



Monthly Progressive Test

Class: X (S)

Subject: PCMB



Test Booklet No.: MPT04(S)

Test Date:

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Time: 180 mins

Full Marks: 200

Important Instructions :

1. The Test is of 180 mins duration and the Test Booklet contains 100 multiple choice questions of single correct option only. There are four sections with four subjects. You have to attempt all 100 questions (Candidates are advised to read all 100 questions). Questions 1 to 25 contain Physics, Questions 26 to 50 contain Chemistry, Questions 51 to 75 contain Mathematics, Questions 76 to 100 contain Biology.
2. Each question carries 2 marks. For each correct response, the candidate will get 2 marks. There is no negative mark for wrong response. The maximum mark is 200.
3. Use Blue / Black Ball point Pen only for writing particulars marking responses on Answer Sheet.
4. Rough work is to be done in the space provided for this purpose in the Test Booklet only.
5. On completion of the test, the candidate must handover the Answer Sheet to the invigilator before leaving the Room / Hall. The candidates are allowed to take away this Test Booklet with them.
6. The CODE for this Booklet is Off Line MPT04(S)24072024.
7. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your UID No. anywhere else except in the specified space. Use of white fluid for correction is NOT permissible on the Answer Sheet. **Do not scibble or write on or beyond discrete bars of OMR sheet at both sides.**
8. Each candidate must show on-demand his/her Registration document to the Invigilator.
9. No candidate, without special permission of the Centre Superintendent or Invigilator, would leave his/her seat.
10. Use of Electronic Calculator/Cellphone is prohibited.
11. The candidates are governed by all Rules and Regulations of the examination with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of this examination.
12. No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.
13. There is no scope for altering response mark in Answer Sheet.

Space For Rough Works

Physics

1. The image of a distant window is formed at a distance of 20 cm from a convex lens, then the focal length of this convex lens will be
 (A) 15 cm (B) 30 cm (C) 25 cm (D) 20 cm
2. A convex lens has a focal length of 30 cm. Where should an object be placed in front of this convex lens so as to obtain a real, inverted, same size (of object) image
 (A) 40 cm (B) 60 cm (C) 30 cm (D) 50 cm
3. An object is placed in front of convex lens of focal length 15 cm. In order to obtain a virtual magnified image, the object distance $u =$
 (A) 10 cm (B) 15 cm (C) 20 cm (D) 25 cm
4. A lens of focal length 12 cm forms an erect image three times the size of the object. The distance between object and image is
 (A) 8 cm (B) 24 cm (C) 20 cm (D) 16 cm
5. Select the wrong option for charge =
 (A) $+10e$ (B) $-6e$ (C) no charge (D) $3.57 e$
6. Select the **incorrect** statement
 (A) Electric charge is conserved: the (algebraic) net charge of any isolated system can not change.
 (B) Electric charge is quantized: any charge can be written as ne , where n is a positive or negative integer and e is a constant nature called the elementary charge has value $1.6 \times 10^{-19} \text{ C}$
 (C) ${}^1_0\text{n} \rightarrow {}^1_1\text{p} + {}^0_{-1}\text{e} + \bar{\gamma}$ is example of conservation of charge
 (D) A particle has mass with no charge is impossible
7. If U = "up" quark $+\frac{2}{3} e$
 D = "down" quark $-\frac{1}{3} e$
 Select the correct option
 (A) Proton is UDD (B) Neutron is UUD
 (C) Proton is UUD (D) None of the above is correct

8. An object is placed at 25 cm in front of a concave lens of focal length 25 cm. The image distance is
 (A) 10.5 cm (B) 8 cm (C) -12.5 cm (D) -10 cm
9. 1 D =
 (A) 1 (m⁻¹) (B) 0.1 (m⁻¹) (C) 10 (m⁻¹) (D) None of these
10. Power = 100/ f where f is in
 (A) cm (B) m (C) ft (D) km
11. Sign of focal length of convex lens is
 (A) Positive (B) Negative (C) Any sign (D) None of these

Assertion-Reason type Questions (12 - 13):

Direction: Read the following questions and choose any one of the following four responses.

- A. If both Assertion and Reason are true and Reason is the correct explanation of the Assertion.
- B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.
- C. If Assertion is true but the Reason is false.
- D. If both Assertion and Reason are false.

