

---

65. The focal plane of a lens is a plane:

(A) Parallel to the lens.

(B) Perpendicular to the lens.

(C) At a fixed distance from the lens.

(D) At the focal point of the lens.

---

66. A prism is made with a material of refractive index $\mu = 2$. The angle of prism is 60°. The angle of minimum deviation produced by the prism is:

(A) 30°

(B) 45°

(C) 60°

(D) 90°

---

67. When a convex lens is placed in water, its focal length:

(A) Increases

(B) Decreases

(C) Remains constant

(D) Becomes infinite

---

68. A watch repairer uses a magnifying glass to see the tiny parts of a watch. Which of the following lenses is used?

(A) Concave lens

(B) Convex lens

(C) Plane mirror

(D) Concave mirror

---

69. An air bubble in water behaves like:

(A) A concave lens

(B) A convex lens

(C) A plane mirror

(D) A diverging lens

---

70. The shape of the magnetic field lines around a straight wire carrying current is:

(A) Circular

(B) Elliptical

(C) Radial

(D) Straight lines

---

71. Which of the following is constant throughout a uniform magnetic field?

(1) Magnetic field strength

(2) Magnetic flux

(3) Magnetic force

(4) Electric field strength

---

72. The force on a current-carrying conductor placed in a magnetic field becomes zero, when it is:

(1) Perpendicular to the magnetic field

(2) Parallel to the magnetic field

(3) At an angle of 45° to the magnetic field

(4) In the direction of magnetic flux

---

73. Electric motor converts:

(1) Electrical energy to mechanical energy

(2) Mechanical energy to electrical energy

(3) Electrical energy to heat energy

(4) Electrical energy to light energy

---

74. The lens used to correct myopia is:

(1) Convex lens

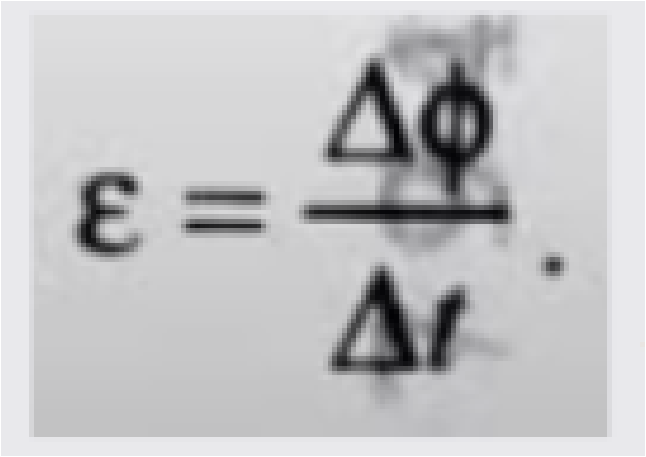
(2) Biconcave lens

(3) Bifocal lens

(4) Cylindrical lens

---

75. Which law indicates this relation?



(1) Gauss's Law.

(2) Ampère's Law.

(3) Faraday's Law of Induction.

(4) Coulomb's Law.

---

76. Lenz's law explains about:

(A) Direction of induced current

(B) Magnetic fields of current

(C) Conservation of energy

(D) Change in magnetic flux

---

77. The formula for power of a lens is:

(A) $P = \frac{1}{f}$

(B) $P = f$

(C) $P = \frac{1}{R}$

(D) $P = \frac{100}{f_{\text{cm}}}$

---

78. Which of the following obeys Ohm's law?

(A) Copper wire

(B) Filament of bulb

(C) Diode

(D) Carbon resistor

---

79. How many times does a ray of light refract when it passes through a prism?

(A) 1

(B) 2

(C) 3

(D) 4

---

80. Which of the following is used in household circuits to prevent damages due to overloading?

(A) Fuse

(B) Switch

(C) Battery

(D) Capacitor

---

81. The SI unit of resistivity is:

(A) Ohm

(B) Ohm-meter

(C) Ampere

(D) Volt

---

82. We get a diminished image with a concave mirror when the object is placed:

(A) Between the focus and the mirror

(B) At the focus

(C) Beyond the center of curvature

(D) At the center of curvature

---

83. If the radius of curvature of a spherical mirror is 16 cm, then the focal length of the mirror is:

(A) 8 cm

(B) 16 cm

(C) 32 cm

(D) 64 cm

---

84. The geometric center of a spherical mirror is called:

(A) Focus

(B) Center of curvature

(C) Pole

(D) Principal axis

---

85. Which of the following mirrors is used by a dentist to examine a patient's teeth?

(A) Concave mirror

(B) Convex mirror

(C) Plane mirror

(D) Parabolic mirror

---

86. Tesla is the SI unit of:

(1) Magnetic field strength.

