

Seat No. **OCT-NOV 2025 WINTER EXAMINATION****11731 Bachelor of Technology (NEP-2.0)****Sub. Name: Basic Mechanical Engineering****Sub. Code: 108727****Day and Date: Wednesday,04-02-2026****Total Marks: 60****Time: 10:30 AM To 01:00 PM**

- Instructions:**
- 1. All questions are compulsory**
 - 2. Draw neat labelled diagrams wherever necessary**
 - 3. Figures to the right indicate full marks**

- Q1)** Solve any three of the following [15]
- a. Sketch and explain open and closed system [5]
 - b. Sketch and explain four stroke S I engine [5]
 - c. Sketch and explain open and cross belt drive with neat sketch [5]
 - d. What are the renewable and non renewable energy sources [5]
- Q2)** Solve any three of the following [15]
- a. Define kinematic link and explain its types [5]
 - b. Explain any one inversion of four bar chain [5]
 - c. Define automobile and list out different parts of an automobile [5]
 - d. Write a short note on electric vehicle [5]
- Q3)** Solve any three of the following [15]
- a. Explain steps in casting process with neat sketch [5]
 - b. Compare between soldering and brazing [5]
 - c. Explain advantages and applications of CNC machine [5]
 - d. Write a short note on 3 D printing [5]
- Q4)** Solve any three of the following [15]
- a. Define mechatronics and list out different parts of mechatronic system [5]
 - b. Write a short note on sensor applications [5]

- c. What is robot and explain its applications [5]
- d. Explain anatomy of robot [5]

End Of Question Paper

Important Note for Chief Exam Officer / SRPD Coordinator / Sr Supervisor/ Student -

This Question Paper may be distributed for following Subjects as common code.

सदरची प्रश्नपत्रिका खालील विषयांकरिता वितरित करता येईल.

- 1] (11731) Bachelor of Technology (NEP-2.0) (108727) Basic Mechanical Engineering Part 1 SEM 1