

## PAPER - 402

### Long Question :

- 1) Describe the mechanism of photophosphorylation and light driven electron flow in photosynthesis.
- 2) Write a note on HSK pathway and its regulation.
- 3) What is oxidative phosphorylation? Describe the mitochondrial electron transport with relation to oxidative phosphorylation.
- 4) Describe briefly the TCA cycle and its regulation.
- 5) Briefly explain the mechanism of oxidation of saturated fatty acids.
- 6) Write a note on biosynthesis of fatty acids and add a note on role of lipid as signalling compound.
- 7) Describe the mechanism of transcription in prokaryotes.
- 8) Describe the mechanism of transcription in eukaryotes.
- 9) Describe the mechanism of translation in prokaryotes.
- 10) Describe the mechanism of translation in eukaryotes.
- 11) Briefly explain the mechanism of biosynthesis of starch and sucrose.
- 12) Explain the mechanism of the hydrolysis of starch and sugar.
- 13) Describe the mechanism Glycolysis and its regulations.
- 14) What is CAM pathway? How it operates in plant system.
- 15) Briefly describe the synthesis of cell wall polysaccharides.
- 16) What is dark reaction in photosynthesis? Give the detail mechanism of C<sub>3</sub> cycle operated in plants?
- 17) Briefly explain the mechanism of oxidation of unsaturated fatty acids.
- 18) What are chaperons? Describe the role in protein binding.
- 19) Briefly describe the inhibitors of protein synthesis
- 20) Briefly describe the regulation of protein synthesis.

**Short Question :**

**( 2 Mark / 3 Mark)**

1. ATPase structure.
2. Inhibitors of protein synthesis
3. Plastoquinone cycle.
4. Alpha oxidation
5. Hydrolysis of starch.
6. Membrane phospholipids
7. Biosynthesis of steroid hormones.
8. Structure of photosystem

**Fill in the Blanks :**

- 1) The optimum temperature for photosynthesis is -----.
- 2) Electrons from the excited chlorophyll molecules of PS - II are first accepted by -----.
- 3) The first acceptor of carbon dioxide in C4 plants is -----.
- 4) \_\_\_\_\_ elongation factor in protein synthesis known as translocase.
- 5) \_\_\_\_\_ drug inhibits initiation step of translation.
- 6) \_\_\_\_\_ step is a regulatory step of cholesterol biosynthesis.
- 7) Bile acid is derived from \_\_\_\_\_.
- 8) \_\_\_\_\_ lipid is mostly present in mitochondrial membrane.
- 9) \_\_\_\_\_ enzyme catalyse the first step of glycolysis
- 10) cleavage of fructose 1,6 biphosphate yields \_\_\_\_\_
- 11) which substrate is used in the last step of glycolysis \_\_\_\_\_
- 12) high concentration of glucose 6 phosphate is inhibitory to \_\_\_\_\_

13) the product form in the first substrate level phosphorylation in glycolysis is \_\_\_\_\_

14) hydrolysis of sucrose yields \_\_\_\_\_

15) thiamine pyrophosphate is derived from which vitamin \_\_\_\_\_

16) the enzymes of glycolysis in a eukaryotic cell are located in \_\_\_\_\_

17) which hormone inhibits glycolysis \_\_\_\_\_

18) \_\_\_\_\_ process share the same pathway as glycolysis but opposite in direction

19) hexokinase is \_\_\_\_\_ dependent enzyme

20) in TCA cycle the reaction for the conversion of pyruvate to acetyl CoA is known as \_\_\_\_\_

21) the product of kreb cycle which is essential for oxidative phosphorylation is \_\_\_\_\_

22) acetyl CoA is formed from the pyruvate by \_\_\_\_\_ reaction

23) ATP synthesis is powered by \_\_\_\_\_

24) which of the intermediate of kreb cycle is utilised in the formation of amino acids \_\_\_\_\_

25) \_\_\_\_\_ vitamins are necessary for TCA cycles

26) \_\_\_\_\_ hormone inhibits the TCA cycle and \_\_\_\_\_ hormone stimulates the TCA cycle.

27) RQ in carbohydrate = \_\_\_\_\_