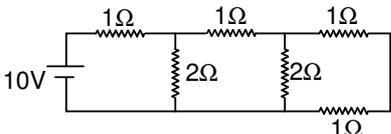


**SECTION – 1 (PHYSICS)**

1. A electric generator is used  
(A) Mechanical energy is converted into electrical energy.  
(B) Electrical energy is converted into mechanical energy.  
(C) Chemical energy is converted into heat energy.  
(D) Chemical energy is converted into mechanical energy.
2. A particle of mass 1kg is thrown upward with velocity 10 m/s. Find magnitude of change in momentum of the particle by the time it comes back.  
(A) 20kgm/s                      (B) 10kgm/s                      (C) 0                      (D) None of these
3. Two stones of mass 2 kg and 3 kg stone are dropped, from height h. Ignoring air resistance, which one will hit the ground first?  
(A) 2 kg    (B) 3 kg  
(C) both will hit the ground on same time                      (D) none of these
4. Find work done by the boy on the luggage, if he carried the luggage of 4 kg on his head and climbed 10m upwards at a constant speed of 5m/s.  
(A) 40 J                      (B) 400 J                      (C) 0 J                      (D) none of these
5. In above question instead of moving in upward direction, if he had moved 10 m along horizontal direction then find the work done by the boy.  
(A) 40 J                      (B) 400 J                      (C) 0 J                      (D) none of these
6. The muscles of the iris control the  
(A) focal length of the eye-lens                      (B) opening of the pupil  
(C) shape of the crystalline lens                      (D) optic nerve
7. Ampere is the same as  
(A) volt / second                      (B) watt / second                      (C) joule / second                      (D) coulomb / second
8. When white light passes through a prism, it splits into its component colours. This phenomenon is called  
(A) spectrum                      (B) reflection                      (C) refraction                      (D) dispersion
9. The angle of incidence is the angle between  
(A) The incident ray and the surface of the mirror.  
(B) The reflected ray and the surface of the mirror.  
(C) The normal to the surface and the incident ray.  
(D) The normal to the surface and the reflected ray.
10. When a sound wave travels in air, the physical quantity which is transferred from one place to the other is  
(A) Mass                      (B) Force                      (C) Velocity                      (D) Energy
11. The unit of resistivity is -  
(A) ohm                      (B) ohm/m                      (C) ohm×m                      (D) mho
12. Which of the following terms does not represent electrical power in a circuit?  
(A)  $I^2R$                       (B)  $IR^2$                       (C)  $VI$                       (D)  $V^2/R$

**SPACE FOR ROUGH WORK**

13. If the temperature of a conductor is increased, its resistance will -  
 (A) not increase (B) increase  
 (C) decrease (D) change according to the whether
14. Specific resistance of a wire depends on the -  
 (A) length of the wire (B) area of cross-section of the wire  
 (C) resistance of the wire (D) nature of material of the wire
15. Global warming is caused by an increase in the level of which gas in the atmosphere?  
 (A) ozone (B) sulfur dioxide (C) carbon dioxide (D) nitrous oxide
16. Two forces  $F_1 = 20\text{ N}$  and  $F_2 = 30\text{ N}$  are acting on an object in opposite direction. Net force acting on the object is  
 (A) 50 N (B) 10 N (C) 40 N (D) 25 N
17. A father has mass 60 kg and the mass of his son is 30kg. The ratio of inertia of father to that of his child is  
 (A) 1 : 1 (B) 1 : 2 (C) 2 : 1 (D) 1 : 3
18. Power = force  $\times$  \_\_\_\_\_  
 (A) Velocity (B) Distance (C) Acceleration (D) Time
19. 1 Joule = 1 \_\_\_\_\_.  
 (A)  $\text{N/m}^2$  (B)  $\text{kg-m/s}^2$  (C) N-m (D)  $\text{N}^2\text{-m}^2$
20. Power is a measure of the  
 (A) Rate of change of momentum (B) Force which produces motion  
 (C) Change of energy (D) Rate of change of energy
21. Newton's second law of motion gives us a measure of  
 (A) Force (B) Velocity (C) Mass (D) Power
22. A girl walks towards a plane mirror at a speed of 2 m/s. What is the speed of the image?  
 (A) 2 m/s in the opposite direction (B) 4m/s in the opposite direction  
 (C) 2 m/s in the same direction (D) none of the above
23. The distance between trough and trough is known as -  
 (A) Amplitude (B) Wavelength (C) Frequency (D) Phase
24. What is the current supplied by the battery to the given network of resistors connected to the battery of EMF 10 Volts ?  
  
