



# Monthly Progressive Test

Class: VIII (G)

Subject: PCMB



Test Booklet No.: MPT05

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 .
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. A boy picks a mango from a tree. Just before picking how many forces are acting on the mango?  
 (A) 1                      (B) 2                      (C) 3                      (D) 4
2. A body of mass 1 kg is resting on a table. What is the value of the normal force?  
 (A) 1 N                      (B) 1 dyn                      (C) 1 kgf                      (D) None of these
3. Friction is  
 (A) advantageous      (B) disadvantageous      (C) both of these      (D) none of these
4. Air pressure changes with altitude because of changes in  
 (A) density of the atmosphere                      (B) depth of the atmosphere  
 (C) both of (A) and (B)                      (D) temperature of the atmosphere
5. Which substance will apply more pressure?  
 (A) Water                      (B) Mercury  
 (C) Air                      (D) All three applies equal pressure
6. Sound is  
 (A) transverse wave                      (B) longitudinal wave  
 (C) electromagnetic wave                      (D) gravitational wave
7. Brakes are applied to a moving car and the car starts to come towards rest. Which forces act on the car?  
 (A) Friction force      (B) Weight of the car      (C) Normal force      (D) All of these

### Assertion-Reason type Questions (8-9):

**Directions:** 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 Assertion is false but Reason is true.
8. **Assertion:** Pressure is a measure of how much force is exerted on an unit area of a surface.  
**Reason:** A force acting over a small area gives a large pressure.
- (A) A                      (B) B                      (C) C                      (D) D

9. **Assertion:** The foundation of building is made wide.

**Reason:** The contact area of foundation base will be large, hence, the pressure exerted on earth will be large.

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

10. The disadvantage of friction is

- (A) wearing out of soles of shoes                      (B) wearing out of machine parts  
(C) both (A) and (B) are correct                      (D) none of these

11. If an object is pressed against the wall, the friction force acts in which direction?

- (A) Vertically downward                      (B) Vertically upwards  
(C) Horizontally                      (D) None of these

12. It is difficult to cut cloth with a scissor having blunt blades, why?

- (A) Blunt blades have less area and puts more pressure  
(B) Blunt blades have more area and puts more pressure  
(C) Blunt blades have less area and put more pressure  
(D) Blunt blades have more area and puts less pressure

13. The bottom of dam is

- (A) thicker                      (B) thinner  
(C) same through out the height                      (D) none of the above

14. The effect of a force on a body

- (A) changes the state of rest                      (B) changes the state of motion  
(C) changes the shape/size                      (D) All of the above

15. When we apply a pull force at the free end of a spring which is fixed on the other side, the springs gets

- (A) extended                      (B) compressed  
(C) neither extended nor compressed                      (D) none of the above

### Assertion-Reason type Questions (16):

**Directions:** 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.

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

D. If Assertion is false but Reason is true.

16. **Assertion:** On top of a mountain air pressure is low

**Reason:** The column of air above the top of the mountain is shorter

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

17. The direction of reaction to a force is

- (A)  $30^\circ$  to normal force  
(B)  $60^\circ$  to normal force  
(C)  $45^\circ$  to normal force  
(D) along the line of action of force but in opposite sense

18. A force has

- (A) sliding effect                      (B) turning effect  
(C) sometimes deformation effect                      (D) all the above are correct

19. If we increase normal contact force, then limiting force of static friction

- (A) increases                      (B) decreases                      (C) may increase                      (D) none of these

20. Which one among these statement is true?

- (A)  $\mu_{\text{static}} > \mu_{\text{sliding}}$                       (B)  $\mu_{\text{static}} < \mu_{\text{sliding}}$                       (C)  $\mu_{\text{static}} = \mu_{\text{sliding}}$                       (D) None of these

21. Who can run faster in desert?

- (A) Rabbit                      (B) Man                      (C) Camel                      (D) Dog

**Case Based Questions (22–25):**

Two water reservoirs are prepared of same depth. One contains 2 million litres and another contains 10 million litres of water.