12. **Assertion (A):** The focal length of a concave lens is taken as negative.

Reason (R): The focal length of a convex lens is taken as positive.

- (A) A (B) B (C) C (D) D

13. **Assertion (A):** Image formed by concave lens can be captured on a screen.

Reason (R): Image formed by concave lens is real.

- (A) A (B) B (C) C (D) D

Case-based Questions (14 - 15):

The lens systems consisting of several lenses in contact are used in designing the optical instruments like camera, microscope and telescope etc. The use of a combination of lenses increases the sharpness of the image.

The image produced by using a combination of lenses is also free from many defects which otherwise occur while using a single lens.

[3]

14. Two thin lenses of power +3.5D and -2.5D are placed in contact. The power of combination is
(A) +1D (B) -1D (C) 2D (D) -2D
15. The focal length of combination of lenses +3.5D and -2.5D is
(A) 50 cm (B) 100 cm (C) 75 cm (D) 25 cm
16. If the incident ray makes an angle 0° with the normal, then the angle of reflection is
(A) 0° (B) 30° (C) 60° (D) 90°
17. If the angle of incidence (for reflection) is 30° , then angle of deviation is
(A) 90° (B) 110° (C) 100° (D) 120°
18. In case of shaving mirror (focal length = 20 cm), the object distance from pole will be
(A) < 20 cm (B) > 20 cm (C) = 20 cm (D) None of these
19. If the focal length of a concave mirror is 20 cm, then if the mirror is kept inside kerosene medium, its new focal length is
(A) 10 cm (B) 15 cm (C) 20 cm (D) 25 cm
20. If $n_{\text{kerosene}} = 1.44$; $n_{\text{glass}} = 1.5$, $n_{\text{water}} = 1.33$,
In which of these materials does light travel fastest
(A) Kerosene (B) Glass (C) Water (D) We can't say
21. A 4 volt battery is connected to a lamp of resistance 4Ω . The current through the lamp is
(A) 2A (B) 1A (C) 3A (D) 4A
22. In ohms law, for a given potential difference i is proportional to
(A) R (B) R^2 (C) $\frac{1}{R}$ (D) None of these
23. The power of a concave lens is -2D and power of a convex lens is +6D. Then when they are in contact, the combined power will be
(A) Concave nature (B) Convex nature
(C) May be concave in nature (D) We can't say

Assertion-Reason type Questions (Q. 24):

Direction: Read the following questions and choose any one of the following four responses.

A. If both Assertion and Reason are true and Reason is the correct explanation of the Assertion.

B. If both Assertion and Reason are true but Reason is not a correct explanation of the Assertion.

C. If Assertion is true but the Reason is false.

D. If both Assertion and Reason are false.

24. Assertion (A): When light goes from the optically denser medium to the rarer medium, it bends away the normal.

Reason (R): A convex lens can form real as well as virtual image.

(A) a

(B) b

(C) c

(D) d

Case-based Questions (Q. 25):

The quantities u , v , f are defined corresponding to the distance of the object, image and second focus from the optical centre. If a distance is measured along the incident rays, the corresponding quantity is positive. The object height is always taken as positive.

25. The sign of focal length of concave lens is

(A) Positive

(B) Negative

(C) May be positive

(D) None of these

Chemistry

26. A solution turns red litmus blue, its p^H is likely to be-

(A) 1

(B) 4

(C) 5

(D) 10

27. Which one of the following types of medicine is used for treatment of indigestion-

(A) Antibiotic

(B) Analgesic

(C) Antacid

(D) Antiseptic

28. Which of the following is not a strong acid?

(A) H_2SO_4

(B) CH_3COOH

(C) HNO_3

(D) HCl

29. $NaHCO_3$ represent the formula of which one of the following ?

(A) Sodium carbonate

(B) Baking soda

(C) Sodium acetate

(D) Washing soda

30. Four groups of the students were assigned separately the experiment of interaction of iron nail with a solution of copper sulphate. Each group recorded the observations as given below in the table. Which group of students recorded all the observations correctly?

