



# Monthly Progressive Test

Class: VIII

Subject: PCMB



Test Booklet No.: MPT02

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 MPT0210052024.
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. Friction is a
 

(A) Contact force	(B) Non-contact force
(C) Both of these	(D) None of these
2. Friction depends on
 

(A) Tension force	(B) Muscular force
(C) Gravitational force	(D) Normal force
3. A force tries to move a body but the body does not move. Which friction force acts on the body?
 

(A) Static friction	(B) Sliding friction	(C) Rolling friction	(D) Kinetic friction
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4. Arrange the friction forces in decreasing order of magnitude.
 

(A) Sliding friction, rolling friction, static friction
(B) Rolling friction, static friction, sliding friction
(C) Sliding friction, static friction, rolling friction
(D) Static friction, sliding friction, rolling friction
5. 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
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6. Limiting friction is a form of
 

(A) Sliding friction	(B) Static friction	(C) Rolling friction	(D) None of these
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7. A 2 N force is given to the body but the body does not move. Which force is acting on the body?
 

(A) Normal force	(B) Tension force	(C) Friction force	(D) Gravity
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8. Which force is responsible for a nail staying in its position after being hammered into the the wall
 

(A) Muscular	(B) Friction	(C) Gravitation	(D) Magnetic
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9. The force helps us to hold an object is
 

(A) Muscular	(B) Friction	(C) Gravitation	(D) Magnetic
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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. Can friction be increased or reduced?
 

(A) Yes	(B) No	(C) Maybe	(D) None of these
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12. What reduces friction ?  
Ⓐ Lubricant Ⓑ Oil  
Ⓒ Both Ⓐ and Ⓑ are correct Ⓓ None of these
13. What increases the friction?  
Ⓐ Grooves Ⓑ Lubricant Ⓒ Oil Ⓓ None of these
14. If an object is pressed against the wall, the friction force acts in which direction?  
Ⓐ Vertically downward Ⓑ Vertically upwards  
Ⓒ Horizontally Ⓓ None of these
15. Applying powder on a carrom board  
Ⓐ Increases friction Ⓑ Decreases friction  
Ⓒ Keeps friction unchanged Ⓓ None of these
16. A force of 10 N is applied on a body. If the friction force the body feels is 5 N then find the body's acceleration. (Mass of the body is 5 kg.)  
Ⓐ  $1 \text{ m/s}^2$  Ⓑ  $0.2 \text{ m/s}^2$   
Ⓒ There is no acceleration Ⓓ  $2 \text{ m/s}^2$
17. A body of mass 1 kg is resting on a table. What is the value of the normal force?  
Ⓐ 1 N Ⓑ 1 dyne Ⓒ 1 kgf Ⓓ None of these
18. What weight does a freely falling body feel?  
Ⓐ Its own weight Ⓑ Lesser than its weight  
Ⓒ Greater than its weight Ⓓ Zero weight
19. An apple is falling from a tree. The force acting here is  
Ⓐ Muscular Ⓑ Gravitational Ⓒ Electrostatics Ⓓ Magnetic force
20. What type of force is involved in kicking a ball?  
Ⓐ Friction force Ⓑ Electrostatic force  
Ⓒ Gravitational force Ⓓ Muscular force
21. Nature of static friction is  
Ⓐ Self-adjusting Ⓑ Non-adjusting  
Ⓒ Sometimes non-adjusting Ⓓ None of these
22. The force of limiting friction is  
Ⓐ Increased with contact area Ⓑ Decreased with contact area  
Ⓒ Independent of apparent contact area Ⓓ Dependent sometimes on contact area

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23. If the body is in motion, the friction opposing its motion is called  
 (A) Kinetic friction (B) Sliding friction  
 (C) Internal friction (D) Both (A) and (B) are correct
24. The frictional force arises when a body rolls over the surface of another body is called  
 (A) Static friction (B) Sliding friction (C) Rolling friction (D) Kinetic friction
25. Direction of kinetic friction is  
 (A) Always in the direction of motion (B) Always against the direction of motion  
 (C) Sometimes in the direction of motion (D) None of these media