 (A) 10 A (B) 5 A (C) 2 A (D) 4 A
25. An aeroplane flying at height of 20,000 m at a speed of  $300\text{km h}^{-1}$  has  
 (A) only potential energy (B) only kinetic energy  
 (C) both, potential and kinetic energy (D) none of the above

SPACE FOR ROUGH WORK

**SECTION – 2 (CHEMISTRY)**

26. Which of the following is alloy of lead?  
(A) Brass (B) Solder (C) Bronze (D) Stainless steel
27. Which of the following is most acidic?  
(A) Blood (B) Milk of magnesia (C) Lemon juice (D) Gastric juice
28. The products obtained in the chlor-alkali process is/are  
(A) NaOH (B) Cl<sub>2</sub> (C) H<sub>2</sub> (D) All of the above
29. Which of the following is basic?  
(A) Bee-Sting (B) Nettle-sting (C) Toothpaste (D) Coffee
30. Which one of the following is used in soda acid fire extinguisher?  
(A) NaHCO<sub>3</sub> (B) NaCl (C) NaOH (D) Na<sub>2</sub>SO<sub>4</sub>
31. The formula of slaked lime and quick lime respectively are  
(A) CaCO<sub>3</sub>, Ca(OH)<sub>2</sub> (B) Ca(OH)<sub>2</sub>, CaCO<sub>3</sub> (C) Ca(OH)<sub>2</sub>, CaO (D) CaO, Ca(OH)<sub>2</sub>
32. Groups 3 to 12 in the modern periodic table designated as  
(A) s- block elements (B) p- block elements (C) d- block elements (D) f- block elements
33. Which of the following metal is used in storage battery?  
(A) Iron (B) Lead (C) Tin (D) Zinc
34. Which of the following statement are CORRECT?  
I. The natural source of oxalic acid is tomato.  
II. Plaster of Paris possess two molecules of water of crystallization  
III. Bleaching powder is used in textile and wood industry  
(A) I, II and III (B) I and II only (C) I and III only (D) II and III only
35. Which of the following is a sulphide ore?  
(A) Haematite (B) Bauxite (C) Cinnabar (D) Magnetite
36. The hydride of carbon is CH<sub>4</sub>. Which one of the following element form similar hydride?  
(A) Si (B) Al (C) Li (D) Mg

---

**SPACE FOR ROUGH WORK**

37. The functional group present in vinegar is
- (A)  $-\text{CHO}$                       (B)  $-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$                       (C)  $-\text{COOH}$                       (D)  $-\text{OH}$
38. The number of C–H bonds in cyclohexane is
- (A) 4                      (B) 6                      (C) 8                      (D) 12
39. In Saponification, the products obtained are
- (A) esters and carboxylic acid                      (B) alcohol and carboxylic acid  
(C) aldehyde and carboxylic acid                      (D) only carboxylic acid
40. When copper oxide (CuO) dissolves in HCl to give blue-green solution. The blue-green solution is
- (A)  $\text{Cu}(\text{OH})_2$                       (B)  $\text{CuCl}_2$                       (C)  $\text{Cu}_2\text{Cl}_2$                       (D)  $\text{CuCO}_3$
41. Which of the following element will not displace Cu from its salt solution?
- (A) Ag                      (B) Al                      (C) Zn                      (D) Cu
42. Which of the following pair of elements combined to give ionic compound?
- (A) P and Cl                      (B) S and F                      (C) N and O                      (D) Ca and O
43. Which of the following element was obtained by heating its oxide?
- (A) Cu                      (B) Hg                      (C) Zn                      (D) Mn
44. Which of the following is an alloy of mercury ?
- (A) Brass                      (B) Bronze                      (C) Solder                      (D) Amalgam
45. Which of the following element do not corrode easily?
- (A) Ag                      (B) Cu                      (C) Au                      (D) Fe
46. Which of the following metal forms amphoteric oxide?
- (A) Ag                      (B) Zn                      (C) Hg                      (D) Fe
47. The maximum number of electron transfer occur in the formation of
- (A) LiF                      (B) NaCl                      (C) CaO                      (D) KCl
48. Which of the following ore is heated in the absence of air to give its oxide?
- (A)  $\text{Cu}_2\text{S}$                       (B) HgO                      (C)  $\text{ZnCO}_3$                       (D) ZnS
49. Copper reacts with moist air and gets corroded easily by forming a green coating of
- (A) Copper sulphate                      (B) Copper chloride                      (C) Copper oxide                      (D) Copper carbonate
50. Which of the following alloy does not contain copper?
- (A) 22 carat gold                      (B) bronze                      (C) brass                      (D) solder

