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Total Number of Pages :2

B.TECH. DEGREE EXAMINATION-Nov-Dec.2018

End Semester Examination-III Semester

**BBTPC3020-BIOCHEMISTRY**

**(Regulations 2017)(Biotechnology Branch)**

Time : 3 Hours

Maximum : 100 Marks

Question Code:121412

Answer ALL Questions

**PART-A (10 X 2=20 Marks)**

1. (a) Which one of the following is a simplest Carbohydrate? [CO1][PO1]  
a) Glucose b) Ribose c) Ribulose d) Glyceraldehydes
- (b) Number of milligrams of KOH required to neutralize fatty acid present in 1 gram of fat is called [CO2][PO1]  
a) Potassium number b) Acid number c) Saponification number d) Iodine number
- (c) Disulphide bonds are formed between [CO1][PO1]  
a) Cysteine residues that are close together b) Lysine residues that are close together  
c) Proline residues that are close together d) Histidine residues that are close together
- (d) What is the difference between DNA and RNA? [CO2][PO1]  
a) DNA is double standard , RNA is single standard. b) RNA contains Uracil ,DNA has Thymidine.c) DNA contains Deoxyribose while RNA contains Ryboosesugar.  
d) DNA is only present in Eukaryotic while RNA is present in both Eukaryotic and Prokaryotic.
- (e) Vitamin A is also known as [CO2][PO1]  
a) thiamine b) riboflamin c) retinol d) pyridoxin
- (f) Which vitamin is quite essential for the development of RBCs? [CO2][PO1]  
a) vitamin A b) vitamin B12 c) vitamin C d) vitamin K
- (g) Which type of enzyme is responsible for initiating the process of glycolysis ? [CO3][PO1]  
a) phosphatase b) hydrolase c) phosphorylase d) kinase
- (h) Oxidation of molecules involves [CO3][PO1]  
a) Gain of electron b) lose of electron c) gain of proton d) lose of proton
- (i) Enzymes are mostly [CO4][PO1]  
a) carbohydrates b) RNA c) proteins d) fats
- (j) Ribozymes are [CO4][PO1]  
a) enzyme which use ribose as substrate b) enzyme working on DNA c) RNAs with enzymes activity d) enzyme RNA complex

**PART-B (10 X 2=20 Marks)**

2. (a) Distinguish between simple and conjugate proteins along with suitable examples. [CO1][PO1]
- (b) Discuss shortly about Glycogem Metabolism. [CO1][PO1]
- (c) What is biological reduction reaction? [CO2][PO1]
- (d) Distinguish between nucleoside and neucleotide? [CO2][PO1]
- (e) What are nuclic acids ? What is the historical origin of their name? [CO2][PO1]
- (f) What is aerobic and anaerobic respiration ? [CO3][PO1]
- (g) Write the chemical equation of Photosynthesis? [CO3][PO1]
- (h) What is Hill reaction? [CO3][PO1]
- (i) What are inhibitory enzymes ?write its example and application. [CO4][PO1]
- (j) Derive the michaelis-mentens equation ? [CO4][PO1]



PART-C (4 X 15=60 Marks)

3. (a) (i) Describe the structure and functions of Proteins with examples. [8][CO1][PO1]  
(ii) Write notes on phosphoglycerides. [7][CO1][PO2]
- (or)
- (b) (i) Describe briefly the classification of Amino Acids and write down it's applications. [8][CO1][PO1]  
(ii) Write short note on Polysaccharides. [7][CO1][PO2]
4. (a) (i) Describe the structure and function of Nuclic Acid? [8][CO2][PO1]  
(ii) Write a short note on Harmones and it's application? [7][CO2][PO1]
- (or)
- (b) (i) Derive the denaturation and renaturation kinetics of DNA? [8][CO2][PO1]  
(ii) Short note on vitamin and it's function? [7][CO2][PO1]
5. (a) (i) What is ETC ?explain the mechanism of ETC at mitochondrial matrix ? [8][CO3][PO1]  
(ii) He Write a note on How electron transfer in the ETC ? [7][CO3][PO1]
- (or)
- (b) (i) Describe the mechanism of TCA cycle ? [8][CO3][PO1]  
(ii) Note on regulation of TCA cycle [7][CO3][PO1]
6. (a) (i) Describe the process of enzyme inhibition. [8][CO4][PO1]  
(ii) Write a note on coenzymes . [7][CO4][PO1]
- (or)
- (b) (i) Explain different theories proposed for mechanism of enzyme substrate complex formation ? [8][CO4][PO1]  
(ii) Explain factors affecting enzyme activity ? [7][CO4][PO1]