## Chemistry

26. Choose the inflammable substance  
 (A) Petrol (B) LPG (C) Alcohol (D) All of them
27. Fire may be extinguished by  
 (A) Removing all the combustion substance from the site of fire  
 (B) Cutting of the supporter of fire  
 (C) Bringing down the ignition temperature  
 (D) All of them
28. Good fuels have  
 (A) Low ignition temperature and high calorific value  
 (B) Low ignition temperature and low calorific value  
 (C) High ignition temperature and high calorific value  
 (D) High ignition temperature and low calorific value
29. The hottest zone of a candle flame is  
 (A) Non-luminous zone (B) Luminous zone  
 (C) Dark zone (D) Blue zone at the base of the wick
30. Incomplete combustion of fossil fuel releases a gas 'X'. The gas is poisonous in nature and it burns with a blue flame. Which gas is 'X' ?  
 (A) Ozone (B) Chlorine (C) Carbon dioxide (D) Carbon monoxide
31. \_\_\_\_\_ is yellow in colour and is moderately hot  
 (A) Middle zone (B) Outermost zone (C) Innermost zone (D) None of these

**32. ASSERTION – REASON type question****Assertion :** LPG is a solid fuel**Reason :** The amount of heat energy released by the combustion of one kg fuel is called its calorific value.

- Ⓐ Both assertion and reason are the correct statements and reason is the correct explanation of assertion
  - Ⓑ Both assertion and reason are the correct statements but reason is not the correct explanation of assertion
  - Ⓒ Assertion is correct but reason is wrong
  - Ⓓ Assertion is wrong but reason is correct
- 33.** A combustible substance cannot catch fire if its temperature is \_\_\_\_\_ than its ignition temperature
- Ⓐ Higher
  - Ⓑ Moderate
  - Ⓒ Lower
  - Ⓓ None of these
- 34.** What is the reason behind the black colour of the smoke ?
- Ⓐ Unburnt carbon particles
  - Ⓑ Rapid combustion
  - Ⓒ High temperature
  - Ⓓ None of these is correct
- 35.** The calorific value of wood and coal is 20000 kJ/kg and 30000 kJ/kg respectively. Which will produce the most heat ?
- Ⓐ 500 gms of coal
  - Ⓑ 1 kg of coal
  - Ⓒ 500 gms of wood
  - Ⓓ 2 kg of wood
- 36.** The condition necessary for combustion is
- Ⓐ Presence of combustible substances
  - Ⓑ Presence of supporters of combustion
  - Ⓒ Attainment of ignition temperature of the combustible substance
  - Ⓓ All of the points are correct
- 37.** Which of the following is a non-combustible substance ?
- Ⓐ Paper
  - Ⓑ Sand
  - Ⓒ Charcoal
  - Ⓓ Petrol
- 38.** Why goldsmiths blow the outermost zone of a flame to melt gold and silver ?
- Ⓐ because it is the least hot zone
  - Ⓑ because it has the unburnt wax vapours
  - Ⓒ because it supports partial combustion
  - Ⓓ because it supports complete combustion

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39. The hottest part of the candle flame is  
(A) Innermost zone (B) Middle zone  
(C) Outermost zone (D) All zones have same hotness
40. Kerosene, alcohol and diesel are  
(A) Solid fuels (B) Liquid fuels (C) Gaseous fuels (D) Semi liquid fuels
41. PCRA stands for  
(A) Petroleum and Coal Reservation Association  
(B) Petroleum Conservation Research Association  
(C) Petroleum and Coal Research Association  
(D) None of these
42. The stepwise stages for formation of coal  
(A) Wood - Peat - Lignite - Bituminous coal - Anthracite coal  
(B) Wood - Peat - Bituminous coal - Lignite - Anthracite coal  
(C) Wood - Bituminous coal - Peat - Lignite - Anthracite coal  
(D) Wood - Peat - Lignite - Anthracite coal - Bituminous coal
43. Producer gas is  
(A) [Carbon monoxide + Nitrogen] (B) [Carbon monoxide + Hydrogen]  
(C) [Carbon monoxide + Oxygen] (D) [Carbon monoxide + Chlorine]
44. Lowest form of carbon is present in  
(A) Peat (B) Lignite (C) Bituminous coal (D) Anthracite coal
45. Which is used as a fuel in wick stoves ?  
(A) Diesel (B) Petrol (C) Kerosene (D) Lubricating oil
46. Which zone is absent in a candle flame ?  
(A) Red zone (B) Dark zone  
(C) Luminous zone (D) Non luminous zone
47. The highest calorific value of the fuel is  
(A) Coke (B) Wood (C) Petrol (D) Hydrogen
48. Fuel must be heated to its \_\_\_\_\_ before it starts burning  
(A) Conversion temperature (B) Ignition temperature  
(C) Inversion temperature (D) Combustion temperature
49. Which gas is used to extinguish fire ?  
(A) Oxygen (B) Carbon dioxide (C) Nitrogen (D) Hydrogen



