

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 3 – EXAMINATION – SUMMER 2026

Subject Code: BE03000241

Date: 29/06/2026

Subject Name: INDIAN KNOWLEDGE SYSTEM FOR ENGINEERING

Time: 02:30 PM TO 05:00 PM

Total Marks: 70

Instructions:

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Simple and non-programmable scientific calculators are allowed.**

- Q.1** (a) Why is the study of engineering history in India important? **03**
(b) Explain India's contributions to global engineering knowledge. **04**
(c) What are Shulbsutra? And where its application in geometry and mathematics in construction? **07**
- Q.2** (a) What kind of planning was used in Indus Valley cities like Harappa and Mohenjodaro? **03**
(b) Which are the features of the Dashavatara Temple at Deogarh. **04**
(c) Write in detail on Manusmriti refers for the Engineering guidelines, civic planning, Principles of town planning as a resource management. **07**
- OR
- Q.2** (c) Write short note on: The significance of Iron pillar at Mehrauli as an achievement of Gupta period metallurgy. **07**
- Q.3** (a) Which period is called as Vedic and Post-Vedic Periods? **03**
(b) Describe the major initiatives under the National Education Policy (NEP) 2020 for higher and technical education. **04**
(c) Explain the engineering features of the Taj Mahal in the mughal architectural in detail. **07**
- OR
- Q.3** (a) Which are the different major engineering contributions of the Gupta Period in India. **03**
(b) What was the main purpose of fire altars (Agni Kunda) in Vedic architecture? **04**
(c) Describe the Ganges Canal project and its importance. **07**
- Q.4** (a) What is the importance of the establishment of IITs and NITs in India's industrial and technological growth? **03**
(b) Write about the late medieval and mughal periods. **04**
(c) Write short note on: (1) Sardar Sarovar dam **07**
- OR
- Q.4** (a) How did British surveying and mapping change traditional Indian engineering practices? **03**
(b) What is the role of engineering in food security after independence? **04**
(c) Explain the impact of technological modernization on Indian industries. **07**
- Q.5** (a) Write the major achievements of ISRO in space technology. **03**
(b) Discuss the role of Tata Iron and Steel Company (TISCO) in the development of India's steel industry. **04**
(c) Write short on: Mangalyaan (Mars Orbiter Mission). **07**

- Q.5** (a) Which are the applications of genetic engineering in healthcare. **03**
- (b) What is the role of AI, Robotics, and IoT in shaping the future of Indian engineering. **04**
- (c) Describe the major renewable energy initiatives undertaken by India. **07**
