



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

| SUMMER-2024 | |
|-----------------------------------|-----------------------|
| Exam Seat No.: | |
| Academic Year:2023-2024 | Semester:III |
| Class:SY | Program:B.Tech |
| Branch Code:CIV | Pattern:2022 |
| Name of Course:Project Management | Course Code:CIV222005 |
| Max. Marks:60 | Duration:2.30 Hrs. |

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 03 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Question No. 1 Attempt following Question

- 1 Define Project Management & Explain need of Project Management. (6) CO1

Question No. 2 Attempt following Question

- 2 The following are the details of a project A & B. Suggest which one is to be accepted by using 1) NPV 2) BCR ($i=8\%$) (6) CO2

| Years | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------|--------|--------|--------|-------|-------|-------|-------|
| Project A (₹) | 400000 | 120000 | 125000 | 78000 | 80000 | 75000 | - |
| Project B (₹) | 450000 | 140000 | 145000 | 76000 | 65000 | 60000 | 90000 |

Question No. 3 Attempt following Question

- 3.a) Consider a construction project with fixed costs of Rs.2,00,000/- variable costs per unit of Rs.5000/- and an expected selling price per unit of Rs.10,000/- Calculate the breakeven point in terms of the number of units. (6) CO3

OR

- 3.b) How does cost overrun impact the overall success of a project ? (6) CO3

3.c) Explain with neat sketch “Break Even Analysis”. (5) CO3

OR

3.d) How does breakeven analysis contribute to project decision-making? (5) CO3

3.e) Define project planning and briefly explain its significance in project management. (5) CO3

OR

3.f) Explain the purpose of creating a WBS in a project. (5) CO3

Question No. 4 Attempt following Question

4.a) Following data is for small construction project. Draw network Diagram. Calculate project duration (6) CO4 and mark critical path by using CPM method.

| Activity | 1-2 | 2-3 | 2-4 | 2-5 | 3-5 | 4-5 | 5-6 |
|------------------|-----|-----|-----|-----|-----|-----|-----|
| Duration in Days | 3 | 2 | 5 | 7 | 3 | 4 | 2 |

OR

4.b) The Following tables give the time estimates of the various activities of a project. (6) CO4

| Activity | 1-2 | 1-3 | 2-4 | 3-4 | 3-5 | 4-5 | 4-6 | 5-7 | 6-7 |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| t ₀ | 1 | 1 | 4 | 5 | 2 | 6 | 2 | 3 | 1 |
| t _m | 2 | 4 | 6 | 9 | 4 | 7 | 5 | 5 | 2 |
| t _p | 3 | 7 | 8 | 13 | 12 | 8 | 114 | 13 | 15 |

Draw a project network diagram and find out total duration. Calculate variance along critical path.

4.c) Draw a Network Diagram for a project whose activities and their Predecessor relationship are given (5) CO4 in table.

| Activity | A | B | C | D | E | F | G | H | I | J | K |
|-------------|---|---|---|---|---|---|---|---|---|-----|-----|
| Predecessor | - | - | - | A | B | B | C | D | E | H,I | F,G |

OR

4.d) Explain “Fulkerson’s Rules” of numbering system (5) CO4

4.e) Define the following terms. (5) CO4

1) Event

2) Critical Path

OR

- 4.f) Differentiate between CPM & PERT. (5) CO4

Question No. 5 Attempt following Question

- 5.a) Discuss the difference between positive and negative cash flow in project management. (6) CO5

OR

- 5.b) What do you understand by resource smoothing and resource leveling? Explain their significance. (6) CO5

- 5.c) Enlist the duties of store keeper and explain material purchasing process. (5) CO5

OR

- 5.d) What do you understand by resource smoothing & resources levelling? (5) CO5

- 5.e) Define resource management and discuss its significance in ensuring project success. (5) CO5

OR

- 5.f) What are the objectives of material manager? (5) CO5

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