22. The thickness of the wall of the reservoir would be

- (A) greater in second                      (B) lesser in first  
(C) same in both                      (D) cannot be said

23. The phenomenon is called

- (A) Hydrostatic Jinx                      (B) Hydrostatic Paradox  
(C) Hydrostatic Equality                      (D) None of the above

24. The principle stands on that the pressure depends only on depth and not on

- (A) quantity of water                      (B) density of water                      (C) place                      (D) none of the above

25. The Dams are prepared making the wall of the dam
- (A) of same cross-section through out      (B) thicker with depth  
(C) thinner with depth      (D) none of the above

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**Chemistry**

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26. An electric current can produce
- (A) heating effect only      (B) chemical effect only  
(C) magnetic effect      (D) chemical, heating, magnetic effect
27. A glass made container contains some amount of liquid solution and through a circuit, a bulb is fitted. Using which of the following solution, the bulb will never glow ?
- (A) Sodium chloride solution      (B) Copper sulphate solution  
(C) Silver nitrate solution      (D) Sugar solution in dilute water
28. Among the given substances, which are bad conductors of electricity ?
- (I) Piece of coal      (II) Iron nail      (III) Eraser
- (A) I, II, III      (B) I, II      (C) I, III      (D) II, III
29. The lightning of electric bulb in a circuit shows :
- (A) Chemical effect of electric current      (B) Heating effect of electric current  
(C) Magnetic effect of electric current      (D) None of the above
30. Distilled water does not conduct electricity because
- (A) distilled water is colourless  
(B) temperature of distilled water is higher than tap water  
(C) distilled water does not contain ions  
(D) distilled water releases odour when electricity is passed
31. Lemon juice can conduct electric current because
- (A) lemon juice contains acid and that is why ions are readily formed  
(B) lemon juice is coloured  
(C) lemon juice smells good  
(D) lemon juice cannot react with glass made container
32. A circuit is made having a bulb and current is passed through it. The correct statement is
- (A) if low amount of electric current is passed then the bulb start to glow brighter

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- Ⓑ if high amount of electric current is passed then the bulb start to glow brighter  
Ⓒ if high amount of electric current is passed then the bulb will start to release red light  
Ⓓ if low amount of electric current is passed then the bulb will start to release green light
33. In which of the following option all substances do not conduct electricity ?  
Ⓐ Plastic, wood, rubber                      Ⓑ Plastic, copper, iron  
Ⓒ Copper, iron, aluminium                  Ⓓ Aluminium, rubber, wood
34. Which of the following supply electricity ?  
Ⓐ Refrigerator      Ⓑ Television      Ⓒ Air conditioner      Ⓓ Inverter
35. Which is the character of an insulator ?  
Ⓐ It conducts electricity at low temperature  
Ⓑ It conducts electricity at high pressure  
Ⓒ It does not conduct electricity  
Ⓓ It changes colour at the time of electricity conduction
36. Electrical appliances are not touched with wet hand because  
Ⓐ electrical appliances will face rusting  
Ⓑ electrical appliances will face colour change  
Ⓒ electrical appliances will start to burn  
Ⓓ electrical appliances will start to conduct electricity
37. Flow of electricity is termed as  
Ⓐ electroplating      Ⓑ electric current      Ⓒ electrolyte              Ⓓ electrodes

**Question number 38 to 40 are ASSERTION-REASON TYPE QUESTIONS. Read two statements carefully and select the correct option given below.**

**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

38. **Assertion :** Wires can be made up with copper

**Reason :** Copper is a good conductor of heat

39. **Assertion :** LED is used instead of bulb to form a circuit  
**Reason :** LED has two terminals having different lengths
40. **Assertion :** If two ends of a tester are dipped inside a container having honey then current flows through the circuit  
**Reason :** Honey is denser than water
41. Acid rain can be caused by burning of  
Ⓐ Petrol                      Ⓑ CNG                      Ⓒ Diesel                      Ⓓ Coal
42. The slow process of conversion of dead vegetables into coal is called  
Ⓐ carbon dating      Ⓑ coalization      Ⓒ carbonization      Ⓓ none of these
43. Charcoal burns in air to give  
Ⓐ carbon dioxide      Ⓑ heat                      Ⓒ both Ⓐ and Ⓑ      Ⓓ none of these
44. What is the reason behind the black colour of the smoke ?  
Ⓐ unburnt carbon particles                      Ⓑ rapid combustion  
Ⓒ high temperature                      Ⓓ none of these is correct
45. If a person's cloth catch fire, the best way to extinguish the fire is to  
Ⓐ throw water on clothes  
Ⓑ use fire extinguisher  
Ⓒ cover the person with a woollen blanket  
Ⓓ cover the person with polythene sheet
46. Glucose solution does not conduct electric current because  
Ⓐ glucose solution is colourless                      Ⓑ glucose solution has high temperature  
Ⓒ glucose solution has low density                      Ⓓ glucose solution does not contain ions
47. Tap water conducts electric current because  
Ⓐ tap water is colourless                      Ⓑ tap water contains various ions  
Ⓒ tap water does not contain foreign ions      Ⓓ tap water contains some bacteria
48. Needle of a compass deflects when it is placed closed to a current carrying wire. This is due to  
Ⓐ chemical effect of electric current                      Ⓑ magnetic effect of electric current  
Ⓒ physical effect of electric current                      Ⓓ heating effect of electric current



