



RAN-1239

B.Sc. (Environmental Science) Semester - VI Examination

March / April - 2019

Instrumentation Techniques In Environmental Analysis

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Sc. (Environmental Science) Semester - VI

Name of the Subject :

Instrumentation Techniques In Environmental Analysis

Subject Code No.: **1 2 3 9**

Seat No.:

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Student's Signature

Instructions:

1. Figures to the right indicate full marks of the question.
2. Draw neat and labeled diagrams whenever necessary.

Q.1 Give Specific Answers.

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- 1 Why pH measurement is necessary?
- 2 Write the principle of conductometry.
- 3 Write the types of ion selective electrodes.
- 4 Write the function of chopper used in AAS.
- 5 Explain : Retention time and area under peak for GC.
- 6 What is cation and anion exchange resin ?

Q.2 Comment on/explain any two of the following:

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- 1 Write down Lambert-Beer's law and its derivation.
- 2 Flame ionization detector used in GC.
- 3 Explain the principle of separation in gas solid chromatography in detail.

Q.3 **Comment on/explain any two of the following:** **16**

- 1 Explain color wheel and colorimeter.
- 2 Instrumental setup of flame photometer and working of each component.
- 3 Why GLC is more suitable than GSC? Write a detail note on liquid stationary phase used in GLC.

Q.4 **Write Short Notes (Any Two)** **10**

- 1 Conductivity cell, cell constant, calibration and measurement procedure.
 - 2 Detector used in ion exchange chromatography.
 - 3 Principle and working of HPLC instrument.
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