

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV (NEW) EXAMINATION – SUMMER 2024****Subject Code:3144201****Date:05-07-2024****Subject Name: Engineering Economics****Time:10:30 AM TO 01:00 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.

**MARKS**

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|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Q.1</b> | (a) What is Fixed cost and Variable cost ?                                                                                                            | <b>03</b> |
|            | (b) Define economics. Also discuss the flow of goods, services, resources and money payments in a simple economy with the help of a suitable diagram. | <b>04</b> |
|            | (c) What is meant by demand? Explain the factors influencing demand.                                                                                  | <b>07</b> |
|            |                                                                                                                                                       |           |
| <b>Q.2</b> | (a) Write a short note on annual equivalent method.                                                                                                   | <b>03</b> |
|            | (b) Write about revenue dominated cash flow diagram and cost dominated cash flow diagram.                                                             | <b>04</b> |
|            | (c) What are the assumptions and limitations of Break-Even analysis?                                                                                  | <b>07</b> |
|            | <b>OR</b>                                                                                                                                             |           |
|            | (c) Discuss in detail future worth method with suitable example.                                                                                      | <b>07</b> |
|            |                                                                                                                                                       |           |
| <b>Q.3</b> | (a) Give the difference between Composite and Commodity Index.                                                                                        | <b>03</b> |
|            | (b) Write a short note on Borrowed Money Viewpoint.                                                                                                   | <b>04</b> |
|            | (c) Explain different types of Indexes.                                                                                                               | <b>07</b> |
|            | <b>OR</b>                                                                                                                                             |           |
| <b>Q.3</b> | (a) Define Engineering Economics. What is the scope of Engineering Economics?                                                                         | <b>03</b> |
|            | (b) Explain use of price indexes in engineering economics analysis.                                                                                   | <b>04</b> |
|            | (c) What is inflation and deflation? Describe effect of inflation and deflation on economy.                                                           | <b>07</b> |
|            |                                                                                                                                                       |           |
| <b>Q.4</b> | (a) Give advantages and limitations of using straight line method of depreciation.                                                                    | <b>03</b> |
|            | (b) Write a short note on economic life of an asset.                                                                                                  | <b>04</b> |
|            | (c) Explain in detail about declining balance method of depreciation with suitable example.                                                           | <b>07</b> |
|            | <b>OR</b>                                                                                                                                             |           |
| <b>Q.4</b> | (a) Describe concept of challenger and defender.                                                                                                      | <b>03</b> |
|            | (b) Explain sum of years digit method of depreciation with suitable example.                                                                          | <b>04</b> |
|            | (c) What is the need for maintenance? Explain different types of maintenance in detail.                                                               | <b>07</b> |
|            |                                                                                                                                                       |           |
| <b>Q.5</b> | (a) Differentiate Technical efficiency and Economic efficiency.                                                                                       | <b>03</b> |
|            | (b) Which policy should be followed in Simple probabilistic model for items which fail completely?                                                    | <b>04</b> |
|            | (c) Give full form of CSR and define it. Explain importance of CSR.                                                                                   | <b>07</b> |
|            | <b>OR</b>                                                                                                                                             |           |
| <b>Q.5</b> | (a) Define : Opportunity cost and Sunk cost.                                                                                                          | <b>03</b> |
|            | (b) Explain the significance of business ethics.                                                                                                      | <b>04</b> |
|            | (c) Discuss in detail about ESG.                                                                                                                      | <b>07</b> |

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