[5]

Group of Students	Initial colour of solution	Final colour of solution	Change in the iron nail
(A)	Blue	Colourless	Grey coat
(B)	Green	Green	Brown coat
(C)	Blue	Blue	Brown coat
(D)	Blue	Light green	Brown coat

31. Four students were asked to study the reaction between aqueous solutions of barium chloride and sodium sulphate. They reported that their experiment as follows. On mixing the solutions of the two salts in a test tube

- (i) The colour of the mixture becomes brown
- (ii) The solutions form separate layer
- (iii) A colourless mixture is obtained
- (iv) A white substance settles at the bottom

The correct report is

- (A) (i) (B) (ii) (C) (iii) (D) (iv)

32. A student heated small amount of ferrous sulphate in a test tube. She made the following observations:

- (i) Ferrous sulphate colour changes to brown
- (ii) A gas having a smell of burning sulphur is evolved
- (iii) Water droplets collect on the upper side of the test tube
- (iv) Brown coloured gas is evolved.

The correct set of observation is

- (A) (i) (ii) (iv) (B) (i) (ii) (iii) (C) (i) (iii) (iv) (D) (ii) (iii) (iv)

Case based Questions (33-35):

Chemical reactions are of various types. In case of oxidation reaction, oxygen is added to a substance and in case of reduction reaction oxygen is removed. In case of displacement reaction, one cationic part is displaced by another cation and the anion does not suffer any change. In case of double displacement reaction, both cation and anion face changes and in case of decomposition reaction a large compound turns into smaller compounds.

33. When copper oxide reacts with hydrogen to form copper and water then the correct statement is

- (A) Copper oxide gets oxidised and hydrogen gets reduced
- (B) Copper oxide gets reduced and hydrogen gets oxidised

- © It is an oxidation - reduction reaction not a displacement reaction
- Ⓓ It is a displacement reaction not an oxidation - reduction reaction

34. Find out the correct statements

- (I) A displacement reaction is always considered as an oxidation - reduction reaction
- (II) All double displacement reactions are oxidation - reduction reactions
- (III) Anions donot face change during displacement reactions

- Ⓐ I, II, III
- Ⓑ I, II
- Ⓒ II, III
- Ⓓ I, III

35. When zinc reacts with copper sulphate solution then

- Ⓐ Zinc is oxidised and copper sulphate is reduced
- Ⓑ Copper sulphate is oxidised and zinc is reduced
- Ⓒ Both zinc and copper are oxidised and sulphate is reduced
- Ⓓ Both zinc and copper are reduced and sulphate is oxidised

Assertion-Reason type Questions (36-38):

OPTION A : Assertion and reason both are correct and reason is the correct explanation of assertion

OPTION B : Assertion and reason both are correct and reason is not the correct explanation of assertion

OPTION C : Assertion is correct but reason is wrong

OPTION D : Assertion is wrong but reason is correct

36. **Assertion :** In a balanced chemical equation, the physical states of reactants and products are mentioned

Reason : There must be atleast one gaseous product in each chemical reaction

- Ⓐ a
- Ⓑ b
- Ⓒ c
- Ⓓ d

37. **Assertion :** Water is not directly added to concentrated sulphuric acid

Reason : Excessive heat generation may cause accident in the laboratory

- Ⓐ a
- Ⓑ b
- Ⓒ c
- Ⓓ d

38. **Assertion :** Lemon juice is always kept in glass made containers

Reason : Glass made containers decrease the temperature of the lemon juice

- Ⓐ a
- Ⓑ b
- Ⓒ c
- Ⓓ d

True-False type Questions (Q. 39) [T = True, F = False] :

