Monthly Progressive Test

Class: VIII (S)

Subject: PCMB

Academic Excellence Programme TECHNO ACE

Test Booklet No.: MPT04(S) **Test Date:** 24072024

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 scribble 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. Pressure is
   Ⓐ force/area Ⓑ force × area Ⓒ area / force Ⓓ none of these
2. When three vertical holes are made in a bottle full of water leaks out through the holes. Which water jet travels with most speed?
   Ⓐ jet from the top hole Ⓑ jet from the middle hole
   Ⓒ jet from the bottom hole Ⓓ all jets travel with the same speed
3. Which substance will apply more pressure?
   Ⓐ water Ⓑ mercury
   Ⓒ air Ⓓ all three applies equal pressure
4. We apply a greater pressure when we
   Ⓐ stand Ⓑ sit Ⓒ sleep Ⓓ none of these
5. Air pressure changes with altitude because of changes in
   Ⓐ density of the atmosphere Ⓑ depth of the atmosphere
   Ⓒ both of Ⓐ and Ⓑ Ⓓ temperature of the atmosphere
6. Dams are
   Ⓐ thicker at the top Ⓑ thicker at the bottom
   Ⓒ thicker at the middle Ⓓ none of these
7. An instrument that can measure atmospheric pressure is
   Ⓐ barometer Ⓑ thermometer Ⓒ odometer Ⓓ none of these
8. 1 atm is equivalent to x (m) water column height pressure, then x =
   Ⓐ 5 Ⓑ 8 Ⓒ 6 Ⓓ 10
9. Pressure exerted by water in glass of full of water, placed on the floor of an elevator which is accelerating upwards will be
   Ⓐ $> h\rho g$ Ⓑ $< h\rho g$
   Ⓒ $= h\rho g$ Ⓓ insufficient information

Assertion Reason based Questions (10 – 11) :

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) If both Assertion and Reason are false.

10. **Assertion:** The atmospheric pressure is so great but we aren't crushed

Reason: The atmospheric pressure acting on our body from outside is balanced by the blood pressure acting from inside

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

11. **Assertion:** To pull the rubber sucker off the wall,the applied force should be large enough

Reason: When the sucker hook is pressed,the air inside it is forced out, leaving a low pressure area inside the hollow of the sucker hook. The higher atmospheric pressure outside presses down on the hook and make it stick tightly on the wall.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

Case based Questions (12 – 13):

Drinking Straw:

The air pressure helps us enjoy our drink. When we suck, we are removing the air in the straw which allows the atmospheric air pressure acting on the surface of the liquid to push the liquid up the straw. Without air pressure acting on the surface, no amount of sucking will raise the liquid. We can try this by sucking the liquid from the air tight container. The liquid will nor rise up, no matter how hard we suck.

12. While sucking the straw, mention the substance we remove

Ⓐ air Ⓑ water Ⓒ oil Ⓓ kerosene

13. When sucking fails?

Ⓐ in presence of air Ⓑ in absence of air Ⓒ both Ⓐ and Ⓑ Ⓓ none of these

14. Liquids exert pressure in

Ⓐ downward only Ⓑ upwards only Ⓒ sideways only Ⓓ in all directions

15. Density of water is

Ⓐ 1000 kg/m^3 Ⓑ 1 g/cc

Ⓒ both Ⓐ and Ⓑ are correct Ⓓ none of these

16. A force of 100 N is applied on a body of mass 5 kg. If friction is 50% of the normal force, find the body's acceleration. Acceleration due to gravity = 10 m/s^2.

Ⓐ 20 m/s^2 Ⓑ 10 m/s^2 Ⓒ 5 m/s^2 Ⓓ 15 m/s^2

17. A body of mass 1 kg is resting on a table. Another body of mass 2 kg is placed on top of the previous body. What is the normal force the body of mass 1 kg feels from the table?