49. Full form of LED is  
 (A) light extracting differential (B) light extracting diode  
 (C) light emitting differential (D) light emitting diode
50. Which is used as an electrode during electrolysis of acidified water  
 (A) two pieces of wood (B) two platinum rods  
 (C) two glass rods (D) no option is correct

### Mathematics

51. Find the cost price of an article which is sold at ₹1470 at a profit  $16\frac{2}{3}\%$   
 (A) ₹1520 (B) ₹1760 (C) ₹1260 (D) ₹1560
52. A man bought an article for ₹1200 and spent ₹200 on its repair. He sold it for ₹1680. His profit percent is  
 (A) 20% (B) 25% (C) 30% (D) 40%
53. At what rate per cent per annum will a sum of ₹15,625 amount to ₹21,952 in three years, if the interest is compounded annually?  
 (A) 12% (B) 8% (C) 9% (D) 10%
54. A certain sum will amount to ₹12,100 in 2 years at 10% per annum of compound interest, interest being compounded annually. The sum is  
 (A) ₹12000 (B) ₹6000 (C) ₹8000 (D) ₹10000
55. How many diagonals are there in a heptagon?  
 (A) 7 (B) 14 (C) 16 (D) 15
56. The measure of each interior angle of a regular polygon is  $150^\circ$ . How many sides does it have?  
 (A) 10 (B) 12 (C) 15 (D) 16
57. Find the ratio of S : D where S = number of sides and D = number of diagonals of a quadrilateral  
 (A) 2 : 1 (B) 1 : 2 (C) 4 : 1 (D) 1 : 4

#### Assertion Reason based Questions (58–59):

**Directions:** In this question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choice.

- (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.

**58. Assertion (A) :** Anil bought an article for ₹500 and sold it for ₹600 making a profit of 20%.

$$\text{Reason (R) : Profit\%} = \frac{\text{Profit}}{\text{S.P.}} \times 100\%$$

- (A) a                      (B) b                      (C) c                      (D) d
- 59. Assertion (A) :** The profit earned on selling an article for ₹300 is same as loss on selling it for ₹200. Then CP is ₹250.

$$\text{Reason (R) : CP} = \text{Average of two given SP.}$$

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

### Case Study Based Questions (60–62):

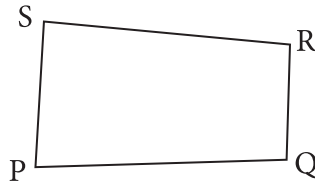
Read the following passage and answer the questions.

The population of a small town was 20,000 in the year 2022. The population has been increasing at a steady rate of 3% per year.

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

- 60.** Calculate the population of the town in the year 2024  
 (A) 21218                      (B) 20218                      (C) 20250                      (D) 20225
- 61.** What will be the population in the year 2025 if growth rate is 10% per year?  
 (A) 25620                      (B) 26620                      (C) 27000                      (D) 25500
- 62.** If the population becomes half and rate of growth becomes double then what will be the population in 2 years.  
 (A) 13236                      (B) 12236                      (C) 14236                      (D) 11236
- 63.** A polygon has at least how many sides?  
 (A) 1                      (B) 2                      (C) 3                      (D) 4
- 64.** Let S = number of sides of a quadrilateral  
 A = number of angles of a quadrilateral  
 V = number of vertices of a quadrilateral  
 D = number of diagonals of a quadrilateral  
 Then the value of S - A + V - D is  
 (A) 1                      (B) 2                      (C) 3                      (D) 4