39. S - 1 : Bacteria present inside mouth causes the change in p^H of the medium
 S - 2 : Nettle string contains methanoic acid
 S - 3 : Orange contains tartaric acid
- (A) TFT (B) TFF (C) FTF (D) TTF
40. X molecule NaCl, Y molecule H_2O , Z molecule NH_3 , P molecules CO_2 are reacting with each other to form NH_4Cl and $NaHCO_3$. If the value of $(X + Y + Z + P) = Q$ then the solution whose $p^H = Q$ will be
- (A) Acidic (B) Basic (C) Neutral (D) Data insufficient
41. When foods having oil and fat are kept inside refrigerators then
- (A) rancidity increases (B) rancidity decreases
 (C) rancidity remains same (D) nothing can be predicted about rancidity
42. When hydrochloric acid is added to sodium carbonate we observe :
- (A) A colourless gas evolves which turns lime water milky
 (B) A brown gas with a pungent smell evolves
 (C) A colourless gas evolves which has no effect on lime water
 (D) A colourless gas evolves which burns with pop sound
43. Find out the correct statement
- (A) Dry HCl can change the colour of litmus
 (B) Sulphur dioxide can react with NaOH
 (C) When nitric acid and KOH reacts then NO_2 gas is released
 (D) CO_2 can react with concentrated H_2SO_4
44. Consider the reaction $NaOH + HCl \longrightarrow NaCl + H_2O$. In this reaction
- (A) NaOH is oxidised and HCl is reduced
 (B) NaOH is reduced and HCl is oxidised
 (C) Both NaOH and HCl are oxidised
 (D) Neither NaOH nor HCl face oxidation or reduction
45. What is true when vegetable matters turns into composts ?
- (A) Heat is released (B) Heat is absorbed
 (C) At first heat is released then absorbed (D) At first heat is absorbed then released

46. Find out wrong statements

(I) All plants grow at a same p^H of the soil

(II) Toothpastes can balance the p^H inside the mouth

(III) The atmosphere of venus is made up of thick clouds of sulphuric acid

Ⓐ I, II, III

Ⓑ I, II

Ⓒ I, III

Ⓓ II, III

47. Soda - acid type fire extinguishers cannot be used to extinguish fire at the oil refineries. Because of

Ⓐ excessive heat of the burning body

Ⓑ the presence of huge mass of metals in the burning bode

Ⓒ the presence of huge amount of hydrogen gas in the system

Ⓓ the presence of less amount of water in the burning system

48. Consider the reaction $a \text{MnO}_2 + b \text{HCl} \longrightarrow c \text{MnCl}_2 + d \text{Cl}_2 + e \text{H}_2\text{O}$

The correct statements are

(I) If $p^H = (a + b)$, then the medium will turn blue litmus into red

(II) If $p^H = 3b$, then the medium will change the colour of phenolphthalein into pink

(III) The value of $(a + b + c + d)$ is the p^H of the pure water

Ⓐ I, II, III

Ⓑ I, II

Ⓒ I, III

Ⓓ II, III

49. Plaster of Paris containing packets are properly sealed. Because when it comes contact with air then

Ⓐ white colour changes into yellow

Ⓑ it absorbs water vapour and becomes liquid

Ⓒ it becomes very hard as gypsum is formed

Ⓓ it starts to release sulphur dioxide gas

50. Which of the following is not a method to produce sodium chloride ?

Ⓐ Evaporation of sea water

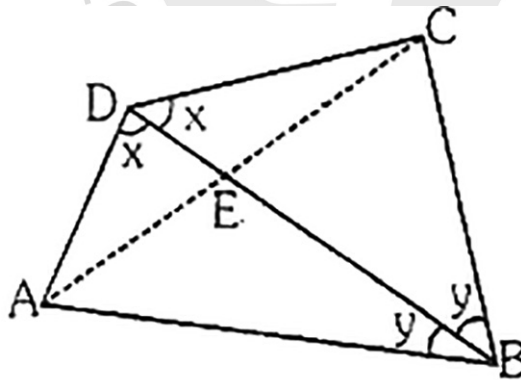
Ⓑ Reaction between dilute NaOH and dilute HCl solutions

