

Seat No. : \_\_\_\_\_

# ME-119

March-2019

B.Sc., Sem.-I

## CC-3-101 : Biotechnology (The Living World)

Time : 2.30 Hours]

[Max. Marks : 70

1. (A) Discuss the work of Oparin AI and Miller Stanley explaining formation of organic molecules over Earth. 14

**OR**

- (1) Give an outline of Whittaker's five kingdom concept. 7
- (2) Discuss Endosymbiotic theory for evolution of Organelles and Eukaryotes. 7
- (B) Answer any **Four** in brief : 4
- (1) Match the Idea (a) with Explanation (b)
- (a) Big-bang theory, Panspermia, Abiogenesis, Stanley Miller
- (b) Life arise from non-living things,  
Explosion of dense mass forming Solar system,  
Formation of Organics from Inorganics in reducing environment,  
Life arose elsewhere and transported to Earth.
- (2) The Earliest inhabitants of the Earth, the Prokaryotes existed before \_\_\_\_\_ years.
- (3) What is evolutionary importance of Endosymbiont ?
- (4) Why development of life seem more convincing in Sea ?
- (5) Give contribution of Louis Pasteur (1861) on theory of spontaneous generation.
- (6) What are Autotrophs ?

2. (A) Describe general characters of plants and its body organization. 14

**OR**

- (1) Explain characteristics of primitive plants the *Bryophytes*. 7
- (2) Discuss Vascular plants and list differences with regards to production of seeds. 7

- (B) Answer any **Four** in brief : 4
- (1) What is function of Stomata of plants ?
  - (2) Write two characters of *Gymosperm* plants.
  - (3) What is function of Vascular tissues ?
  - (4) Differentiate between Monocot and Dicot plants.
  - (5) Where is the location of Dermal tissues in plants ?
  - (6) How Fibrous and Tap roots of plants differs ?
3. (A) Give general outline of classification of kingdom *Animalia*. 14
- OR**
- (1) Discuss features of primitive marine animals with examples. 7
  - (2) Explain organization of tissue, organs and systems among animals. 7
- (B) Answer any **Three** in brief : 3
- (1) Explain ‘Animal are Homeotherms’.
  - (2) Write two features of successful parasitic animals.
  - (3) Name two animals from the phylum *Arthropoda*.
  - (4) Mammals belong to which phylum ?
  - (5) Name an advanced Benthic Marine animal.
4. (A) Describe Structure and Chemistry of Viruses. 14
- OR**
- (1) Explain general characters of fungi. 7
  - (2) Discuss features distinguishing between Algae and Protozoa . 7
- (B) Answer any **Three** in brief : 3
- (1) Give two economic importance of Fungi.
  - (2) Match the Micro-organisms (a) with Characteristics (b).
    - (a) Viruses, Bacteria, Algae, Fungi
    - (b) Unicellular Prokaryotes, Photosynthetic Eukaryotes, Acellular entities, Non-photosynthetic Filamentous Eukaryotes.
  - (3) What is PSTV ?
  - (4) What is name for infectious agents made up of only Protein ?
  - (5) Write genus name one each for Algae and Protozoa.
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