

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018  
(Second Semester)

Branch -BIOTECHNOLOGY

METABOLIC REGULATION

Time: Three Hours

Maximum: 75 Marks

Answer ALL questions

ALL questions carry EQUAL marks

(2 + 5+ 8)

- 1 a Significance of protein kinase.  
b Explain Enzymes and their catalytic activities in brief,  
c Explain the Hormonal regulations mechanism in detail.  
OR  
d Ca as a secondary messenger,  
e Explain the feedback inhibition mechanism.  
f Differentiate calmodulin dependent and AMP dependent protein kinases.
- 2 a How TCA cycle is regulated?  
b Enzymes of Gluconeogenesis.  
c Explain the biosynthesis of Glycogen.  
OR  
d Define reciprocal regulation.  
e Explain the hormonal regulation of carbohydrate metabolism,  
f Describe the TCA cycle.
- 3 a What is VLDL?  
b Explain the role of acetyl CoA carboxylase in fatty acid biosynthesis,  
c How cholesterol is regulated in our body?  
OR  
d How does the body produces ketones?  
e Explain the degradation of fatty acids,  
f Describe the p oxidation of fatty' acids.
- 4 a Name any two aromatic amino acid,  
b How is urea excreted?  
c Explain the biosynthesis of purines.  
OR  
d How amino acids are catabolised?  
e Explain salvage pathway,  
f Differentiate transamination and Deamination.
- 5 a Role of alcohol dehydrogenase.  
b Explain the metabolic adaptations during starvation,  
c Give an detailed account on Diabetes and glucose metabolism in cells.  
OR  
d What is metabolic junctions?  
e Give an account on metabolic profiles of kidneys.  
f How metabolism is regulated in various organs of our body?