(2) Electric field strength.

(3) Magnetic flux density.

(4) Electric potential.

---

87. There is no accumulation of electric charges at any junction in an electric circuit. Which law states this?

(1) Ohm's Law.

(2) Kirchhoff's Current Law.

(3) Kirchhoff's Junction Law.

(4) Coulomb's Law.

---

88. Solenoid behaves like a when current passes through it.

(1) Magnetic dipole.

(2) Magnetic monopole.

(3) Bar magnet.

(4) Electric monopole.

---

89. The resistors 2Ω, 4Ω and 6Ω are connected in series. The equivalent resistance is:

(1) 12 Ω

(2) 10 Ω

(3) 8 Ω

(4) 6 Ω

90. The current in a wire depends on:

(1) The temperature of the wire.

(2) The resistance of the wire.

(3) The potential difference applied across the wire.

(4) Resistance and potential difference.

---

91. The law of octaves was proposed by:

(1) Dmitri Mendeleev

(2) John Newlands

(3) Lothar Meyer

(4) J.J. Thomson

---

92. Which of the following methods is used for the concentration of ore?

(1) Electrolysis

(2) Froth flotation

(3) Distillation

(4) Sublimation

---

93. The purification method used for blister copper is:

(1) Electrolytic refining

(2) Zone refining

(3) Distillation

(4) Poling

---

94. What is the nature of a solution whose pH value is 'zero'?

(1) Neutral

(2) Acidic

(3) Basic

(4) Amphoteric

---

95. Identify the sulphide ore among the following:

(1) Hematite

(2) Galena

(3) Magnetite

(4) Bauxite

---

96. The product or products formed when sodium carbonate reacts with HCl is/are:

(1) Sodium chloride and carbon dioxide.

(2) Sodium bicarbonate and carbon dioxide.

(3) Sodium chloride, carbon dioxide, and water.

(4) All of the above.

---

97. IUPAC name of CH_3CHO is:

(1) Ethanol.

(2) Acetaldehyde.

(3) Propanol.

(4) Butanal.

---

98. Which of the following is the hardest material?

(1) Diamond.

(2) Graphene.

(3) Iron.

(4) Silicon carbide.

---

99. The below reaction is an example of:

$$CH_3C \equiv CCH_3 \xrightarrow{\text{Ni catalyst, } H_2} CH_3CH_2CH_2CH_3 \quad \text{(n-Butane)}$$

(1) Hydrogenation

(2) Halogenation

(3) Hydrolysis

(4) Addition

---

100. The hybridisation of carbon in graphite is:

(1) sp.

(2) sp^2.

(3) sp^3.

(4) sp^3d.

---

101. Fats are esters of higher fatty acids and:

(A) Alcohols

(B) Glycerol

(C) Methanol

(D) Ethanol

---

102. The compounds formed when a hydrogen atom is replaced from NH by an alkyl group is:

(A) Amides

(B) Amines

(C) Hydrazine

(D) Nitrides

---

103. The number of elements present in the fifth period of the modern periodic table:

(A) 8

(B) 10

(C) 18

(D) 32

---

104. Ionization energy generally:

(A) Increases from left to right in a period

(B) Decreases from left to right in a period

(C) Remains constant in a period

(D) Increases from top to bottom in a group

---

105. The chemical bond formed by the overlapping of orbitals on the internuclear axis is:

(A) Pi bond

(B) Sigma bond

(C) Delta bond

(D) Phi bond

---

106. Which one of the following has smaller atomic radii?

(A) Sodium (Na)

