



**AB-3136**

**B. Sc. (Microbiology) (Sem. V) Examination**

**March/April – 2015**

**MB 12 : MICROBIAL PHYSIOLOGY**

Time : 2 Hours]

[Total Marks : 50

**Instruction :**

(1)

नीचे दृष्टावेव निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. SC. MICROBIOLOGY (SEM. V)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="MB 12 : MICROBIAL PHYSIOLOGY"/>	<input type="text"/>
Subject Code No. : <input type="text" value="3"/> <input type="text" value="1"/> <input type="text" value="3"/> <input type="text" value="6"/>	<input type="text"/>
Section No. (1, 2,.....): <input type="text" value="Nil"/>	
Student's Signature	

- (2) Figures to the right indicate full marks of the question.  
(3) Draw neat and labelled diagrams whenever necessary.

- 1 Give specific answers : 12
- Name different classes of hydrogen and electron carriers.
  - Define fermentation. Why is it important for some microorganisms?
  - Discuss in brief nitrification Vs. denitrification.
  - Name two photosynthetic pigments. State functions of them.
  - Why pyruvate and acetyl Co-A are considered as important metabolites?
  - Which kinds of microorganisms are capable of utilizing protein as an energy source? Which enzyme do they secrete for it?
- 2 Explain/comment on any two of the following : 12
- Rhodopsin based photosynthesis is shown by many Archaea.
  - Glyoxylate cycle is considered as modification of TCA cycle.
  - Explain amino acid decarboxylases and transferases.

- 3** Discuss any **two** of the following : **16**
- (a) What is the importance of ATP for cells? Describe its generation by ETC.
  - (b) ED and EMP pathway.
  - (c) Define dark and light reaction. Explain photosynthetic electron transport system in purple non sulfur and green sulfur bacteria.
- 4** Write short notes on any two of the following : **10**
- (a) Substrate level phosphorylation
  - (b) Energy production by oxidation of hydrogen and sulfur
  - (c) Stickland reaction.
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