

**M.Sc. 3rd Semester Examination, 2018**

**BOTANY**

**Paper : BOT-303C(T)**

**Palaeobotany and Bio-instrumentation**

**Course ID : 31353**

**Time: 2 Hours**

**Full Marks: 30**

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

**Group-A  
(Palaeobotany)**

1. Write the answers to *any two* of the following: 1×2=2
  - (a) What is meant by the 'Half-Life' of a radioelement?
  - (b) What is meant by 'The Hot dilute soup'?
  - (c) Name two characteristic genera of plant megafossils of Triassic Gondwanas.
  - (d) What is 'principle of superposition'?
  
2. Write the answers to *any one* of the following: 5×1=5
  - (a) Write a notes on Radio active carbon dating method.
  - (b) Briefly describe "Sea Floor Spreading".
  
3. Write the answers to *any one* of the following: 8×1=8
  - (a) Give an account of the biota known from 'The Gunflint Chert' and 'Bitter Spring Chert' of Precambrian Strata.
  - (b) Briefly describe the chemical origin of life.

**Group-B  
(Bio-instrumentation)**

4. Answer *any two* from the following questions: 1×2=2
  - (a) What is meant by numerical aperture?
  - (b) What is gene gun?
  - (c) What is 'isoelectric focussing'?
  - (d) Write the importance of UV spectroscopy in studying biomolecules.

- 5.** Answer *any one* from the following questions: 5×1=5
- (a) Write down the theory and function of scanning electron microscopy. 2+3=5
- (b) Give a brief idea on protein purification by chromatography. 5
- 6.** Answer *any one* from the following questions: 8×1=8
- (a) Write the types of fermentation. How fermentation is important in industry? 2+6=8
- (b) Write different techniques in radiolabelling. Distinguish genomic and C-DNA library. 6+2=8
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