



# AJEENKYA

## D Y PATIL UNIVERSITY

### End Term Examination (December 2019)

**School:** School of Engineering

**Program:** B.Tech Biotechnology

**Course:** Biochemistry

**Course Code:** BME205

**Semester:** III

**Max Marks:** 40

**Duration (mins) :** 90

#### Note

**A. Figures to the right indicate full marks.**

**B. Explain with diagrams and cite relevant examples where required.**

- Q.1 Describe in detail the steps involved in citric acid cycle and its regulation. [10]  
**OR**  
Short Notes: (a) Glycogen  
(b) The Cori cycle  
(c) Catabolic fates of pyruvate  
(d) Gibbs free energy
- Q.2 Describe the reactions of the payoff phase of glycolysis along with the regulatory steps of glycolysis and the energy yield? [10]  
**OR**  
Short Note:  
(a) Nucleoside function in extracellular signal transduction  
(b) Role of Hypoxanthine  
(c) Cyanide as ETC Inhibitor  
(d) Regulatory steps in purine biosynthesis
- Q.3 Schematically illustrate the components of electron transport chain and the mechanism of ATP synthesis. [10]  
**OR**  
Short Note: (a) Role of  $V_{max}$  and  $K_m$   
(b) Induced fit hypothesis  
(c) Malonate  
(d) Substrate concentration in enzymatic reaction
- Q.4 Describe in detail the pathway and the steps involved in Beta ( $\beta$ ) oxidation of palmitic acid [10]

\*\*\*