Monthly Progressive Test (Solution)

Class: VIII (G)

Subject: PCMB

Academic Excellence Programme TECHNO ACE

Test Booklet No.: MPT06 | Test Date: 03102024

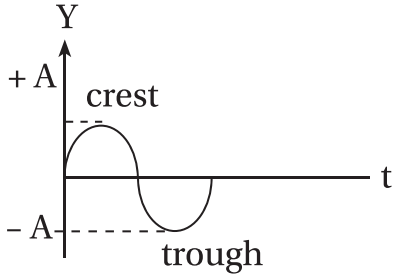
Physics

1. Ⓐ

Water waves are transvers in nature.

2. Ⓑ

A + A = 2A



3. Ⓒ

Amplitude is the maximum displacement of particle from the mean position.

4. Ⓑ

as $f = \frac{1}{T}$

5. Ⓓ

SI unit of frequency is hertz.

6. Ⓐ

$T = \frac{1}{f} = \frac{1}{1} = 1s$

7. Ⓑ

Speed = frequency × wave length

8. Ⓓ

Sound from moon can't reach earth.

9. Ⓐ

Sound is produced from vibrating bodies.

Cont.. 2

10. Ⓑ

Sound is essential for hearing.

11. Ⓒ

Sound is a form of mechanical energy.

12. Ⓐ

We sense sound through our ear system.

13. Ⓐ

As particle vibration is essential.

14. Ⓐ

As elastic medium is necessary.

15. Ⓑ

As speed of light is greater than speed of sound in air.

16. Ⓓ

Muscular, gravity and Friction force, all are necessary.

17. Ⓑ

$(1 + 2) \times 9.8 = 29.4$ N

18. Ⓓ

$$\frac{100 - 25}{5} = 15 \text{ m/s}^2$$

19. Ⓑ

$mg - U = ma$

$U = m(g - a)$

$= (1)(9.8 - 4.9)$

$= 4.9$ N.

20. Ⓐ

Lubricants and ball bearings reduce the friction.

21. Ⓐ

Sound emits from source in all direction.

22. Ⓐ

Sound can travel through elastic medium only.

23. Ⓒ

V_{steel} is nearly 5000 m/s.

24. Ⓐ

$V_{water} = 1500$ m/s

25. Ⓑ

$V_{air} = 332$ m/s

Chemistry

26. Ⓑ

The lightning of electric bulb in a circuit shows heating effect of electric current.

27. Ⓓ

Water can be dissociated into its components by the process of electrolysis water gives new compounds Hydrogen & oxygen. $2H_2O \rightleftharpoons 2H_2 \uparrow + O_2 \uparrow$

28. Ⓓ

Acids, bases and salts all are good conductors of electricity in its aqueous solution or molten state.

29. Ⓑ

One of the most reliable method to prevent metal objects. From its rust is electroplating. This is correct. Electroplating is the process of depositing a layer of metal (superior metal) onto another (imperior metal) with the help of electricity. This is also true but it is not the correct explanation of assertion.

30. Ⓑ

Distilled water is poor conductor of electricity. This is correct. Glowing bulb is due to heating effect of electric current. This is also correct, but it is not the correct explanation of assertion.

31. Ⓐ

Water is the most commonly used liquid which is decompose by the process of electrolysis.

32. Ⓒ

Electroplating is based on the principles of electrolysis, in which superior metal is coated over imperior metal. Rusting is the oxidation of iron is presence of moisture.

$4\,Fe + 3O_2 + 2xH_2O \longrightarrow 2\,Fe_2O_3.\,xH_2O$ (Rust)

33. Ⓐ

Tester is to identify a body that can conduct electricity.

34. Ⓒ

LED glows at low electric supply.

35. Ⓑ

When lED is connected with battery, the shorter lead is connected with negative terminal and longer lead is connected with positive terminal.

36. Ⓓ

Electrical appliances are not touched with wet because electrical appliances will start to conduct electricity.

37. Ⓐ

Dilute sugar solution is the poorest conductor of electricity. Dilute sulphuric acid, sodium hydroxide & calcium chloride solution are strong electrolyte.

38. Ⓑ

Colour of copper sulphate solution is blue.

39. Ⓓ

When acidified copper sulphate solution is electrolysed with copper electrodes then colour of the solution remains unchanged because of Anode reaction.

$$Cu - 2e^{\ominus} \longrightarrow Cu^{++}$$

40. Ⓑ

Flow of electricity is termed as electric current.