50. Which are produced at the outermost zone of a candle flame ?
- (A) Carbon and water vapour                      (B) Carbon dioxide and carbon  
 (C) Carbon dioxide and water vapour            (D) Carbon monoxide and water vapour

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**Mathematics**

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51. Which of the following is not a perfect square number?
- (A) 1156                      (B) 4657                      (C) 4624                      (D) 7056
52. Which of the following is a pythagorean triplet?
- (A) 2,3,4                      (B) 6,8,10                      (C) 5,7,9                      (D) None of these
53. What will be the number of zeros in square of 400?
- (A) 2                      (B) 3                      (C) 4                      (D) 6
54. What is the sum of first four odd natural numbers?
- (A) 16                      (B) 17                      (C) 18                      (D) 20
55. What is the smallest number by which 675 may be divided so that the quotient is a perfect cube
- (A) 25                      (B) 15                      (C) 45                      (D) 35
56. Find the volume of a cube, one face of which has an area of  $25 \text{ cm}^2$ .
- (A)  $145 \text{ cm}^3$                       (B)  $135 \text{ cm}^3$                       (C)  $125 \text{ cm}^3$                       (D)  $145 \text{ cm}^3$
57. What is  $\sqrt[3]{389017}$
- (A) 75                      (B) 79                      (C) 73                      (D) 77
58. A perfect square number between 30 and 40 is
- (A) 36                      (B) 33                      (C) 32                      (D) 39
59. How many natural numbers lie between  $9^2$  and  $10^2$ ?
- (A) 17                      (B) 18                      (C) 19                      (D) 20
60. If square of 11 is 121 then, what is the square of 111?
- (A) 121                      (B) 12321                      (C) 1234321                      (D) 123321
61. The value of  $9^2 - 1$  is equal to:
- (A) 79                      (B) 80                      (C) 81                      (D) None of these



62. Which symbol represents cube root of  $x$ ?  
 (A)  $x^2$  (B)  $x^3$  (C)  $\sqrt[3]{x}$  (D)  $\sqrt{x}$
63. Which of the following is not a perfect cube?  
 (A) 216 (B) 1000 (C) 243 (D) 1331
64. What is square and cube of 14?  
 (A) 2744, 196 (B) 196, 2744 (C) 196, 2748 (D) 2744, 195
65. Which number should be multiplied to 392 to obtain perfect cube?  
 (A) 7 (B) 9 (C) 8 (D) 2
66.  $\left(\frac{-7}{13} + \frac{19}{26}\right) = ?$   
 (A)  $\frac{7}{26}$  (B)  $\frac{5}{26}$  (C)  $\frac{3}{26}$  (D)  $\frac{5}{13}$
67. What should be added to  $\frac{5}{12}$  to get  $\frac{-3}{14}$ ?  
 (A)  $\frac{53}{84}$  (B)  $\frac{-53}{84}$  (C)  $\frac{51}{84}$  (D)  $\frac{-51}{84}$
68. The additive inverse of  $\frac{-23}{26}$  is  
 (A)  $\frac{25}{26}$  (B) 1 (C) 0 (D)  $\frac{23}{26}$
69. The value of  $\left(\frac{-3}{5}\right)^{-2}$  is  
 (A)  $\frac{25}{9}$  (B)  $\frac{-25}{9}$  (C)  $\frac{9}{25}$  (D)  $\frac{-9}{25}$
70. 3430000 in standard form is  
 (A)  $3.43 \times 10^6$  (B)  $34.3 \times 10^5$  (C)  $343 \times 10^4$  (D)  $3430 \times 10^3$
71. The square of which of the following would be odd number?  
 (A) 431 (B) 272 (C) 1234 (D) 7928
72. Which is the greatest three digit perfect square is  
 (A) 999 (B) 961 (C) 962 (D) 971
73. Which smallest number should be added to 80 so as to make it a perfect square?  
 (A) 2 (B) 3 (C) 1 (D) 4
74. The value of  $\sqrt[3]{343} \times \sqrt[3]{-64}$  is  
 (A) -18 (B) -28 (C) -16 (D) -14

75. Evaluate  $\sqrt[3]{\frac{343 \times 125}{0.064}}$

(A) 87.5

(B) 807.5

(C) 8.75

(D) .875

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**Biology**

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76. Which of the following is the primary purpose of irrigation in agriculture?