Ⓒ Reaction between sodium bicarbonate and dilute hydrochloric acid

Ⓓ Sodium metal is exposed in air

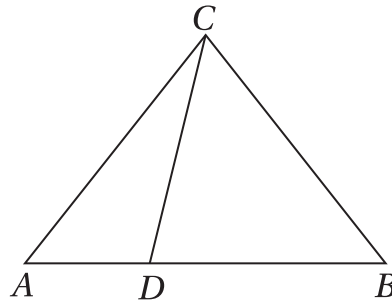
Mathematics

51. Which term of A.P. is 21, 42, 63, 84, ... is 210?
 (A) 9th (B) 10th (C) 11th (D) 12th
52. What is the n^{th} term in the arithmetic series given below?
 $3 + 7 + 11 + 15 + 19 + \dots$
 (A) $4n$ (B) $3 + 4n$ (C) $2n + 1$ (D) $4n - 1$
53. Triangle ABC is such that $AB = 3$ cm, $BC = 2$ cm and $CA = 2.5$ cm. Triangle DEF is similar to $\triangle ABC$. If $EF = 4$ cm, then the perimeter of $\triangle DEF$ is :
 (A) 7.5 cm (B) 15 cm (C) 22.5 cm (D) 30 cm
54. In $\triangle ABC$ and $\triangle DEF$, $\angle A = 50^\circ$, $\angle B = 70^\circ$, $\angle C = 60^\circ$, $\angle D = 60^\circ$, $\angle E = 70^\circ$, $\angle F = 50^\circ$, then $\triangle ABC$ is similar to
 (A) $\triangle DEF$ (B) $\triangle EDF$ (C) $\triangle DFE$ (D) $\triangle FED$
55. The area of the triangle whose sides are along the lines $x = 0$, $y = 0$ and $4x + 5y = 20$ is
 (A) 20 sq. units (B) 10 sq. units (C) $\frac{1}{10}$ sq. units (D) $\frac{1}{20}$ sq. units
56. The diagonal BD of a quadrilateral ABCD bisects $\angle B$ and $\angle D$, then :



- (A) $\frac{AB}{CD} = \frac{AD}{BC}$ (B) $\frac{AB}{CB} = \frac{AD}{CD}$ (C) $AB = AD \times BC$ (D) None of these
57. If the ratio of the sum of n terms of two A.P.s is $(3n - 13) : (5n + 21)$, then the ratio of 24th terms of the two progression is
 (A) 2 : 3 (B) 2 : 1 (C) 1 : 2 (D) None of these
58. The number of terms common to the two A.P. s
 $2 + 5 + 8 + 11 + \dots + 98$ and $3 + 8 + 13 + 18 + \dots + 198$
 (A) 33 (B) 40 (C) 7 (D) None of these

59. In the figure if $\angle ACB = \angle CDA$, $AC = 8$ cm and $AD = 3$ cm, find BD



- (A) $\frac{53}{3}$ cm (B) $\frac{55}{3}$ cm (C) $\frac{64}{3}$ cm (D) $\frac{35}{7}$ cm

60. Point A is on x -axis, point B is on y -axis and point P lies on line segment AB such that

$$P = \left(\left| \sqrt{(2n+1)^2 - (2n-1)^2} \right|, \sqrt[3]{50n+5^n} \right), \text{ where } n = 2 \text{ and } AP : PB = 5 : 3.$$

Find the coordinates of points A and B.

- (A) $\left(\frac{32}{3}, 0\right), (0, 8)$ (B) $(3, 0), \left(0, \frac{32}{3}\right)$ (C) $(4, 0), (0, 3)$ (D) $\left(\frac{32}{3}, 0\right), (0, 3)$

Assertion Reason based Questions (61 - 62):

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

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

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

61. **Assertion (A) :** S_n is the sum of the first n terms of an A.P., then its n^{th} term is given by $a_n = S_n - S_{n-1}$.

Reason (R) : The 10th term of the A.P. 5, 8, 11, 14, is 35.

- (A) a (B) b (C) c (D) d

62. **Assertion (A) :** D and E are points on the sides AB and AC respectively of a ΔABC such that $DE \parallel BC$ then the value of x is 11, when $AD = 4$ cm, $DB = (x - 4)$ cm, $AE = 8$ cm and $EC = (3x - 19)$ cm.

Reason (R) : If a line divides any two sides of a triangle in the same ratio then it is parallel to the third side.

- (A) a (B) b (C) c (D) d

70. If α, β are zeros of $ax^2 + bx + c$ then zeros of $a^3x^2 + abcx + c^3$ are

- Ⓐ $\alpha\beta, \alpha + \beta$ Ⓑ $\alpha^2\beta, \alpha\beta^2$ Ⓒ $\alpha\beta, \alpha^2\beta^2$ Ⓓ α^3, β^3

Case study based Questions (71 – 73):

An employee receives salary with annual increment that forms an arithmetic progression. Initially the salary is ₹40,000 and the annual increment is ₹2000.