---

**SPACE FOR ROUGH WORK**

## SECTION – 3 (BIOLOGY)

51. Which among the following show vascular bundles?  
 (A) Gymnosperms (B) Angiosperms (C) Pteridophytes (D) All the above
52. Which DNA molecule among the following will melt at lowest temperature?  
 (A) 5'-A-A-T-G-C-T-G-C-3'  
 3'-T-T-A-C-G-A-C-G-5'  
 (B) 5'-A-A-T-A-A-A-G-C-T-3'  
 3'-T-T-A-T-T-T-C-G-A-5'  
 (C) 5'-G-C-A-T-A-G-C-T-3'  
 3'-C-G-T-A-T-C-G-A-5'  
 (D) 5'-A-T-G-C-T-G-A-T-3'  
 3'-T-A-C-G-A-C-T-A-5'
53. The most important chlorophyll present in plants reaction center is \_\_\_\_\_  
 (A) Chlorophyll a (B) Chlorophyll c (C) Chlorophyll b (D) Both (A) and (C)
54. Chlorophyll contains \_\_\_\_\_ as one of the structural component.  
 (A) Fe (B) Mg (C) Mo (D) Mn
55. In plant mineral nutrition, elements are classified as macro or micro-elements depending upon their  
 (A) relative presence in plant ash (B) relative importance in plant growth  
 (C) relative amount required in plants (D) relative availability in soil
56. Dark reaction is traced by  
 (A) X-rays (B)  $O^{18}$  (C)  $14CO_2$  (D)  $P^{32}$
57. If all the tissues except xylem of main stem of a plant are removed in a ring  
 (A) the root dies first  
 (B) the shoot dies first  
 (C) the root and shoot will die at the same time  
 (D) neither the root nor the shoot will die
58. If a photosynthesizing plant releases oxygen containing more than the normal amount of  $^{18}O$ , it is concluded that the plant has been supplied with  
 (A)  $C_6H_{12}O_6$  containing  $^{18}O$  (B)  $H_2O$  containing  $^{18}O$   
 (C)  $CO_2$  containing  $^{18}O$  (D) oxygen in the form of ozone
59. A cell placed in a strong salt solution will shrink because  
 (A) mineral salts will break the cell wall (B) salt water will enter the cell  
 (C) water comes out by exosmosis (D) cytoplasm will decompose
60. If a dried cobalt chloride paper is clipped on the under surface of a leaf its colour changes from blue to pink because  
 (A) it reacts with the chlorophyll of the leaf  
 (B) the clipper puts a pressure on the paper  
 (C) paper is moistened by the transpiring water  
 (D) it comes in contact with green leaf
61. The CORRECT match for the organisms given in column I with the process given in column II are
- | Column I        | Column II                  |
|-----------------|----------------------------|
| (a) Leech       | (i) Holozoic Nutrition     |
| (b) Amoeba      | (ii) Autotrophic nutrition |
| (c) Mushroom    | (iii) Parasitic nutrition  |
| (d) Green plant | (iv) Saprophytic nutrition |
- (A) a-iv, b-ii, c- iii, d-i (B) a-i, b-iii, c- iv, d-ii  
 (C) a-iii, b-i, c- iv, d- ii (D) a-iv, b-ii, c- i, d-iii

