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Time: 3-hour

Max. Marks: 80

- N.B.: (1) Question No. 1 is Compulsory.
 (2) Attempt any three questions out of the remaining five.
 (3) All questions carry equal marks.
 (4) Assume suitable data, if required, and state it clearly.
 (5) Notations carry the usual meaning.

Q1. Answer the following (Any FOUR).

[20M]

- Explain the triple constraint in Project Management.
- Explain the Stages of team development & growth.
- Explain the work breakdown structure (WBS).
- Explain Goldratt's critical chain.
- Explain the earned value management technique for measuring the value of work.
- Explain multicultural and virtual projects.

Q2. (a) ABC Industries has a potential project with an initial cost of Rs. 20,00,000. The capital budget allows to accept only one project. Using the NPV method, which project should be selected?

[10M]

Cash Flows (Year)	Project A	Project B	Project C	Project D
1.	6,00,000	5,00,000	10,00,000	3,00,000
2.	6,00,000	5,00,000	8,00,000	5,00,000
3.	6,00,000	5,00,000	6,00,000	7,00,000
4.	6,00,000	5,00,000	4,00,000	9,00,000
5.	6,00,000	5,00,000	2,00,000	11,00,000
Discount Rate	9%	6%	15%	22%

Q2. (b) Discuss why project management is essential in today's business environment. What benefits does it provide in achieving organizational goals?

[10M]

Q3. (a) Explain Risk response strategies for positive and negative risks.

[10M]

Q3. (b) What is the importance of vendor documents? How the vendor documents should be preserved?

[10M]

Q4. (a) The R & D project has a list of tasks to be performed whose time estimates are given in the table below. [10M]

Activity	Predecessor Activity	t_o	t_m	t_p
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

1. Draw the project network.
2. Find the critical path.
3. Find the time required to complete the following project and the critical activities.

Q4. (b) Explain the aggregate project plan used in the portfolio process. [05M]

Q4. (c) Explain the project buffer. [05M]

Q5. (a) Explain the project management template with a sample template sheet. [10M]

Q5. (b) Define Project Management Information Systems (PMIS) and evaluate its role in the successful execution of complex projects [05M]

Q5. (c) Write a short note on the GANTT chart. [05M]

Q6. (a) Why meetings are useful in project monitoring? What rules should be followed to maximize the effectiveness of meetings? [10M]

Q6. (b) List and briefly describe the ways projects may be terminated. What are some non-technical reasons for project termination? [10M]

(3 Hours)

[Total Marks:80]

N.B. 1) Question No. 1 is compulsory.

2) Attempt any three questions from the remaining questions.

3) Figures to right indicates full marks.

4) Assume suitable data, if necessary.

Q1. Write short notes on the following (Any Four) **20**

- Triple constraints in Project Management
- Project charter and Project sponsor
- Project Management Information system
- Goldratt's critical chain methods
- Project audits

Q.2 (a) Explain stages of team development and growth. What are the advantages of effective team and barriers to team effectiveness? **10**

(b) A project is composed of 8 activities, the time estimate for which are given below. **10**

Activity	Predecessor	Duration		
		t_o	t_m	t_p
A	-	2	4	12
B	-	10	12	26
C	A	8	9	10
D	A	10	15	20
E	A	7	7.5	11
F	B, C	9	9	9
G	D	3	3.5	7
H	E, F, G	5	5	5

Z	Probability (P)
0	0.5
0.5	0.6950
1	0.843

- Draw the network diagram.
- Find the critical path and expected projected duration.
- Calculate the standard deviation and variance of the project.
- What is the probability of completing the project on 30-week deadline?

Q.3 (a) Explain work breakdown structure and Gantt chart with example. **10**

(b) A project requires an initial investment of Rs. 200000 and it is expected to generate a cash flow of Rs. 10000 for 3 years. The target rate of return of the project is 12% per annum. Calculate the net present value of the project. **05**

(c) Explain non numeric project selection models. **05**

- Q.4** (a) Explain top down and bottom-up budgeting. **05**
(b) What is the difference between resource loading and resource leveling? **05**
(c) Describe probability and impact matrix. Explain risk response strategies for positive and negative risks. **10**
- Q.5** (a) A project in its 20th week has an actual cost of Rs. 250,000. It was scheduled to have spent Rs. 241,000. For the work performed to date, the budgeted value is Rs. 252,000. What are the cost and schedule variances for the project? What are the SPI and CPI? **05**
(b) Describe Earned value management technique in Project Management. **05**
(c) Explain Project Procurement Management. What is the difference between contracting and outsourcing? **10**
- Q.6** (a) Explain multicultural and virtual projects. **05**
(b) Why is ethics important in Project management? **05**
(c) What is project termination? Explain different types of project terminations. **10**

Time: 3-hour

Max. Marks: 80

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QP code: 43022

Q1. Answer the following (Any FOUR)

[20M]

- What are the three basic goals of a project and how do project managers achieve them in conditions of uncertainty?
- Why project manager's role is more of a facilitator rather than a supervisor?
- Explain the work breakdown structure.
- What is Goldratt's critical chain method?
- Briefly describe the purchasing cycle.
- What are the four stages of team development and growth?