65. Adjacent sides of PQ are



- (A) QR and PS      (B) QR and RS      (C) RS and SP      (D) none of these
66. If  $a + \frac{1}{a} = 2$ , then  $a^2 + \frac{1}{a^2}$  is equal to
- (A)  $a^4 + \frac{1}{a^4}$       (B)  $a^4 - \frac{1}{a^4}$       (C) 1      (D)  $a^2 - \frac{1}{a^2}$
67. If  $x + \frac{5}{3} = \frac{3}{5}x + \frac{17}{3}$ , then the value of  $x$  is
- (A) 10      (B) 12      (C) 8      (D) 4
68. If  $M$  is a number such that  $M \div 5$  gives a remainder of 1, then which of the following is the ones-digit of  $M$ ?
- (A) 1      (B) 1 or 6      (C) 6      (D) none of these
69. Which number should be multiplied to 392 to obtain perfect cube?
- (A) 7      (B) 9      (C) 8      (D) 2
70. The product of rational number  $-\frac{2}{3}$  and its additive inverse is
- (A) 1      (B)  $\frac{2}{3}$       (C)  $\frac{4}{9}$       (D)  $-\frac{4}{9}$

### Assertion Reason based Questions (71-72):

**Directions:** In this question, a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choice.

- (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.

71. **Assertion (A):** Three angles of a quadrilateral are equal and measure of the fourth angle is  $75^\circ$ , then the measure of each equal angle is  $85^\circ$ .

**Reason (R):** The sum of the angles of a quadrilateral is  $360^\circ$ .

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

72. **Assertion (A):** In a quadrilateral PQRS the opposite of  $\angle P$  is  $\angle R$ .

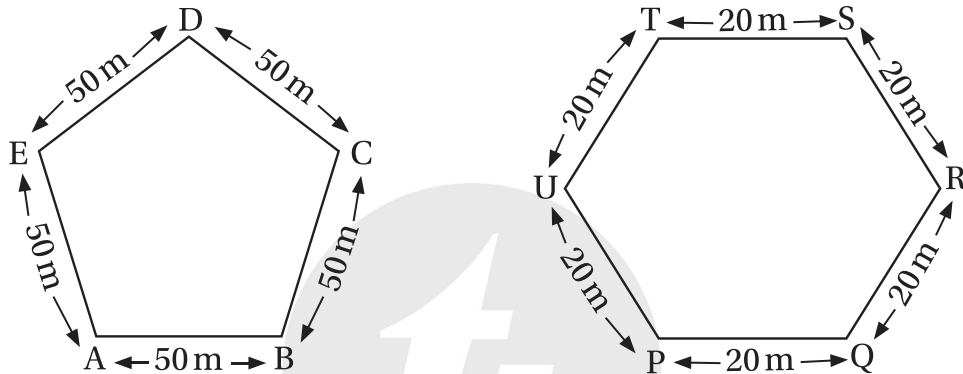
**Reason (R):** Two angles of a quadrilateral which are not adjacent angles are called opposite angles.

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

**Case Study based Questions (73-75):**

A park renovation project involves creating different zones with various polygon shapes. The design includes a regular pentagonal playground and regular hexagonal seating area.

On the basis of the above information answer the following questions



73. What is the perimeter of the playground?  
 (A) 250m                      (B) 200m                      (C) 300m                      (D) 350m
74. Each interior angle of the hexagonal seating area is  
 (A)  $90^\circ$                       (B)  $120^\circ$                       (C)  $60^\circ$                       (D)  $180^\circ$
75. What is the number of diagonals for playground?  
 (A) 4                      (B) 6                      (C) 5                      (D) 3

**Biology**

76. What is one benefit of reforestation for local communities?  
 (A) Increased risk of floods and landslides  
 (B) Enhanced biodiversity  
 (C) Improved water quality and reduced soil erosion  
 (D) Accelerated desertification
77. Who uses the information in the Red Data Book?  
 (A) Conservationists and policymakers                      (B) Hunters and poachers  
 (C) Industrialists and urban developers                      (D) Individuals interested in fashion trends