62. Agents which cause pollution are known as:  
(A) Mutants (B) Carcinogens (C) Pollutants (D) Allergens
63. Which of the following element/s is/are present in all proteins?  
1. Carbon 2. Hydrogen 3. Oxygen 4. Nitrogen  
(A) 2 & 3 (B) 1, 2, & 4 (C) 1, 3, & 4 (D) 1, 2, 3 & 4
64. Natural aging of lake by nutrient enrichment of its water is:  
(A) Bio-fortification (B) Bio-magnification  
(C) Bio-geochemical cycle (D) Eutrophication
65. Antarctic region has a large area of thinned ozone layer, commonly known as:  
(A) Dobson unit (B) Ozone hole (C) Black hole (D) All of the above
66. Which of these statements about DNA and RNA are CORRECT?  
I. In all plants and animals, DNA is always the genetic material while RNA is non-genetic.  
II. The sugar present in RNA has one oxygen atom less than the sugar present in DNA.  
III. DNA is a hetero-polymer of nucleotides while RNA is a homo-polymer of nucleotides.  
IV. In plants and animals, RNA is single stranded and DNA is double stranded.  
(A) I and II (B) III and IV (C) I and IV (D) II and III
67. Which of the following are both polysaccharides ?  
(A) Cellulose and glycogen (B) Starch and glucose  
(C) Cellulose and Fructose (D) Ribose and sucrose
68. Which of the following is a modified stem?  
(A) Sweet potato (B) Carrot (C) Ginger (D) Radish
69. How many molecules of pyruvic acid are formed from one glucose molecule, by glycolysis ?  
(A) 1 (B) 2 (C) 3 (D) 4
70. Select the growth inhibiting hormone.  
(A) auxin (B) cytokinin (C) GA (D) ABA
71. The mode of nutrition in fungi is called  
(A) Autotrophic (B) Holozoic (C) Photoautotrophic (D) Saprophytic
72. During photosynthesis, oxygen comes from:  
(A) Water (B) Carbon dioxide (C) Light (D) Glucose
73. Which of the following is a naturally occurring cytokinin in plants?  
(A) Zeatin (B) Kinin (C) Kinetin (D) Ribotin
74. Which among the following are CORRECTLY matched purine pairs?  
(A) Adenine-Cytosine (B) Cytosine-Uracil  
(C) Guanine-Thymine (D) Guanine-Adenine
75. Apical dominance is due to  
(A) ABA (B) Auxin (C) Ethylene (D) Gibberellins
76. How many times human heart beat per minute?  
(A) 144 (B) 36 (C) 72 (D) 18

77. Which of the following is not an excretory structure in humans?  
(A) Stomach (B) Kidney (C) Lung (D) Liver
78. Substances which are reabsorbed selectively as the urine flows are  
(A) Glucose, aminoacids, salts and water  
(B) Glucose, proteins, bile salts and water  
(C) Glucose, creatinine, carbohydrates and water  
(D) Glucose, proteins, vitamins and water
79. Main structure/s which help in inspiration are  
(A) Ribs (B) Diaphragm (C) Ribs and diaphragm (D) None of the above
80. Which statement is NOT true about thyroxin?  
(A) Iron is essential for the synthesis of thyroxin  
(B) It regulates carbohydrates, protein and fat metabolism in the body  
(C) Thyroid gland requires iodine to synthesise thyroxin  
(D) Thyroxin is also called thyroid hormone
81. When we breathe in  
(A) We lift our ribs and flatten our diaphragm  
(B) Chest cavity become larger due to dome shaped diaphragm.  
(C) We relax our ribs and diaphragm both  
(D) We relax our diaphragm to enlarge chest cavity
82. Which is INCORRECT statement among these?  
(A) When the body size of animals is large, the diffusion pressure alone cannot take care of oxygen delivery.  
(B) In human beings, the respiratory pigment is hemoglobin which has a very high affinity for oxygen.  
(C) Pigment is present in white blood corpuscles, red blood corpuscles and platelets of blood.  
(D) Carbon dioxide is more soluble in water than oxygen is and hence is mostly transported in the dissolved form in our blood.
83. Difference between systolic blood pressure and diastolic pressure is  
(A) 120 mm of Hg (B) 40mm of Hg (C) 80 mm of Hg (D) 100 mm of Hg
84. The ultrafiltration takes place by  
(A) Malpighian corpuscle (B) Renal tubule  
(C) Loop of Henle (D) Collecting duct
85. Few chemicals cross the gap between two neurons and start a similar electric impulse in a dendrite of the second neuron. These chemical are released from which part of the first neuron?  
(A) Cyton (B) Axon endings (C) Dendrite endings (D) Blood capillaries
86. The blood pressure is commonly measured through  
(A) Arch of aorta (B) Carotid artery (C) Radial artery (D) Brachial artery
87. Which structure of our body contains receptors for balance?  
(A) Spinal cord (B) Eye (C) Bones (D) Ear
88. Which of the following is considered as pacemaker of heart?  
(A) AV node (B) Bundle of his (C) Purkinje fibres (D) SA node

