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# B.M.S. College of Engineering, Bengaluru-560019

**Autonomous Institute Affiliated to VTU**

## June 2025 Semester End Main Examinations

**Programme: B.E.** **Semester: VII**

**Branch: Civil Engineering** **Duration: 3 hrs.**

**Course Code: 22CV7HSCPM** **Max Marks: 100**

**Course: Construction Project Management & Economics**

**Instructions**: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.
3. Standard normal distribution table and interest factor tables are permitted



**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

| | | UNIT - I | CO | PO | Marks |
|---|---|---|---|---|---|
| 1 | a) | Break down the stages of the project life cycle and their interdependencies. | C01 | P0 11 | **10** |
| | b) | Summarize the principles of project management. | C01 | P011 | **10** |
| | | OR | | | |
| 2 | a) | Describe the significance of project management principles in ensuring project success. | C01 | P011 | **10** |
| | b) | Discuss why project management is considered a profession. | C01 | P011 | **10** |
| | | **UNIT - II** | | | |
| 3 | a) | Evaluate the role of a project manager in managing a project efficiently | C01 | P011 | **06** |
| | b) | What is an Organizational Breakdown Structure (OBS)? In what way is it good for an organization | C01 | P011 | **06** |
| | c) | Examine the challenges of managing cash flow in long-term infrastructure projects. | C01 | P011 | **08** |
| | | **OR** | | | |
| 4 | a) | Explain the importance of project scope and its impact on project outcomes. | C01 | P011 | **06** |
| | b) | Analyze the relationship between project scope, priorities, and constraints. | C01 | P011 | **06** |
| | c) | List the different types of project feasibility studies? Explain any one. | C01 | P011 | **08** |

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| | | | **UNIT - III** | | | |
| | 5 | a) | Compare and contrast the similarities and differences in CPM and PERT method of network analysis | *C01* | *P011* | **06** |
| | | b) | The following details are available for a project shown in the table below. Determine the earliest and latest times, the total float for each activity, the critical activities and the project completion time. | *C01* | *P02* | **14** |

| Activity | Predecessor Activity | Duration (Weeks) |
|---|---|---|
| A | - | 12 |
| B | A | 7 |
| C | A | 11 |
| D | A | 8 |
| E | A | 6 |
| F | B | 10 |
| G | C | 9 |
| H | D, F | 14 |
| I | E, G | 13 |
| J | H, I | 16 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | **OR** | | | |
| | 6 | a) | Define optimistic and pessimistic time estimates used in PERT | *C01* | *PO11* | **04** |
| | | b) | Find out the time required to complete the following project and the critical activities shown in table. Also draw the network diagram. | *C01* | *P02* | **16** |

| Activity | Predecessor Activity | Optimistic time estimate (to days) | Most likely time estimate (tm days) | Pessimistic time estimate (tp days) |
|---|---|---|---|---|
| A | - | 2 | 4 | 6 |
| B | A | 3 | 6 | 9 |
| C | A | 8 | 10 | 12 |
| D | B | 9 | 12 | 15 |
| E | C | 8 | 9 | 10 |
| F | D, E | 16 | 21 | 26 |
| G | D, E | 19 | 22 | 25 |
| H | F | 2 | 5 | 8 |
| I | G | 1 | 3 | 5 |

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| | | | **UNIT - IV** | | | |
| | 7 | a) | What is material management and how crucial is it in a typical construction project? Give some illustrations | *C02* | *P011* | **10** |
| | | b) | Discuss the key components of supply chain management in the context of project management. | *C02* | *P011* | **10** |
| | | | **OR** | | | |
| | 8 | a) | Explain the time cost trade off curve with a simple sketch. Indicate the different terms associated with it | *C02* | *P011* | **10** |
| | | b) | What strategies can be adopted for cost control in large scale infra/construction projects? Give some illustrations | *C02* | *P011* | **10** |
| | | | **UNIT - V** | | | |
| | 9 | a) | Explain the significance of time value of money | *C03* | *P011* | **06** |
| | | b) | Discuss the importance of working capital management in project financing. | *C03* | *P011* | **08** |
| | | c) | Define project evaluation and appraisal in project management. | *C03* | *P11* | **06** |
| | | | **OR** | | | |
| | 10 | a) | A certain individual firm desires an economic analysis to determine which of the two machines is attractive in a given interval of time. The minimum attractive rate of return for the firm is 15%. The following data are to be used in the analysis<br><br>*Machine X* / *Machine Y*<br>First cost: Rs. 1,50,000 / Rs. 2,40,000<br>Estimated life: 12 years / 12 years<br>Salvage value: Rs. 0 / Rs. 6,000<br>Annual maintenance cost: Rs. 0 / Rs. 4,500<br><br>Which machine would you choose? | *C03* | *P02* | **12** |
| | | b) | Break down the factors influencing make-or-buy decisions in an organization. | *C03* | *P01* | **08** |



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