(B) Magnesium (Mg)

(C) Aluminium (Al)

(D) Silicon (Si)

---

107. The predicted properties of eka-boron by Mendeleeff were almost same as of _____ which was discovered later.

(A) Beryllium (Be)

(B) Aluminium (Al)

(C) Gallium (Ga)

(D) Scandium (Sc)

---

108. Which one of the following molecules is an example of sp^2 hybridisation?

(A) Methane (CH_4)

(B) Ethene (C_2H_4)

(C) Acetylene (C_2H_2)

(D) Ammonia (NH_3)

---

109. Which of the following is a mild base?

(A) Sodium hydroxide (NaOH)

(B) Potassium hydroxide (KOH)

(C) Ammonia (NH_3)

(D) Magnesium hydroxide ($Mg(OH)_2$)

---

110. Double bond is present in:

(A) Methane (CH_2)

(B) Ethene (C_2H_4)

(C) Ethane (C_2H_6)

(D) Oxygen (O_2)

---

111. The compound used in the preparation of borax is:

(1) Sodium carbonate.

(2) Sodium chloride.

(3) Washing soda.

(4) Sodium tetraborate.

---

112. What is the molecular formula of alkane?

(1) C_nH_{2n+2}.

(2) C_3H_8.

(3) C_nH_{2n}.

(4) C_nH_{2n-2}.

---

113. Shape of H_2O molecule is:

(1) Linear.

(2) Bent or V-shaped.

(3) Trigonal planar.

(4) Tetrahedral.

---

114. Polar covalent bond is present in:

(1) H_2.

(2) O_2.

(3) HCl.

(4) N_2.

---

115. An orbital can hold only two electrons. This can be explained:

(1) By Pauli's exclusion principle.

(2) By Hund's rule.

(3) By Bohr's rule.

(4) By Heisenberg's uncertainty principle.

---

116. The number of magnetic quantum number values for the angular momentum quantum number $l = 1$ is:

(1) 1

(2) 3

(3) 5

(4) 7

---

117. Which type of atoms form cations easily?

(1) Atoms with high ionization energy

(2) Atoms with low ionization energy

(3) Atoms with high electronegativity

(4) Atoms with small atomic size

---

118. Atoms with low ionization potential and large atomic size:

(1) Form cations easily

(2) Form anions easily

(3) Are unstable

(4) Are non-reactive

---

119. The volume of CO_2 liberated in litres at STP when 25 g of $CaCO_3$ is treated with dilute HCl containing 14.6 g of HCl is:

(1) 22.4 L

(2) 11.2 L

(3) 4.48 L

(4) 44.8 L

---

120. Which one of the following processes involves chemical change?

(1) Melting of ice

(2) Boiling of water

(3) Respiration

(4) Dissolving salt in water

---

121. Gregor Johann Mendel is known as the Father of:

(A) Genetics

(B) Evolution

(C) Cytology

(D) Ecology

---

122. Different asexual reproduction methods seen in organisms are:

(A) Budding, Fragmentation, Binary Fission

(B) Cross-fertilization, Budding

(C) Binary Fission, Parthenogenesis

(D) Budding, Binary Fission, Pollination

---

123. Mendel had chosen _____ pairs of contrasting characters for his study:

(A) 5

(B) 7

(C) 10

(D) 12

---

124. The trait expressed in F generation is called:

(A) Recessive Trait

(B) Dominant Trait

(C) Hybrid Trait

(D) Codominant Trait

---

125. What is the dark colored outer zone in the internal structure of the kidney called?

(A) Cortex

(B) Medulla

(C) Pelvis

(D) Capsule

---

126. Which part of the brain is concerned with the sense of smell?

(1) Cerebellum.

(2) Medulla oblongata.

(3) Olfactory bulb.

(4) Thalamus.

---

127. Testosterone is secreted by which endocrine gland?

(1) Thyroid gland.

(2) Adrenal glands.

(3) Pituitary gland.

(4) Testes.

---

128. What is the condition that occurs when our body is filled with extra water and wastes due to kidney failure?

(1) Anemia.

(2) Edema.

(3) Uremia.