- Q2. (a) Swanson Industries has a potential project with an initial cost of Rs. 20,00,000. The capital budget allows to accept only one project. Using the NPV method, which project should be selected?

[10M]

Cash Flows (Year)	Project A	Project B	Project C	Project D
1	5,00,000	6,00,000	10,00,000	3,00,000
2	5,00,000	6,00,000	8,00,000	5,00,000
3	5,00,000	6,00,000	6,00,000	7,00,000
4	5,00,000	6,00,000	4,00,000	9,00,000
5	5,00,000	6,00,000	2,00,000	11,00,000
Discount Rate	6%	9%	15%	22%

- (b) What is the project life cycle? How is the cost of change, risk, and influence of stakeholders affected by Project time during the life cycle of the project? [10M]

- Q3. (a) What are the responsibilities of the project auditor? What is essential for a successful project Audit?

[10M]

- (b) Explain probability and impact matrix. What are the risk response strategies for negative risks (threats) and positive risks (opportunities)?

[10M]

Q4. (a) Following are the manpower requirements for each activity in a project.

Activity	Normal Time	Man Power Required
0 -1	2	4
1-2	3	3
1-3	4	3
2-4	2	5
3-5	4	3
3-6	3	4
4-7	6	3
5-7	6	6
6-8	5	2
7-9	4	2
8-9	4	9

i) Draw the project network diagram.

ii) Rearrange the activity suitably to reduce the existing total manpower requirement. [10M]

Q4. (b) Differentiate between the Functional, Pure Project, and Matrix organizations. [10M]

Q5. (a) How communication is planned and managed in project management? [10M]

Q5. (b) A consulting project has an actual cost of Rs. 45000, Scheduled cost of Rs. 35000, and the value of completed work is Rs. 31000. Find the Scheduled and Cost Variance. Also, find SPI and CPI. [5M]

Q5. (c) State various project estimation and scheduling techniques. [5M]

Q6. (a) What is a scope creep? How does a formal change control system work in project management? [10M]

Q6. (b) List and briefly describe the ways the project may be terminated. What are some non-technical reasons for project termination? [10M]

Time: 3-hour**Marks: 80**

- N.B. :** (1) Question No 1 is Compulsory.
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 (4) Assume suitable data, if required and state it clearly.
 (5) Notations carry usual meaning.

Q1. Answer the following (Any FOUR.)**[20M]**

- What are the contents of project charter? who prepares and authorizes the project charter?
- Compare the top-down budgeting and bottom-up budgeting.
- What is Goldratt's critical chain method?
- Explain the significance of IRR method in project selection.
- Briefly describe the purchasing cycle.
- Explain the risk breakdown structure.

- Q2.** (a) A consulting project has an actual cost of Rs. 35000, Scheduled cost Rs. 27000, and completed work is Rs. 31000. Find the Scheduled and Cost Variance. Also find SPI and CPI. **[5M]**
- (b) What is a contract? Explain different types of contracts in brief. **[5M]**
- (c) Consider a project having following cash flow stream. The cost of capital (r) for the firm is 10% . Calculate NPV of project and decide whether to accept or reject the project. **[10M]**

Year	0	1	2	3	4	5
CASH Flow in Rs.	10,00,000	2,00,000	2,00,000	3,00,000	3,00,000	3,50,000

- Q3.** (a) What is project life cycle? how does cost of change, risk and influence of stakeholders are affected with Project time during the life cycle of project? **[10M]**
- Q3.** (b) Explain probability and impact matrix. What are the risk response strategies foe negative risks (threats) and positive risks(opportunities). **[10M]**

- Q4. (a) A small project is composed of 8 activities, whose time estimates are listed below.

Activity	Predecessor	t_o	t_m	t_p
A	-	3	6	9
B	-	5	7	8
C	A	6	9	12
D	A	6	12	15
E	B	9	12	18
F	B	12	18	24
G	C, D, E	6	9	12
H	C	3	6	9

- i) Draw the project network diagram. Find the critical path and expected project duration.
- ii) If the due date is 30 days. What is the probability that the project will be completed within the due date?
- iii) Find the probability of completing project between 26 to 31 days. [10M]
- Q4. (b) What are the non-numeric models of project selection? Explain in brief. [5M]
- Q4. (c) Explain importance of ethics in projects. [5M]
- Q5. (a) How communication is planned and managed in project management ? [10M]
- Q5. (b) What is life cycle of a project audit ? what are responsibilities of project auditor ?
- What is essential for successful project audit? [10M]
- Q6. (a) What are four stages of team development and growth? What are the barriers to team effectiveness? [10M]
- Q6. (b) List and briefly describe the ways project may be terminated. What are some non-technical reasons for project termination? [10M]
