Reg. No. | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATION, MAY 2017
SECOND SEMESTER

BT16201 – BIOCHEMISTRY

(Biotechnology)

(Regulation 2016)

Q. Code: 753893

Time: Three hours **Maximum : 100 marks**

Answer **ALL** questions

PART A - (10 X 2 = 20 marks)

1. Draw the structure of mitochondrial ATP synthase with its subunits.
2. Define redox potential. Give any two examples.
3. List the significance of pentose phosphate pathway.
4. Write short note on phosphatidylinositol and mention its function.
5. What is oxidative deamination? Give any one example.
6. Give a short note on Genetic Code.
7. Define coenzyme with example.
8. List the clinically important enzymes.
9. What is phenylketonuria? How the disorder created in the system?
10. What is called fatty liver?

PART B - (5 X16 = 80 marks)

11. (a) (i) Elaborate briefly on ETC with neat diagram. **(8)**

(ii) What is meant by coupling reaction? Write any one example with detailed explanation. **(8)**

(OR)

(b) (i) Discuss in detail about oxidative phosphorylation with neat sketch. **(10)**

(ii) Explain the Chemiosmotic hypothesis. **(6)**

12. (a) (i) Describe the properties of starch and glycogen with their structure. **(8)**

(ii) Justify the amphibolic nature of Kreb's cycle. **(8)**

(OR)

(b) (i) Report the β-oxidation of fatty acid for stearic acid and calculate the ATP yield. **(8)**

(ii) Describe the condensation reaction of cholesterol synthesis with equations. **(8)**

13. (a) (i) Explicate the fate of ammonia in metabolic cycle. **(8)**

(ii) Explain the classification and properties of proteins. **(8)**

(OR)

(b) (i) Describe the Watson and Crick model of double helical structure of DNA. **(8)**

(ii) Explain in detail about nucleic acids and their functions. **(8)**

14. (a) (i) How will you classify enzymes based on IUPAC and give suitable examples. **(8)**

(ii) Discuss in detail about mechanism of action of enzyme. **(8)**

(OR)

(b) (i) Describe the factors affecting enzyme activity with example. **(8)**

(ii) Give a brief note on Insulin and its mode of action with neat diagrammatic representation. **(8)**

15. (a) (i) Explain the types of diabetes mellitus with its symptoms. **(10)**

(ii) Write a short note on atherosclerosis with it symptoms and diagnosis. **(6)**

(OR)

(b) (i) Explain briefly about Gout disease with special mention on symptoms, diagnosis and treatment. **(10)**

(ii) Discuss in detail about any one liver function test. **(6)**