Ⓐ 9.8 N Ⓑ 29.4 N Ⓒ 19.6 N Ⓓ 39.2 N

18. Example of contact force

Ⓐ only muscular force Ⓑ only friction force
Ⓒ both Muscular and Friction force Ⓓ none of the above

19. Which one among these statement is true?

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

20. A force of 10N is acting on a body for 2s, the value of impulse is (in Ns)

Ⓐ 10 Ⓑ 20 Ⓒ 25 Ⓓ15N

21. Wide straps of school bag help to carry heavy bag comfortably. Is it true?

Ⓐ true Ⓑ false Ⓒ may be true Ⓓ we can't say

22. A sharp knife is more effective in cutting objects than a blunt knife. Is it true?

Ⓐ no Ⓑ yes Ⓒ may be true Ⓓ we can't say

23. The foundation of building is made wide. The statement is true or false?

Ⓐ false Ⓑ may be true Ⓒ true Ⓓ we can say

Assertion Reason based Questions (Q. No. 24) :

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) Both Assertion and Reason are false.

24. **Assertion:** Gases and liquids take the shape of container they are placed into.

Reason: Fluids have weight so it can exert pressure and do work for us.

Ⓐ A Ⓑ B Ⓒ C Ⓓ D

Case Based Question (Q. No. 25) :

If the foundation is made wider, the area will be large, hence, the pressure exerted on Earth will be small, so the building will be safe.

25. Wider base of building foundation makes building

Ⓐ unsafe Ⓑ safe

Ⓒ unbalanced Ⓓ prone to earth quake

Chemistry

26. The condition necessary for combustion is

Ⓐ Presence of a combustible substance

Ⓑ Presence of a supporter of combustion

Ⓒ Attainment of ignition temperature of the combustible substance

Ⓓ All of them

27. Supporter of combustion is

Ⓐ CO_2 Ⓑ Nitrogen Ⓒ Oxygen Ⓓ Both Ⓐ and Ⓑ

28. Choose the inflammable substance

Ⓐ Petrol Ⓑ LPG Ⓒ Alcohol Ⓓ All of them

29. The hottest part of the candle flame is

Ⓐ Innermost zone Ⓑ The middle zone Ⓒ The outer zone Ⓓ None of these

30. Which of these is a solid pollutant?

Ⓐ SPM (suspended particulate matter) Ⓑ Carbon monoxide

Ⓒ Nitrogen oxides Ⓓ Sulphur dioxide

31. Which of these fuel has the highest calorific value

Ⓐ CNG Ⓑ Coal Ⓒ Hydrogen Ⓓ Petrol

32. _____ is yellow in colour and is moderately hot

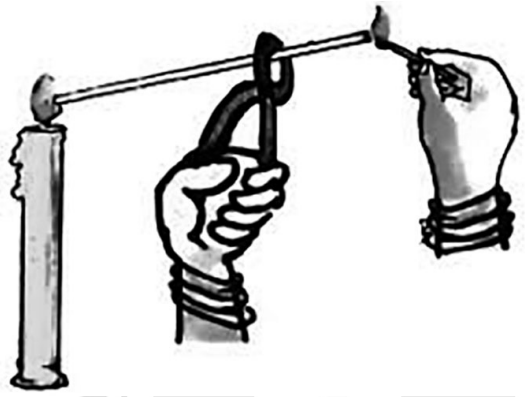
Ⓐ Middle zone Ⓑ Outermost zone Ⓒ Inner most zone Ⓓ None of these

33. Read the given passage and fill in the blanks by selecting an appropriate option.

Increase in concentration of (i) in air causes (ii) which results in rise in temperature of atmosphere of earth. Oxides of (iii) and (iv) dissolve in water and form (v) which is very harmful for crops, buildings and soil. These days, the petrol and diesel are being replaced (vi) by which is comparatively a cleaner fuel.

	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Ⓐ	Sulphur dioxide	Global warming	Carbon	Hydrogen	Hydroxides	Compressed natural gas
Ⓑ	Methane	Green house effect	Sodium	Potassium	Hydroxides	Liquefied Petroleum gas
Ⓒ	Carbon dioxide	Green house effect	Sulphur	Nitrogen	Acid rain	Compressed natural gas
Ⓓ	Hydrogen	Global warming	Carbon	Sulphur	Acid rain	Liquefied petroleum gas

34. Sital, a class 8 student took a glass tube with a pair of tongs and introduced its one end in the dark zone of the candle flame as shown in the figure.



Which of the following is correct regarding this activity?

Ⓐ The wax vapours rise up the glass tube and burst into flame when burning match stick is brought near it.

Ⓑ The burning match stick burns the candle wick which is made of highly inflammable substance.

Ⓒ Carbon dioxide is released in the innermost dark zone which bursts into flames when burning match stick is brought near it.

Ⓓ None of these.