89. Antigens present in blood group A individuals are/is  
(A) A, AB (B) A and B (C) A (D) B
90. During respiration, yeast converts glucose to  
(A) Methanol and Water (B) Ethanol and Oxygen  
(C) Ethanol and CO<sub>2</sub> (D) Lactic acid and CO<sub>2</sub>
91. Spinal cord encloses a cavity which contains  
(A) cerebrospinal fluid (B) pleural fluid  
(C) pericardial fluid (D) none of the above
92. Motor speech center present in which part of the brain  
(A) Cerebellum (B) Cerebrum  
(C) Medulla oblongata (D) Hypothalamus
93. A person with type AB blood can receive blood from person having blood type  
(A) A (B) B (C) AB (D) All
94. In sensory neurons, stimuli are received by the  
(A) axons (B) dendrites (C) cell body (D) myelin
95. Which neuron is present in spinal cord to take impulse and to release the response accordingly?  
(A) Motor neuron (B) Secondary neuron (C) Relay neuron (D) Cranial nerve
96. The communication between the central nervous system and the other parts of the body is facilitated by the  
(A) Only cranial nerve (B) Only spinal nerve  
(C) Peripheral nervous system (D) Spinal cord
97. The function of salivary amylase is  
(A) Break down of maltose into sugar (B) Break down of starch into sugar  
(C) Break down of sugar into maltose (D) Break down of carbohydrate into starch
98. Humans excrete nitrogenous waste mainly in the form of  
(A) Ammonia (B) Urea (C) Uric acid (D) guanine
99. Enzyme required for the breakdown of albumin is \_\_\_\_\_.  
(A) Nuclease (B) Pepsin (C) Amylase (D) Lipase
100. Compared to blood, our lymph has  
(A) Plasma without proteins (B) More WBCs and no RBC  
(C) More RBCs and no WBC (D) No plasma

**ACE OF PACE MEDICAL  
ANSWER KEY**

PHYSICS	CHEMISTRY	BOTANY	ZOOLOGY
1. (A)	26. (B)	51. (D)	76. (C)
2. (A)	27. (D)	52. (B)	77. (A)
3. (C)	28. (D)	53. (A)	78. (A)
4. (B)	29. (C)	54. (B)	79. (C)
5. (C)	30. (A)	55. (C)	80. (A)
6. (B)	31. (C)	56. (C)	81. (A)
7. (D)	32. (C)	57. (A)	82. (C)
8. (D)	33. (B)	58. (B)	83. (B)
9. (C)	34. (C)	59. (C)	84. (A)
10. (D)	35. (C)	60. (C)	85. (B)
11. (C)	36. (A)	61. (C)	86. (D)
12. (B)	37. (C)	62. (C)	87. (D)
13. (B)	38. (D)	63. (D)	88. (D)
14. (D)	39. (B)	64. (D)	89. (C)
15. (C)	40. (B)	65. (B)	90. (C)
16. (B)	41. (A)	66. (C)	91. (A)
17. (C)	42. (D)	67. (A)	92. (B)
18. (A)	43. (B)	68. (C)	93. (D)
19. (C)	44. (D)	69. (B)	94. (B)
20. (D)	45. (C)	70. (D)	95. (C)
21. (A)	46. (B)	71. (D)	96. (D)
22. (A)	47. (C)	72. (A)	97. (B)
23. (B)	48. (C)	73. (A)	98. (B)
24. (B)	49. (D)	74. (D)	99. (B)
25. (C)	50. (D)	75. (B)	100. (B)