On the basis of the above information answer the following questions:

71. What will be the salary in 5th year?

- Ⓐ ₹50,000 Ⓑ ₹48,000 Ⓒ ₹46,000 Ⓓ ₹44,000

72. What will be the total salary received over the first 5 years?

- Ⓐ ₹2,20,000 Ⓑ ₹2,40,000 Ⓒ ₹2,60,000 Ⓓ ₹3,00,000

73. What is the ratio of salary of 5th year to 10th year?

- Ⓐ 31 : 33 Ⓑ 27 : 29 Ⓒ 24 : 29 Ⓓ None of these

Assertion Reason based Questions (74 – 75):

Directions: In the following questions, a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

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

(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

74. (A) : $t_m = n$ and $t_n = m$ for an AP

then $t_{m+n} = 0$ where $m \neq n$.

(R) : $a_n = a + (n - 1)d$.

- Ⓐ a Ⓑ b Ⓒ c Ⓓ d

75. (A) : Centroid of a ΔABC with vertices $A(x_1, y_1)$, $B(x_2, y_2)$, $C(x_3, y_3)$ is

$$\left(\frac{x_1 + x_2 + x_3}{3}, \frac{y_1 + y_2 + y_3}{3} \right)$$

(R) : Distance between $A(x_1, y_1)$ and $B(x_2, y_2)$ is $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

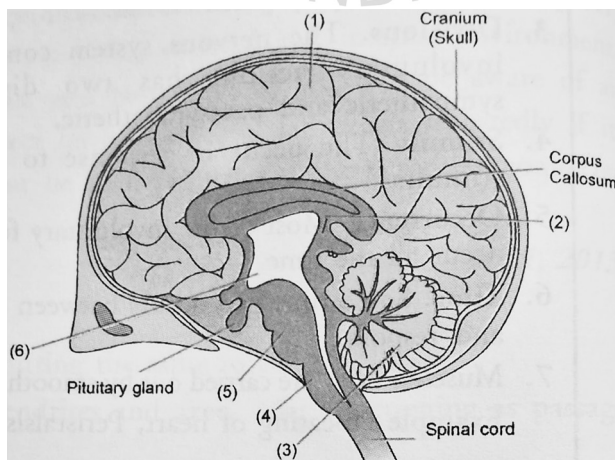
- Ⓐ a Ⓑ b Ⓒ c Ⓓ d

Biology

76. Which one is uricotelic ?
 (A) Frog and toad (B) Lizard and bird
 (C) Cattle, monkey and man (D) Mollusc
77. The hormone that promotes reabsorption of water from glomerular filtrate is :-
 (A) Oxytocin (B) Vasopressin (C) Relaxin (D) Calcitonin
78. Which one of the endocrine glands is known as 'master gland' ?
 (A) Pituitary (B) Adrenal (C) Thyroid (D) Parathyroid
79. Cerebrum is a part of—
 (A) Forebrain (B) Hindbrain (C) Midbrain (D) Neurons
80. Which one is an accessory excretory organ?
 (A) Liver (B) Stomach (C) Intestine (D) Heart
81. Olfactoreceptors occur in —
 (A) Nasal cavity (B) Buccal cavity (C) Lungs (D) Skin
82. Pineapple can be made to flower in off season by
 (A) Zeatin (B) Ethylene (C) Temperature (D) Short days

Case study based Questions (83 - 87)

Study the diagram given below and answer the following questions.



83. The parts labelled 1, 2, 3 and 4 respectively, are—
 (A) 1-Cerebrum; 2-Mid brain; 3-Cerebellum; 4-Medulla oblongata
 (B) 1-Cerebellum; 2-Mid brain; 3-Cerebrum; 4-Medulla oblongata

© 1-Medulla oblongata; 2-Mid brain; 3-Cerebrum; 4-Cerebellum

Ⓓ 1-Medulla oblongata; 2-Cerebrum; 3-Mid brain; 4-Cerebellum

84. Name the part of the brain concerned with posture and maintenance of equilibrium of the body.

Ⓐ Cerebrum

Ⓑ Cerebellum

Ⓒ Pons

Ⓓ Medulla oblongata

85. Name the structure which is not a part of brain, but is a part of CNS.

Ⓐ Cranium

Ⓑ Spinal cord

Ⓒ Pituitary gland

Ⓓ Pons

86. Which is the second largest part of the brain?

Ⓐ Part 1

Ⓑ Part 2

Ⓒ Part 3

Ⓓ Part 6

87. Where is the respiratory centre located?

Ⓐ Part 1

Ⓑ Part 2

Ⓒ Part 3

Ⓓ Part 4

Assertion Reason based Questions (88 - 90):

Direction: In each of the following questions, a statement of Assertion is given by the corresponding Reason of the statements. Mark the correct answer as:

A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

B. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

C. Assertion (A) is true but Reason (R) is false.

D. Assertion (A) is false but Reason (R) is true.

88. **Assertion:** Ultrafiltration involves the filtration of blood under high pressure.