35. Match the following columns for the flame of a candle.

Column I (Part)	Column II (Zone)	Column III (Colour)
P. Hottest part	(i) Innermost zone of unburnt wax vapours	(x) Blue
Q. Moderately hot part	(ii) Middle zone of partial combustion	(y) Black
R. Least hot part	(iii) Outermost zone of complete combustion	(z) Yellow

Ⓐ P-(iii), (y); Q-(i), (z); R-(ii), (x)
Ⓑ P-(ii), (x); Q-(iii), (y); R-(i), (z)
Ⓒ P-(iii), (x); Q-(ii), (z); R-(i), (y)
Ⓓ P-(i), (z); Q-(iii), (x); R-(ii), (y)

Case Based Question (36 – 38) :

The substances which have low ignition temperature catches fire readily are known as inflammable substances. When a body comes under fire then some fire extinguisher needed to save the body. Soda - acid fire extinguishers contain sodium bicarbonate and dilute sulphuric acid and after reaction carbon dioxide is formed. Carbon dioxide having high density wraps the burning body and thus it cannot come contact with oxygen. But this method cannot be used to extinguish fire at the oil dumps and oil refineries as excessive heat is generated in these cases. If water is splashed over the burning body then water gets vapourised and that water vapour surrounds the burnt body and oxygen supply gets disconnected instantly. Water also decreases the ignition temperature of the body.

36. Which acid is present inside the soda - acid fire extinguishers ?

Ⓐ Hydrochloric acid
Ⓑ Nitric acid
Ⓒ Acetic acid
Ⓓ Sulphuric acid

37. Fire fighters use musk to save themselves from

Ⓐ Heat
Ⓑ Light
Ⓒ Spark
Ⓓ Harmful gaseous substances

38. During Gulf war in 1991, upper surface of the Parsian gulf came under fire as huge amount of crude oil was released and was ignited. Extinguishing that fire became too much difficult because

Ⓐ It was crude oil, not refined oil
Ⓑ The sea water is saline
Ⓒ Sea water had various pollutants
Ⓓ The surface area was very high and huge amount of oxygen came contact with the burnt oil

Assertion Reason based Questions (39 – 40) :

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.

39. **Assertion :** LPG is better fuel than diesel

Reason : LPG has lower calorific value than diesel

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

40. **Assertion :** Carbon dioxide is a harmful gas

Reason : Only carbon dioxide cause global warming

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

41. PCRA stands for

Ⓐ Petroleum and Coal Reservation Association

Ⓑ Petroleum Conservation Research Association

Ⓒ Petroleum and Coal Research Association

Ⓓ None of these

42. The stepwise stages for formation of coal

Ⓐ Wood - Peat - Lignite - Bituminus coal - Anthracite coal

Ⓑ Wood - Peat - Bituminus coal - Lignite - Anthracite coal

Ⓒ Wood - Bituminus coal - Peat - Lignite - Anthracite coal

Ⓓ Wood - Peat - Lignite - Anthracite coal - Bituminus coal

43. Producer gas is

Ⓐ [Carbon monoxide + Nitrogen] Ⓑ [Carbon monoxide + Hydrogen]

Ⓒ [Carbon monoxide + Oxygen] Ⓓ [Carbon monoxide + Chlorine]

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

Ⓐ Carbon dating Ⓑ Coalization Ⓒ Carbonization Ⓓ None of these

45. The hottest zone of a candle flame is

Ⓐ Non-luminous zone Ⓑ Luminous zone

Ⓒ Dark zone Ⓓ Blue zone at the base of the wick

46. Which one of the following has the highest calorific value?

Ⓐ Kerosene Ⓑ Bio-gas Ⓒ LPG Ⓓ Petrol

47. If a person's clothes catch fire, the best way to extinguish the fire is to

Ⓐ Throw water on the clothes

Ⓑ Use fire extinguisher

Ⓒ Cover the person with a woollen blanket

Ⓓ Cover the person with a polythene sheet

Assertion Reason based Questions (Q. No. 48) :

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.

