

B.Sc. Semester - 5 (Remedial) (NEP-2020) Examination**March/April-2026****BOT: Instrumentation and Methodology (Theory) (Minor-4)****Time: 2:00 Hours****Marks:50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1(A) Describe in detail: (Any one) (08)

- 1) Describe principle, design and applications of Laminar Air Flow.
- 2) Describe design, procedure and application of Centrifuge.

Que.1(B) Write Short note: (Any One) (04)

- 1) Write a short note on parts of Autoclave.
- 2) Write the design and function of Incubator.

Que.2(A) Describe in detail: (Any one) (09)

- 1) Describe the principle and steps involved in the polymerase chain reaction with suitable diagram.
- 2) Explain in detailed Gel electrophoresis.

Que.2(B) Write Short note: (Any One) (04)

- 1) Briefly describe the key principle behind DNA sequencing.
- 2) List out: Application of TLC.

Que.3(A) Describe in detail: (Any one) (08)

- 1) Describe the simple field equipment and their uses.
- 2) Writing short field reports on Girnar wildlife sanctuary.

Que.3(B) Write Short note: (Any One) (04)

- 1) What is the E-Herbarium?
- 2) Describe Herbarium storage, care and Importance.

Que.4(A) Describe in detail: (Any one) (09)

- 1) Calculate the mean, SD and variance of following data

Class intervals	101 - 105	106 - 110	111 - 115	116 - 120	121 - 125
Frequency	6	22	40	25	7

- 2) Calculate the mean, SD and variance of following data

Height (inches)	95 - 105	105 - 115	115 - 125	125 - 135	135 - 145
No. of children	19	23	36	70	52

Que.4(B) Write Short note: (Any One) (04)

- 1) Find out mode and median : 4,3,2,5,3,4,5,1,7,3,2,1
- 2) Calculate the mode of following frequency distribution

Size	4	5	6	7	8	9	10	11	12	13
Frequency	2	5	8	9	12	14	14	15	11	13
