



# RAN-1033

T. Y. B. Sc. (Sem. - V) Examination

March / April - 2019

**IDS: Instrumentation and Techniques (generic elective)**

Time: 2 Hours ]

[ Total Marks: 50

सूचना : / Instructions

नीचे दृष्टविले निशानीवाणी विगतो उत्तरवही पर अवश्य लभवी.

Fill up strictly the details of signs on your answer book

Name of the Examination:

T. Y. B. Sc. (Sem. - V)

Name of the Subject :

IDS: Instrumentation and Techniques (generic elective)

Subject Code No.: 1 0 3 3

Seat No.:

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Student's Signature

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

**Q.1 Give specific answers.**

**12**

- a. State uses of water bath in laboratory.
- b. What is  $R_f$  value? In which chromatographic techniques it is applicable?
- c. Define pH. State the basic components of pH meter.
- d. What do you mean by blunt and sticky ends of DNA? Give suitable example of restriction enzyme that produces blunt and sticky ends.
- e. State four technical errors observed in cell counting .
- f. State the functions performed by the automated systems in bacteriology

**Q.2 Explain/comment on any two of the following.**

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- a. Describe working of bacteriological autoanalyser with suitable example.

- b. Justify, “Spectrophotometer uses diffraction gratings or glass prism to produce monochromatic light”.
- c. Justify, “There are wide variety of applications of nucleic acid probes in various fields”.

**Q.3 Discuss any two of the following. 16**

- a. Discuss centrifuge with reference to principle, components, uses and maintenance.
- b. Discuss the working of single channel and multi channel continuous flow analyzers in detail.
- c. Discuss gene cloning.

**Q.4 Write short notes on any two of the following. 10**

- a. Weighing balance.
  - b. HPLC.
  - c. PCR: protocol and applications.
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