48. **Assertion (A):** LPG means liquefied petroleum gas

Reason (R): CNG means compressed natural gas

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

49. Match the item of column I with the items of column II

Column I		Column II	
(a)	LPG	(i)	Non-combustible
(b)	Iron nails	(ii)	Deforestation
(c)	Candle	(iii)	Cooking gas
(d)	Wood	(iv)	Flame

Ⓐ a–(iii), b–(i), c–(iv), d–(ii) Ⓑ a–(iii), b–(ii), c–(i), d–(iv)

Ⓒ a–(ii), b–(iii), c–(i), d–(iv) Ⓓ a–(ii), b–(iii), c–(iv), d–(i)

50. A student burns three substances P, Q and R and records the observation in a table.

Substance	Observation
P	Burns quickly producing heat and light
Q	Burns at room temperature on its own
R	Burns with evolution of heat, light and sound

Which option correctly categories the given substances?

Ⓐ All the substances are undergoing rapid combustion.

Ⓑ Substances P undergoing rapid combustion, substance 'Q' undergoing spontaneous combustion, whereas substance 'R' is undergoing explosion.

Ⓒ Substance P and Q are undergoing spontaneous combustion, whereas 'R' is undergoing rapid combustion.

Ⓓ Substance R is undergoing rapid combustion, substance Q is undergoing spontaneous combustion whereas substance 'P' is undergoing explosion.

Mathematics

51. $(a+b)(a^2+b^2)(a^4+b^4)$ is equal to

Ⓐ $\frac{a^8-b^8}{a-b}$ Ⓑ $(a^8-b^8)(a-b)$ Ⓒ $a^{16}-b^{16}$ Ⓓ a^8+b^8

52. If $a+\frac{1}{a}=2$ then $a^2+\frac{1}{a^2}$ is equal to

Ⓐ $a^4+\frac{1}{a^4}$ Ⓑ $a^4-\frac{1}{a^4}$ Ⓒ 1 Ⓓ $a^2-\frac{1}{a^2}$

53. $a^2-4b^2=?$

Ⓐ $(a+2b)(a+2b)$ Ⓑ $(a+2b)(a-2b)$ Ⓒ $(2a+b)(2a-b)$ Ⓓ $(2a-b)(2a-b)$

54. $a^2-b^2+ca-cb=?$

Ⓐ $(a-b)(a-b+c)$ Ⓑ $(a-b)(a-b-c)$ Ⓒ $(a+b)(a+b+c)$ Ⓓ $(a-b)(a+b+c)$

55. A number increased by $22\frac{1}{2}\%$ gives 98 as result. The number is

Ⓐ 45 Ⓑ 18 Ⓒ 80 Ⓓ 81

56. $242x^2 - 162b^2 = ?$

Ⓐ $2(11x + 9b)(11x + 9b)$ Ⓑ $2(11x - 9b)(11x - 9b)$

Ⓒ $2(11x + 9b)(11x - 9b)$ Ⓓ $(9x - 11b)(9x + 11b)$

57. If 6 is added to 3 times of a number, it becomes 15. This statement in the form of an equation is

Ⓐ $3x + 15 = 6$ Ⓑ $3x + 6 + 15 = 0$ Ⓒ $3x + 6 = 15$ Ⓓ $3x - 6 = 15$

Assertion Reason based Questions (58 – 59) :

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.

58. **Assertion (A):** $\left(\frac{1}{p}+q\right)\left(\frac{1}{p}-q\right)=\frac{1}{p^2}-\frac{1}{q^2}$

Reason (R): $(a + b)(a - b) = a^2 - b^2$

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

59. **Assertion (A):** $\frac{x+1}{x+2}=\frac{x+5}{x+7} \Rightarrow x=3$

Reason (R): $\frac{a}{b}=\frac{c}{d} \Rightarrow ad=bc$

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

Case Study based Questions (60 – 62):

The cost of LPG gas cylinder has increased from ₹440 to ₹930. The weight of the gas cylinder is 14kg (only gas is considered).