78. How is a food web different from a food chain?
- Ⓐ A food web is a single linear sequence while a food chain is complex and interconnected
- Ⓑ A food web shows multiple interconnected food chains in an ecosystem
- Ⓒ A food web represents energy flow in only aquatic ecosystems
- Ⓓ A food chain represents energy flow in terrestrial ecosystems
79. Which is NOT a consequence of deforestation?
- Ⓐ Increased risk of floods and landslides    Ⓑ Loss of biodiversity
- Ⓒ Improvement in ecosystem balance    Ⓓ Disruption of ecosystems
80. Which of the following is considered an abiotic factor in an ecosystem?
- Ⓐ Plants and animals    Ⓑ Sunlight and water
- Ⓒ Herbivores and carnivores    Ⓓ Soil and decomposers
81. Which term refers to the variety of life forms found in a particular habitat or region?
- Ⓐ Flora    Ⓑ Fauna    Ⓒ Biodiversity    Ⓓ Ecosystem
82. Which term refers to all plant life in a specific area?
- Ⓐ Fauna    Ⓑ Flora    Ⓒ Biodiversity    Ⓓ Habitat
83. Which organization is responsible for creating the Red List, a comprehensive inventory of the global conservation status of plant and animal species?
- Ⓐ UNESCO    Ⓑ IUCN    Ⓒ WWF    Ⓓ EPA

### Assertion-Reason type Questions (84–85):

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

- A. Both Assertion and Reason are true and Reason is the correct explanation of the Assertion.
- B. Both Assertion and Reason are true but Reason is not the correct explanation of the Assertion.
- C. Assertion is true but Reason is false.
- D. Assertion is false but Reason is true.
84. **Assertion:** Satpura National Park is the first reserved forest of India.  
**Reason:** The first Indian teak is found in this forest.
- Ⓐ A    Ⓑ B    Ⓒ C    Ⓓ D

**85. Assertion:** Deforestation can increase the risk of floods and landslides.

**Reason:** Trees normally absorb water and hold the soil firmly.

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

**Case based Question (86 -90):**

**Passage:** Migration refers to the seasonal movement of animals in large groups, from one place to another. Animals migrate for various reasons. Sometimes, animals cover vast distances during migration, like continents or oceans.

**86.** Why do animals migrate?

- (A) To escape harsh weather                      (B) In search of food  
(C) To lay eggs                      (D) All

**87.** Which of the following is a migratory bird?

- (A) Arctic Tern                      (B) Penguin                      (C) Crows                      (D) All

**88.** Why do fishes migrate?

- (A) For feeding                      (B) For reproduction  
(C) Both (A) & (B)                      (D) For escaping harsh climate

**89.** Avian migration refers to the migration of

- (A) Birds                      (B) Fishes                      (C) Insects                      (D) All

**90.** A bird that migrates to India during winter is

- (A) Geese                      (B) Flycatchers                      (C) Siberian Crane                      (D) All

**91.** What is the primary purpose of tilling the soil during soil preparation?

- (A) To control weeds  
(B) To increase soil fertility  
(C) To improve aeration and water absorption  
(D) To control pests

**92.** Which of the following is not an ornamental plant?

- (A) Orchid                      (B) Rose                      (C) Marigold                      (D) Hemp

**93.** Meat is the \_\_\_\_\_ of animals consumed as food

- (A) Eggs                      (B) Flesh                      (C) Skin                      (D) All of the above

**94.** Which of the following bacterium causes food poisoning?

- (A) *Salmonella*                      (B) *Clostridium*                      (C) *Campylobacter*                      (D) All

95. Which of the following organisms are considered 'friends of farmers'?
- (A) Flatworms      (B) Rats      (C) Snakes      (D) Earthworms
96. How can paper be conserved?
- (A) Collecting used paper and recycling it  
 (B) Using both sides of a paper for writing  
 (C) Spreading awareness about the importance of paper  
 (D) All of the above

**Assertion-Reason type Question (97):**

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

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

97. **Assertion:** Deforestation can cause droughts

**Reason:** Plants or trees absorb carbon dioxide from the atmosphere

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

**Case based Question (98-100):**

Biosphere reserves are protected areas meant for the conservation of plants and animals. They restore the traditional lives of the tribals living in that area. They also promote sustainable development and help in research and education. Each biosphere reserve is divided into three zones, each with its specific functions.

98. Where is the Pachmarhi Biosphere Reserve located?
- (A) Madhya Pradesh    (B) Uttar Pradesh    (C) West Bengal    (D) Tamil Nadu
99. In which zone of the biosphere reserve is human activities allowed?
- (A) Transition zone    (B) Buffer zone    (C) Core zone    (D) All zones
100. In which zone, human activities are either restricted or not allowed?
- (A) Transition zone    (B) Buffer zone    (C) Core zone    (D) Both B and C

## **Space For Rough Works**