

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3170614****Date: 24-05-2024****Subject Name: Construction Engineering and Management****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) Define project. Enlist phases of a construction project. Enlist functions of construction management. **03**
- (b) Differentiate between activity and event. **04**
- (c) Explain the various responsibilities of an owner in a construction project. **07**
- Q.2** (a) Enlist the various functions of material management and explain any two in detail. **03**
- (b) Discuss the importance of construction equipment in the construction industry. **04**
- (c) Explain the various rules for drawing a network. **07**
- OR**
- (c) Which are the various alternatives for the purchase of equipment? Discuss direct purchase and hiring. **07**
- Q.3** (a) Prepare a work breakdown structure of a residential building showing task and work package levels. **03**
- (b) Enlist the various limitations of bar charts and milestone charts. **04**
- (c) Explain types of activities and types of events. **07**
- OR**
- Q.3** (a) Give complete information regarding mean, deviation, and variance. **03**
- (b) What is the procedure for preparing a schedule with the help of the line of balance technique? **04**
- (c) Explain the ladder network with a suitable example. **07**
- Q.4** (a) Prepare a job layout for a commercial complex building. **03**
- (b) Write a short note on Economic Order Quantity (EOQ) model. **04**
- (c) Explain process of resource smoothening and resource-leveling. **07**
- OR**
- Q.4** (a) Explain methods of updating the network of a project. **03**
- (b) Which are the various uses of BIM software? **04**
- (c) Explain why the time cost trade-off is necessary. Discuss the various ways to reduce the activity duration. **07**
- Q.5** (a) What are the advantages of statistical quality control? **03**
- (b) Explain the aims of TQM. **04**
- (c) Write a short note on the cost of accidents. **07**
- OR**
- Q.5** (a) Draw a line diagram of the dragline excavator. **03**
- (b) Differentiate between wheel-mount tractors and crawler-mount tractors. **04**
- (c) Draw a neat sketch of the belt conveyor system and give the functions of the various components. **07**

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