Reason: Reabsorption of major amount of water occurs in the tubular part of the nephron.

89. **Assertion:** The mode of excretion is completely different in unicellular organisms, as compared to multicellular organisms.

Reason: Unicellular organisms excrete by diffusion across their cell membrane, while in multicellular organisms, specialised structures perform excretion.

90. **Assertion:** Highest concentration of cytokinins occurs in fruits and seeds.

Reason: Fruits and seeds are areas of rapid cell division.

91. Full form of NADP is—
- Ⓐ Nicotinamide Dinucleotide Phosphate
 - Ⓑ Nicotine Adenine Dinucleotide Phosphate
 - Ⓒ Nicotinamide Adenine Dinucleotide Phosphate
 - Ⓓ None of the above
92. Which one of the following leaves can be used in experiments to prove the importance of chlorophyll in photosynthesis?
- Ⓐ Banyan
 - Ⓑ Mango
 - Ⓒ Neem
 - Ⓓ Croton
93. The number of chamber(s) in a fish's heart is/are—
- Ⓐ 1
 - Ⓑ 2
 - Ⓒ 3
 - Ⓓ 4
94. Fluid part of blood, after removal of coagulated corpuscles is
- Ⓐ Plasma
 - Ⓑ Lymph
 - Ⓒ Serum
 - Ⓓ Vaccine
95. Due to low atmospheric pressure, the rate of transpiration will :
- Ⓐ Increase
 - Ⓑ Decreases slowly
 - Ⓒ Decrease rapidly
 - Ⓓ Remain unaffected

Assertion Reason based Questions (96 – 97):

Direction: In each of the following question, a statement of Assertion is given by the corresponding Reason of the statements. Mark the correct answer as:

- A. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- B. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- C. Assertion (A) is true but Reason (R) is false.
- D. Assertion (A) is false but Reason (R) is true.

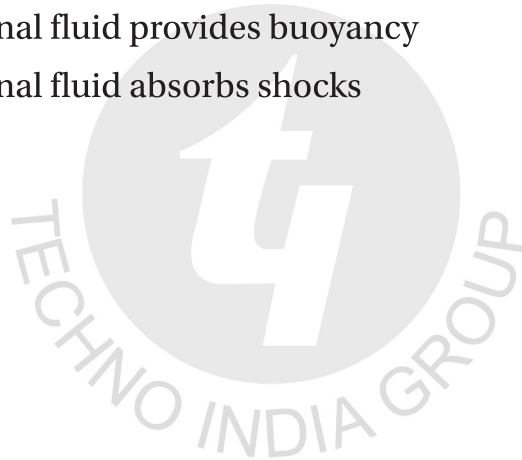
96. **Assertion:** Pollen tube grows towards ovule.

Reason: Chemotropism is responsible for the movement of pollen tube.

97. **Assertion:** Ultrafiltration results in the formation of urine.

Reason: Ultrafiltration is one of the processes that occur in the nephron.

98. The bony covering which specifically covers the brain is—
- Ⓐ Skull
 - Ⓑ Cranium
 - Ⓒ Vertebral column
 - Ⓓ The first two vertebrae of the vertebral column
99. Choose the odd one out:
- Ⓐ Pons
 - Ⓑ Arachnoid
 - Ⓒ Duramater
 - Ⓓ Piamater
100. Our brain weighs 1400 grams. Yet we don't feel such a heavy structure over our head due to—
- Ⓐ The blanket of atmosphere around us
 - Ⓑ The vertebral column supports the brain
 - Ⓒ The cerebrospinal fluid provides buoyancy
 - Ⓓ The cerebrospinal fluid absorbs shocks



Space For Rough Works

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