41. Ⓒ

The slow process of conversion of dead vegetations into coal is called carbonization.

42. Ⓓ

The substance that does not burn with flame is charcoal.

43. Ⓑ

Combustion is generally a chemical process as its produced new compound.

44. Ⓒ

Piece of coal and eraser are bad conductors of electricity. Iron rail is a good conductor of electricity.

45. Ⓓ

Full form of LED is light emitting diode.

46. Ⓒ

Vegetable oil will not conduct electricity.

47. Ⓒ

The bells fitted in the schools are totally run by electricity. In this device, electrical energy is converted into mechanical energy which causes the round.

48. Ⓓ

conductors can be solid, liquid and gaseous. It is mandatory for the generation of a

magnetic field around the electric conductor, when it is live only heat is supplied to the system when water is boiled. So, this action is not related to electricity conduction.

49. Ⓓ

Assertion : Adding sugar makes pure water conducting. This is wrong.
Reason : Electrolysis is a chemical change. This is correct.

50. Ⓓ

During electroplating by copper aqueous solution of copper sulphate is used.

Mathematics

51. Ⓑ

RG = 4cm
Let O be the point of intersection of SQ and PR
OG = 2cm ($\therefore$ RG : GO = 2 : 1)
$\therefore$ PR = 20R = 2 × (2 + 4) cm = 12 cm.
SQ = PR = 12 cm (Ans.)

52. Ⓓ

$\because$ AB = AD $\Rightarrow \angle ADB = \angle ABD = 25^\circ \Rightarrow \angle A = 180^\circ - (\angle B + \angle D)$
$= 180^\circ - (25^0 + 25^\circ)$
$= 130^0$

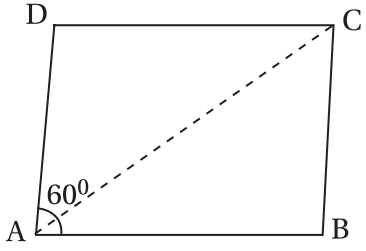
$\because$ BC = CD $\Rightarrow \angle CDB = \angle CBD = 35^0 \Rightarrow \angle C = 180^\circ - (35^\circ + 35^\circ)$
$= 110^\circ$

$\therefore \angle A - \angle C = 2x$
$\Rightarrow 130^\circ - 110^\circ = 2x$
$\Rightarrow 20^\circ = 2x$
$\therefore x = 10^\circ$

53. Ⓒ

A square, becauase diagonals of a square are equal and perpendicular to each other.

54. Ⓐ



$\angle CAB = \frac{1}{2} \times 60^0$
$= 30^\circ$

55. Ⓑ

$$\left(\frac{a}{b}+\frac{b}{a}\right)\left(\frac{a}{b}-\frac{b}{a}\right)$$

$$=\frac{a^2}{b^2}-\frac{b^2}{a^2}$$

56. Ⓑ

$$a^4-b^4$$

$$=(a^2)^2-(b^2)^2$$

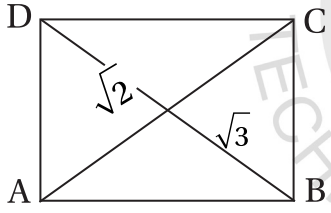
$$=(a^2+b^2)(a^2-b^2)$$

$$=(a^2+b^2)(a+b)(a-b)$$

57. Ⓓ

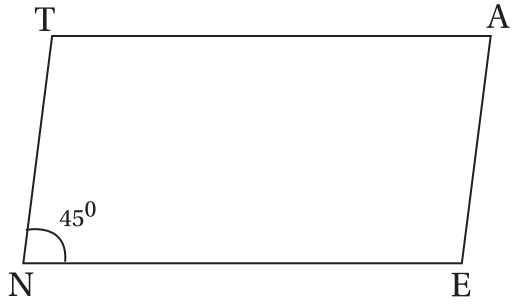
$$8x+8=6x+9 \Rightarrow 2x=1 \Rightarrow x=\frac{1}{2}$$

58. Ⓓ



In square diagonals are equal
$\therefore$ Assertion is false
Reason is true

59. Ⓒ



$\angle N : \angle E = 1 : 3$

$\angle N + \angle E = x + 3x = 180^0$

$\Rightarrow 4x = 180^0$

$\Rightarrow x = \frac{\cancel{180^0}\ \cancel{90^0}\ 45^0}{\cancel{4}_2}$

$\angle A = \angle N = 45^0$

$\therefore$ Assertion is true.
But reason (R) is false.