(4) Jaundice.

---

129. The myelin sheath of the neuron is made of which type of cells?

(1) Schwann cells.

(2) Astrocytes.

(3) Oligodendrocytes.

(4) Microglia.

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130. What are the squamous epithelial cells lining the Bowman's Capsule called?

(1) Endothelial cells.

(2) Podocytes.

(3) Squamous cells.

(4) Filtration cells.

131. Choose the correct order: Grass → ??? → Rabbit → ??? → Fox → ??? → Wolf

(1) Grass → Rabbit → Fox → Wolf

(2) Grass → Rabbit → Fox → Wolf

(3) Grass → Rabbit → Fox → Wolf

(4) Grass → Rabbit → Wolf → Fox

---

132. Drip irrigation can reduce water consumption by _____ percent.

(1) 10%

(2) 30%

(3) 50%

(4) 70%

---

133. Examples of physical factors or abiotic factors are:

(1) Light, temperature, soil, water

(2) Predation, disease, competition

(3) Plant growth, reproduction

(4) Habitat, food sources

---

134. Percentage of fresh water on Earth is _____.

(1) 1%

(2) 2.5%

(3) 10%

(4) 20%

---

135. We get hunger pangs in the stomach as ____ levels in the blood fall.

(1) Glucose

(2) Oxygen

(3) Carbon dioxide

(4) Iron

---

136. The difference in characters within very closely related groups of organisms are called:

(A) Variations

(B) Mutations

(C) Adaptations

(D) Differentiations

---

137. Bacterium that is responsible for the formation of curd is:

(A) Lactobacillus

(B) Bacillus subtilis

(C) Escherichia coli

(D) Clostridium

---

138. _____ is a means of reproduction without involvement of gametes or involving a single parent:

(A) Sexual Reproduction

(B) Asexual Reproduction

(C) Biparental Reproduction

(D) Genetic Recombination

---

139. _____ in the forebrain and vagus nerve play an important role in carrying signals of hunger to the brain:

(A) Insulin

(B) Leptin

(C) Ghrelin

(D) Adrenaline

---

140. Algae, fungi, and many land plants commonly reproduce by _____:

(A) Binary Fission

(B) Spore Formation

(C) Budding

(D) Regeneration

---

141. In which form is energy stored in the mitochondria?

(1) ATP

(2) Glucose

(3) NADH

(4) ADP

---

142. What is the blood pressure in a healthy adult human?

(1) 90/60 mm Hg

(2) 120/80 mm Hg

(3) 140/90 mm Hg

(4) 100/70 mm Hg

---

143. Deficiency of which vitamin delays blood clotting in man?

(1) Vitamin A

(2) Vitamin C

(3) Vitamin K

(4) Vitamin D

---

144. Which process is summarized by the following equation?

$$6CO_2 + 12H_2O \xrightarrow[\text{Chlorophyll}]{\text{Light energy}} C_6H_{12}O_6 + 6H_2O + 6O_2$$

(1) Respiration.

(2) Photosynthesis.

(3) Fermentation.

(4) Combustion.

---

145. For absorbing plant juices an Aphid pierces its proboscis into which part of the plant?

(A) Xylem

(B) Phloem

(C) Root hairs

(D) Leaf epidermis

---

146. What is the liquid portion that forms after the blood clot?

(A) Plasma

(B) Serum

(C) Lymph

(D) Platelets

---

147. What is the % of carbon dioxide in the inhaled and exhaled air?

(A) 0.03% and 4.4% respectively

(B) 0.04% and 3.5% respectively

(C) 0.04% and 5% respectively

(D) 0.03% and 3.8% respectively

---

148. Which of the following are water soluble vitamins?

(A) Vitamin A and D

(B) B-complex and C

(C) Vitamin E and K

(D) Vitamin D and B

---

149. The process of mastication of the food in the mouth leads to the formation of which substance?

(1) Bolus

(2) Chyme

(3) Bile

(4) Chyle

---

150. In a chloroplast, which of the following sites trap solar energy?

(1) Thylakoid membranes

(2) Stroma

(3) Outer membrane

(4) Inner membrane
