DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : BIOLOGY**
Date : **DPP No. : 4**

Topic :- Respiration in Plants

1. A businessman of 80 kg weight requires 4800 kcal energy daily. How many ATP molecules and glucose molecules does he require to produce this much energy?
   a) 20 molecules of glucose and 384 molecules of ATP
   b) 40 molecules of glucose and 264 molecules of ATP
   c) 18 molecules of glucose and 657 molecules of ATP
   d) 20 molecules of glucose and 460 molecules of ATP

2. Which one of the following pairs is wrongly matched?
   a) Methanogens – Gobar gas
   b) Yeast – Ethanol
   c) Streptomycetes – Antibiotic
   d) Coliforms – Vinegar

3. In hurdle race, which of the following is accumulated in the leg muscle?
   a) Performed ATP
   b) Glycolysis
   c) Lactate
   d) Oxidative metabolism

4. During the exercise, pyruvic acid is reduced to
   a) Lactic acid
   b) Fumaric acid
   c) Glutamic acid
   d) Oxaloacetic acid

5. The compounds which are oxidised during respiration are known as
   a) Respiratory substrates
   b) Oxalo acid
   c) TCA cycle
   d) None of these

6. Refer the given equation
   $2(C_{51}H_{98}O_6) + 145\ O_2 \rightarrow 102\ CO_2 + 98\ H_2O +$ Energy
   The respiratory quotient in this case is
   a) 1
   b) 0.7
   c) 1.45
   d) 1.62

7. Energy required for life processes is obtained by
   a) Oxidation
   b) Reduction
   c) Deduction
   d) Antilation

8. Choose the correct statement for the given options
   a) Intermediates in the pathway are utilised to synthesise other compounds
   b) No alternative substrates other than glucose is allowed to enter the pathway at intermediate stages
   c) None of the substrate is respired in the pathway at intermediary stages
   d) Pathway functioning is insequential

9. In plants, glucose is derived from which of the following?
   a) Protein b) Fat c) Oxalic acid d) Sucrose

10. The chemiosmotic coupling hypothesis of oxidative phosphorylation proposes that adenosine triphosphate (ATP) is formed because
   a) High energy bonds are formed in mitochondrial proteins
   b) ADP is pumped out of the matrix into the intermembrane space
   c) A proton gradient forms across the inner membrane
   d) There is a change in the permeability of the inner mitochondrial membrane towards adenosine diphosphate (ADP)

11. The process by which there is inhibition of aerobic respiration by atmospheric oxygen is
   a) Pasteur's effect b) Calvin's effect c) Darwin's effect d) None of these

12. More carbon dioxide is evolved than the volume of oxygen consumed when the respiratory substrate is
   a) Fat b) Sucrose c) Glucose d) Organic acid

13. Anaerobic respiration is also called as
   a) β-oxidation b) Fermentation c) Oxidation d) None of these

14. The main purpose of cellular respiration is to
   a) Convert potential energy to kinetic energy
   b) Convert kinetic energy to potential energy
   c) Create energy in the cell
   d) Convert energy stored in the chemical bonds of glucose to an energy that the cell can use

15. Which of the following substances yield less than 4 kcal/mol when its phosphate bond is hydrolysed?
   a) Creatine phosphate b) ADP c) Glucose-6-phosphate d) ATP

16. Five gram mole of glucose on complete oxidation releases
   a) 3430 kcal of energy b) 343 kcal of energy c) 2020 kcal of energy d) 430 kcal of energy

17. NADP, NAD and FAD are acceptors of
   a) Phosphate b) Electrons c) Oxygen d) Hydrogen

18. How many PGAL are produced by glycolysis of 3 molecules of glucose? How many ATP are released by respiration of these PGAL till formation of CO_2 and H_2O?
   a) 4 PGAL- 80 ATP b) 6 PGAL-160ATP c) 4 PGAL-40ATP d) 6 PGAL-120ATP

19. Identify the specific group, which carries out the following biochemical reaction:
   Aspartic acid+α-ketoglutaric acid $\rightarrow$Oxaloacetic acid+Glutamic acid
   a) Synthetases b) Peptidases c) Transaminases d) Lyases

20. Which of following is connecting link between glycolysis and Krebs' cycle?
    a) Pyruvic acid
    b) Isocitric acid
    c) Acetyl Co-A
    d) Phosphoglyceric acid