On the basis of the above information answer the following questions

60. Calculate the change in cost

Ⓐ ₹490 Ⓑ ₹390 Ⓒ ₹590 Ⓓ ₹690

61. Calculate the percentage change in cost

Ⓐ 111.46% Ⓑ 111.36% Ⓒ 11.46% Ⓓ 11.36%

62. Determine the initial cost per kg of gas

Ⓐ ₹30.43 Ⓑ ₹20.43 Ⓒ ₹31.43 Ⓓ ₹21.43

63. If $\frac{x}{5}=\frac{x-32}{9}$ then $x=?$

Ⓐ –40 Ⓑ 40 Ⓒ –45 Ⓓ 45

64. If $a^2+\sqrt{2}a+1=0$ then find the value of $\frac{a^4+a^2+1}{a^2}$

Ⓐ $\sqrt{2}$ Ⓑ $-\sqrt{2}$ Ⓒ 5 Ⓓ 1

65. If $x:y=\frac{3}{4}:1$. By what percent is y more than x?

Ⓐ $16\frac{2}{3}\%$ Ⓑ $11\frac{1}{9}\%$ Ⓒ $9\frac{1}{11}\%$ Ⓓ $33\frac{1}{3}\%$

66. Value of $4^3\times5^3$ is

Ⓐ 20^3 Ⓑ 20^6 Ⓒ 20 Ⓓ 80

67. $(-2)^{m+1}\times(-2)^4=(-2)^6\Rightarrow m=$

Ⓐ 0 Ⓑ 1 Ⓒ –1 Ⓓ None of these

68. Evaluate $\sqrt[3]{\frac{343\times125}{0.064}}$

Ⓐ 87.5 Ⓑ 807.5 Ⓒ 8.75 Ⓓ 0.875

69. Which of the following is a pythogorean triplet?

Ⓐ 2,3,4 Ⓑ 6,8,10 Ⓒ 5,7,9 Ⓓ None of these

70. What value should be given to * so that the number 653*47 is divisible by 11:

Ⓐ 1 Ⓑ 6 Ⓒ 2 Ⓓ 9

Assertion Reason based Questions (71 – 72) :

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.

71. **Assertion (A):** $x^4 - 16 = (x^2 + 4)(x + 2)(x - 2)$

Reason (R): $a^2 - b^2 = (a + b)(a - b)$

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

72. **Assertion (A):** $\frac{5}{21}\%$ of $\frac{1}{3}\%$ of $126000 = 1$

Reason (R): $x\%$ of $y = 100\,xy$

Ⓐ a Ⓑ b Ⓒ c Ⓓ d

Case study based Questions (73 – 75) :

Three prizes are to be distributed in a quiz contest. The value of the second prize is five-sixths of the value of the first prize and the value of the third prize is four-fifths that of the second prize. The total value of three prizes is ₹150.

73. If the value of the first prize be ₹x, then find the correct option

Ⓐ $x + \frac{5}{6}x - \frac{2}{3}x = 150$ Ⓑ $x + \frac{5}{6}x + \frac{2}{3}x = 150$

Ⓒ $x + \frac{5}{6}x + \frac{2}{3}x = 100$ Ⓓ $x + \frac{5}{6}x + \frac{2}{3}x = 250$

