

B.Sc. 4th Semester (Honours) Examination, 2019 (CBCS)

Subject : Physiology

Paper : CC-8

Time: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* questions: 2×5=10
- (a) Define BMR.
- (b) What is the normal level of cholesterol in blood?
- (c) How many ATPs are formed by one turn of β -oxidation of fatty acid and where does β -oxidation take place? 1+1=2
- (d) How is ammonia removed from liver and brain?
- (e) Name two essential fatty acids.
- (f) What is SDA?
- (g) State the importance of NPU.
- (h) How is niacin formed from tryptophan?
2. Answer *any two* questions: 5×2=10
- (a) What is the metabolic importance of glucose? How is pyruvic acid formed from glucose by the glycolytic pathway? 2+3=5
- (b) How is cholesterol synthesized in our body?
- (c) What is glycogenesis? Describe the steps involved in the process of glycogenolysis. 2+3=5
- (d) What is anaplerotic reaction? Why TCA cycle is amphibolic in nature? 2+3=5
3. Answer *any two* questions: 10×2=20
- (a) (i) State the role of carnitine in fatty acid metabolism.
- (ii) How are ketone bodies formed?
- (iii) How are ketone bodies utilized in the extra hepatic tissues? 4+3+3=10
- (b) (i) Mention the steps of urea biosynthesis in the liver.
- (ii) What are glucogenic amino acids? Cite two examples. 7+(2+1)=10
- (c) Outline the detailed biochemical pathway of β -oxidation of palmitic acid. How ω -oxidation differs from β -oxidation? 7+3=10
- (d) (i) "Gluconeogenesis is not the exact reverse of glycolysis." Explain with reasons.

SH-IV/Physiology/CC-8/19

(2)

(ii) How does the pentose phosphate pathway help to maintain the integrity of the RBC cell membrane? 6+4=10
