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Reg. No. : .....

Name : .....

Second Semester M.Sc. Degree Examination, August 2017
Branch : Environmental Sciences
ES 222 : ENVIRONMENTAL TECHNIQUES
(2013 Admission Onwards)

Time : 3 Hours Max. Marks : 75

I. Answer **any ten** of the following : **(10×2=20 Marks)**

1) What is correlation coefficient ?
2) Expand ANOVA.
3) What is AAS ? What are its applications ?
4) Differentiate strip plot and split plot design of field experiments.
5) What is the principle used in Gas Chromatography ?
6) What are the types of electrophoresis applied ?
7) Explain the principle by which TLC works.
8) What are Latin square designs ?
9) Name the methods by which DO is assessed.
10) Name a few sampling equipments used.
11) What is a grab sample ?
12) Name a few preservation methods.

II. Answer **any five** of the following : **(5×5=25 Marks)**

13) Explain the factorial design of field experiment citing an example.
14) Describe the physico-chemical methods used for water analysis.
15) Define BOD and COD. Describe the methodology used for analyzing BOD and COD of a given water sample.
16) Explain with principle the techniques used in a PCR machine.

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17) How is air sampling done ? What are the techniques and equipments used to assess air quality ?

18) What are phytoplanktons ? How do you determine the primary productivity in an aquatic ecosystem ?

19) Describe in detail the procedures and steps involved in the case of a water sample preparation.

III. Answer **any two** of the following : **(2×15=30 Ma**

20) Explain the operating procedures of GC – MS with principle, sample preparation and measurement of samples for its gaseous compounds. What are the advantages and disadvantages of GC – MS ?

21) Describe the principle, theory and instrumentation of a colorimeter with a neat diagram.

22) Narrate the merits and demerits of computer application in environmental research.

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