(A) Controlling pests

(B) Providing water to crops

(C) Harvesting crops

(D) Adding nutrients to soil

77. Fertilizer is a —

(A) Natural substance

(B) Man-made inorganic salt

(C) Man-made organic salt

(D) Plant residues

78. What is the primary source of organic manure?

(A) Synthetic chemical

(B) Animal residues

(C) Plant residues

(D) Plant &amp; animal residues

79. Winnowing is —

(A) Separation of grains from seeds

(B) Separation of grains from pests

(C) Separation of grains from chaff

(D) Separation of grains from gravel

80. *Rhizobium* may be found in —

(A) Cereal plants

(B) Oil plants

(C) Leguminous plants

(D) Fibre plants

81. Overuse of chemical fertilizer may lead to —

(A) Decrease in soil fertility

(B) Increase in the soil fertility

(C) Increase in the crop yield

(D) Enhancement of biodiversity

82. Which type of fertiliser provides all the three types of major nutrients (nitrogen, phosphorus & potassium) to plants?

(A) Urea

(B) Single super phosphate

(C) Potassium nitrate

(D) NPK fertilizer

83. Which agricultural practice involves growing different crops in a specific succession in the same field?

(A) Monoculture

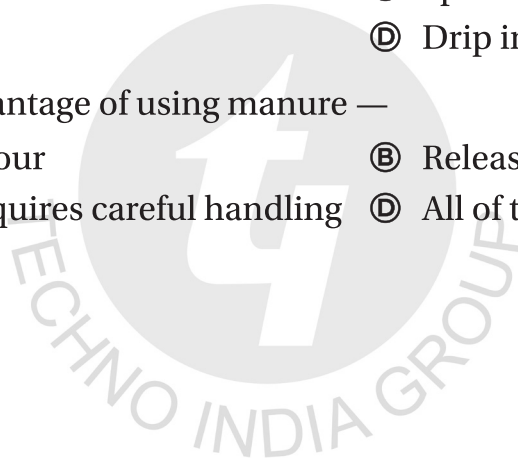
(B) Polyculture

(C) Crop rotation

(D) Intercropping

84. Which of the following is an advantage of using modern irrigation methods in agriculture?
- (A) Increased soil conservation                      (B) Higher surface run off  
(C) Improved water conservation                      (D) Reduced crop yield
85. What is the primary purpose of using fertilizers in agriculture?
- (A) Weed control    (B) Pest control  
(C) Increasing soil fertility                                      (D) Enhancing water absorption
86. What is the term used for the removal of unwanted plants from the field?
- (A) Harvesting              (B) Threshing              (C) Weeding              (D) Ploughing
87. What is the primary source of water for traditional canal irrigation?
- (A) Rainwater    (B) Underground wells  
(C) Rivers or reservoirs                                      (D) Groundwater
88. Which nutrient is commonly found in organic manure and aids in plant growth?
- (A) Nitrogen              (B) Phosphorus              (C) Potassium              (D) Calcium
89. Which equipment or tool is commonly used in the process of winnowing?
- (A) Plough    (B) Harrow  
(C) Sieve    (D) Fan
90. Which irrigation method delivers water directly to the plant roots in a controlled manner?
- (A) Flood irrigation    (B) Sprinkler irrigation  
(C) Drip irrigation    (D) Subsurface irrigation
91. The process of rearing animals for commercial purposes is called —
- (A) Levelling    (B) Harvesting  
(C) Animal husbandry    (D) Poultry
92. Clover is a —
- (A) Cash crop              (B) Fodder crop              (C) Food crop              (D) Ornamental crop
93. Which of the following is not an ornamental plant?
- (A) Orchid              (B) Rose              (C) Marigold              (D) Hemp
94. Jute is a —
- (A) Cash crop              (B) Food crop              (C) Ornamental crop              (D) Fodder crop

95. Short duration summer crops are called —  
Ⓐ Food crop      Ⓑ Fodder crop      Ⓒ Zaid crop      Ⓓ Kharif crop
96. Mulching is a method adopted for —  
Ⓐ Weed control      Ⓑ Irrigation      Ⓒ Harvesting      Ⓓ Winnowing
97. Granaries are used to store —  
Ⓐ Seeds before sowing      Ⓑ Harvested crops  
Ⓒ Fruits      Ⓓ Fertilisers
98. Using animals to trample over crops used to be a traditional method of —  
Ⓐ Harvesting      Ⓑ Winnowing      Ⓒ Threshing      Ⓓ Weeding
99. Furrow irrigation is a type of —  
Ⓐ Surface irrigation      Ⓑ Sprinkler irrigation  
Ⓒ Basin irrigation      Ⓓ Drip irrigation
100. Select the disadvantage of using manure —  
Ⓐ Emits a foul odour      Ⓑ Releases nutrients slowly  
Ⓒ Is bulky and requires careful handling      Ⓓ All of the above



**Space For Rough Works**



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