74. Value of the first prize is

Ⓐ ₹50 Ⓑ ₹60 Ⓒ ₹80 Ⓓ ₹100

75. Difference of the cost of 2nd prize and third prize is

Ⓐ ₹30 Ⓑ ₹20 Ⓒ ₹10 Ⓓ ₹0

76. Which of the following organisms is primarily responsible for biological nitrogen fixation?

Ⓐ *Rhizobium* Ⓑ *Pseudomonas* Ⓒ *Escherichia coli* Ⓓ *Bacillus*

77. Which of the following microorganisms is used in the production of bread and alcohol?

Ⓐ Bacteria Ⓑ Yeast Ⓒ Virus Ⓓ Algae

78. Which microorganism is primarily responsible for making curd from milk?

Ⓐ Bacteria Ⓑ Yeast Ⓒ Virus Ⓓ Algae

79. Which microorganism causes diseases like typhoid and tuberculosis in humans?

Ⓐ Bacteria Ⓑ Fungi Ⓒ Protozoa Ⓓ Viruses

80. What role do decomposers (microorganisms) play in the ecosystem?

Ⓐ They release oxygen into the atmosphere

Ⓑ They help in the process of photosynthesis

Ⓒ They break down dead organisms and organic matter

Ⓓ They fix nitrogen from the atmosphere

81. Which of the following diseases has been eradicated from most parts of the world?

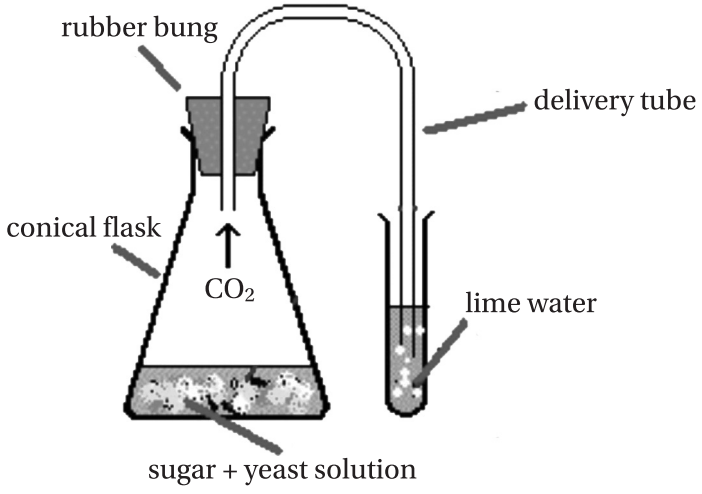
Ⓐ Tuberculosis Ⓑ Malaria Ⓒ Typhoid Ⓓ Smallpox

82. Which disease is primarily transmitted by the bite of female *Anopheles* mosquito?

Ⓐ Malaria Ⓑ Dengue fever Ⓒ Chikungunya Ⓓ Zika virus

Case study based Questions (83 – 87) :

Study the diagram given below and answer the following questions.



83. Name the process occurring in the conical flask.

Ⓐ Oxidation Ⓑ Fermentation

Ⓒ Budding Ⓓ None of these

84. What happens to the lime water in the test tube—

Ⓐ It remains unchanged Ⓑ It turns red

Ⓒ It turns milky Ⓓ It moves back into the conical flask

85. Select the correct equation of the reaction occurring in the conical flask.

Ⓐ Sugar $\xrightarrow{\text{Yeast}}$ Alcohol + Carbon dioxide Ⓑ Sugar $\xrightarrow{\text{Yeast}}$ Oxygen + Carbon dioxide

Ⓒ Sugar $\xrightarrow{\text{Yeast}}$ Carbon dioxide Ⓓ Sugar $\xrightarrow{\text{Yeast}}$ Alcohol + Oxygen

86. In which of the following industries is the above process used extensively?

Ⓐ Tanning Ⓑ Antibiotics Ⓒ Toothpaste Ⓓ Brewery

87. Yeast is a

Ⓐ Unicellular fungi Ⓑ Multicellular fungi

Ⓒ Unicellular algae Ⓓ Multicellular algae

Assertion Reason based Questions (88 – 90) :

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.

88. **Assertion:** Algae could be unicellular or multicellular.

Reason: All algae cause food poisoning.

89. **Assertion:** Viruses are acellular.

Reason: Viruses multiply within suitable host cells.

90. **Assertion:** Microorganisms are found in all habitats and even in extreme conditions.

Reason: Microorganisms can form spores to overcome harsh habitats.

91. What is the term used for placing seeds in the soil for germination?

Ⓐ Cultivation Ⓑ Sowing Ⓒ Harvesting Ⓓ Irrigation

92. Which irrigation method delivers water directly to the plant roots in a controlled manner?

Ⓐ Flood irrigation Ⓑ Sprinkler irrigation
Ⓒ Drip irrigation Ⓓ Subsurface irrigation

93. Short duration summer crops are called —

Ⓐ Food crop Ⓑ Fodder crop Ⓒ Zaid crop Ⓓ Kharif crop

94. Which is an ideal food?

Ⓐ Meat Ⓑ Vegetables Ⓒ Milk Ⓓ Fish

95. The term 'poultry' is related with

Ⓐ Birds Ⓑ Fishes
Ⓒ Honey bees Ⓓ None of these

Assertion Reason based Questions (96 – 97) :

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.

96. **Assertion:** All fungi are not multicellular.

Reason: Yeast is a multicellular fungi.

97. **Assertion:** Bacteria is the simplest organism known.

Reason: Bacterial cells have a cell wall around them.

98. *Pseudomonas* is used in which step of the Nitrogen Cycle—

Ⓐ Nitrogen fixation Ⓑ Denitrification Ⓒ Ammonification Ⓓ All

99. The disease diseases that can be prevented by vaccination are

Ⓐ Measles Ⓑ Mumps Ⓒ Rubella Ⓓ All

100. Name the sugar present in milk.

Ⓐ Glucose Ⓑ Fructose Ⓒ Lactose Ⓓ Sucrose

Space For Rough Works

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