



- Q-5** **Attempt all questions** **(14)**
- a) What is specific growth rate and generation time? Derive a relationship between them. **(7)**
- b) What are the various way of transport of nutrient through the membrane in microbes? Explain their mechanism. **(7)**
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- Q-6** **Attempt all questions** **(14)**
- a) What is phosphorylation? Which are the main ATP generating pathways in microbes? Explain their mechanisms. **(7)**
- b) Write an essay on biological nitrogen fixation. **(7)**
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- Q-7** **Attempt all questions** **(14)**
- a) Discuss in detail lactate fermentation with the help of glycolysis pathways. **(7)**
- b) Describe the light reactions in an oxygenic photosynthesis. **(7)**
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- Q-8** **Attempt all questions** **(14)**
- a) What is methylotrophy? Discuss the metabolism of methylotrophs. **(7)**
- b) Discuss the pentose phosphate pathway. **(7)**