60. Ⓒ

Perimeter $= 4 \times a$

$= 4 \times 2\,ft$

$= 8\,ft.$

61. Ⓑ

Perimeter = 3×6 inches = 18 inches $= 1.5\,ft.$

62. Ⓐ

The length of the stick AC = $\sqrt{2} \times 2$ feet

$= 2 \times 1.414$ feet $= 2.828\,ft. = 3\,ft.$ (Approx)

63. Ⓓ

46%

$= \frac{46}{100}$

$= 0.46$

64. Ⓐ

$A = p\left(1+\frac{r_1}{100}\right)\left(1+\frac{r_2}{100}\right)$

65. Ⓓ

$SP = \frac{5}{6}\,CP$

$SP : CP = 5 : 6$

$SP = 5x,\ CP = 6x$ Loss = $(6x - 5x) = x$

$LOSS\ \% = \frac{Loss}{CP} \times 100\%$

$= \frac{\cancel{x}}{6\cancel{x}} \times 100\%$

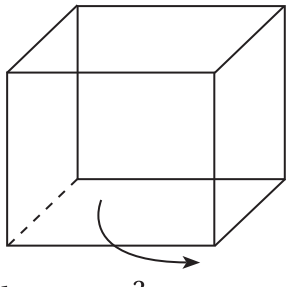
$= \frac{100}{6}\%$

$= \frac{50}{3}\% = 16\frac{2}{3}\%$

66. Ⓓ

Additive inverse of $\left(\frac{-23}{26}\right)$ is $\frac{23}{26}$

67. Ⓒ



$a^2 = 25$

$a = 5$

Volume = $5^3 = 125\ cm^3$

68. ©

718

69. Ⓓ

$a^2 - b^2 + ca - cb$

$= (a + b)(a - b) + c(a - b)$

$= (a - b)(a + b + c)$

70. Ⓑ

No. of diagonals $= \frac{n(n-3)}{2}$

$= \frac{7 \times (7-3)}{2}$

$= \frac{7 \times \cancel{4}^{2}}{\cancel{2}}$

$= 14$ Ans.

71. Ⓓ

A square is a rectangle as well as rhombus and a parallelogram because every rectangle is a parallelogram and every rhombus is a parallelogram.

72. Ⓐ

$r^1 \times r^2 \times r^3 \times \ldots\ldots\ldots\ldots \times r^{10}$

$= r^{1+2+3+\ldots\ldots\ldots 10}$

$= r^{\frac{10 \times (10+1)}{2}}$

$= r^{\frac{5 \cancel{10} \times 11}{\cancel{2}}}$

$= r^{55}$

73. ©

$x + x + x$

$= 3x$

74. Ⓐ

1 year, for the first year both C. I. and S. I. are equal.

75. Ⓑ

$Pv = k$ (Constant)

$\left(\frac{P}{2}\right)(2v) = k.$

Biology

76. Ⓑ

Blood

77. Ⓑ

Virus

78. Ⓒ

Roots
Roots of leguminous plants have symbiotic bacteria which help in biological nitrogen fixation.

79. Ⓓ

All of the above

80. Ⓑ

Creating new paper products

81. Ⓐ

Core area of minimum human intervention.

82. Ⓑ

Sustainable tourism and controlled activities.

83. Ⓑ

Both A and R are true but R is not the correct explanation of A

84. Ⓑ

Both A and R are true but R is not the correct explanation of A.

85. Ⓓ

A is false but R is true
Vibrio cholerae is a comma shaped bacteria.

86. Ⓐ

Both A and R are true and R is the correct explanation of A.

87. Ⓐ

Food chains

88. Ⓑ

Population

89. Ⓒ

Trophic levels

90. Ⓓ

Biosphere

Biosphere includes air (atmosphere), water (hydrophere) and soil (lithosphere) where life exists.

91. Ⓑ

Sunlight and water

Non living components

92. Ⓐ

Conservationists and policy makers

93. Ⓐ

Unicellular

94. Ⓓ

All

95. Ⓓ

Both A and B

96. Ⓑ

Both A and R are true but R is not the correct explanation of A

The reason is a consequence of global warming, not its cause

97. Ⓒ

A is true but R is false

Endemic species are gravely affected by deforestation as they are adapted to survive only in one specific region.

98. Ⓐ

Removing air from the food

99. Ⓑ

Slowing down bacterial growth

100. Ⓓ

Denitrification

It is a part of Nitrogen Cycle