

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEX, BCT	Pass Marks	32
Year / Part	IV / I	Time	3 hrs.

Subject: - Project Management (CT701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) List out the characteristics of a project. Explain the role of effective feasibility study for the successful completion of a project. [2+2]
b) What is the role of project manager? What are suggested skills for all project managers and for information technology project managers? [5]
2. a) What is project management institute (PMI)? How is it related to project management? Discuss PMI framework in relation with project management. [4]
b) Explain with example the concept of drivers of project success and inhibitors of project success. [2+3]
3. a) Discuss the concept of project management process groups (PGs). How is it related to project management knowledge area? Give the example of two processes with necessary inputs, tools and techniques and outputs. [4]
b) Define work break down structure and its importance in project management. What are different ways/approaches to prepare a work breakdown structure for a project? [5]
4. a) What do you understand by Quality planning, Quality Assurance and Quality Control? Explain different approaches to these processes. [4]
b) Why better communication management is critical for projects? Discuss the communication management plan that should be considered for ICT projects. [5]
5. a) Explain the integrated change control process in depth. [4]
b) Define WBS technique in scope management. [3]
6. Being an IT project manager how are you going to manage an IT based project that demands regular updates with new trends in market. [5]
7. Consider you are hired as a consultant in a IT college where every year 50 students are admitted in 4 year program. You are asked to prepare a tender. Specification document for setting up a digital library to be set-up on that college. State your all assumptions that you will be making while preparing the document. [6]
8. If schedule performance index (SPI) is 0.75 in a mega project undergoing near Devikapur district with earned value of being 60. Now calculate the planned value and also state whether the project is ahead schedule or behind schedule. [6]
9. Write short notes on: (any five) [4×5]
 - a) Balanced Scorecard
 - b) Tornado analysis
 - c) Critical path analysis
 - d) Decision tree analysis
 - e) Trends in cloud computing
 - f) Outsourcing and off-shoring options

Exam.	New Back (2066 & Later Batch)		
Level	BE	Full Marks	80
Programme	BEX, BCT	Pass Marks	32
Year / Part	IV / I	Time	3 hrs.

Subject: - Project Management (CT701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. What is a project? List out its characteristics. [2+2]
2. What are different skill sets required by a project manager? Briefly explain each of them. [5]
3. Define project management body knowledge. [2]
4. Explain about Project Management Institute Framework. [4]
5. What are the phases in project life cycle? How does a project life cycle differ from a product life cycle? [5]
6. Explain a Matrix Organization Structure with its advantages and disadvantages. [4]
7. Discuss the concept of project management process groups (PGs). List down two processes of project management process group with their inputs, tools and techniques and output. [4]
8. Explain about Integrated Change Control in IT project development. [5]
9. Why is it important to determine activity sequencing on projects? What are different diagrams/methods that can be used to sequence activities in the project? [5]
10. Given the following information for one-year project, use Earned Value Management (EVM) method to calculate, cost variance, schedule variance, cost performance index (CPI) and Schedule performance index (SPI) for the project. [6]
 - Planned Value = NPR 23,000
 - Earned Value = NPR 20,000
 - Actual Cost = NPR 25,000
 - Budget at Completion = NPR 1,20,000
11. What is a Maturity Model for software development? Explain them. [5]
12. Explain about the necessity of information distribution and its tools and techniques. [5]
13. What are different tools and techniques for risk identification? Discuss brainstorming and Delphi Technique for risk management. [4]
14. What is a procurement process? How is it performed in a project? [1+4]
15. Discuss about IT project management methodology. [5]
16. Write short note on: [2×6]
 - a) Project stakeholders
 - b) Project management information system
 - c) Critical Chain Scheduling
 - d) Categories of Risk
 - e) Balanced Score Card
 - f) Constructive Cost Model (COCOMO)

Exam:	New Back (2066 & Later Batch)		
Level	BE	Full Marks	80
Programme	BCE, BEL, B.Agril.	Pass Marks	32
Year / Part	IV / I	Time	3 hrs.

Subject: - Project Engineering (CE701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Differentiate between Bilateral, Multilateral and Joint Venture project with example? Discuss the external environment in which a project is operated. [4+6]
2. Define concept of project appraisal. Explain about contents of technical and financial proposal. Also explain input analysis of project formulation. [2+7+3]
3. a) Construct the CPM network for a project with following activities: [16]

Activities	A	B	C	D	E	F	G	H	I	J
Predecessor	-	-	A,B	B	A	C	E,F	D,F	G,H	I
Days	4	7	4	5	2	1	6	5	8	9

Find:

- i) Critical path
 - ii) Project completion time
 - iii) EST, EFT, LST, LFT, Total float, Free float (F_F), independent float (I_F) and Interfering float (I_f)
- a) Define the terms resource histogram, resource levelling limited resource allocation and work break structure. [2+2+2+2]
4. a) Write the concept of Monitoring, Evaluation and Controlling and also explain project control cycle. [3+4]
 - b) Why cost control is important in project? 15 houses were to be completed in three months with per unit cost of Rs 25,00,000/-. In one month 4 houses were completed with total expenditure of Rs 96,00,000/- use earn value analysis to find the status of the project. [3+4]
 5. Define 'risk'. Explain various sources of project risk. Elaborate risk response planning. [1+5+4]
 6. Define the term project financing. Explain features of capital structure planning. A project has total capital of Rs 5,00,000 which consists of 2000 shares @ Rs 100, 1,50,000 preference share 18% interest and remaining loan @ 14% interest. Earning before interest and tax in a year is Rs 1,00,000. Calculate EPS and book value of share if tax rate is 25%. [2+4+4]

INSTITUTE OF ENGINEERING	Page No.	Page No.	Page No.
Examination Control Division	Programme	DEA, P.T.	Page Marks
2072 Ward	Year / Sem	2 / 1	Time

Subject - Project Management (CT701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) Explain the triple constraints of Project with figure and describe their relationship? [2+2]
b) What are the essential interpersonal and managerial skill to be a successful project manager? [5]
2. a) Explain the Project Management Institute's (PMI) framework. [4]
b) What is PMBOK? What are the knowledge contents that falls under PMBOK? [1+4]
c) Explain various types of matrix organization. [4]
3. Compare project management with project portfolio management. Explain the characteristics of simple generic life cycle with necessary diagrams. [1+4]
4. What is Earned Value Management (EVM)? Derive the formulas that are used in schedule and cost performance, explain their significances. [1+3+3]
5. A big software project is under consideration for development. Overall 10 different activities as WBS are identified as listed below table with their timings in number of weeks.

Activities	a	m	b
(1,2)	7	11	13
(2,3)	1	4	7
(2,4)	10	15	18
(3,5)	12	20	26
(3,6)	4	7	16
(3,7)	4	7	16
(6,7)	3	8	11
(4,7)	2	8	14
(7,8)	9	12	15
(8,9)	1	4	7

Where

- a = Optimistic time
- b = Pessimistic time
- m = most likely time

6. Calculate the following:
 - a) What is the expected time of completion of the project? [3]
 - b) What is the probability of completing the project in 34 weeks? [3]
 - c) What is the probability of the activity 7 being completed in the twentieth week? [3]
7. Explain different types of Risk and illustrate the Risk management model with block diagram according to PMI Project Risk Management process. [7]
8. Define project integration management. Explain the necessary inputs, tools and techniques and outputs to develop a project charter. [1+4]
9. Does effective communication management skill reduce the associated risk of an IT project? Explain with example. [4]
10. What makes the project procurement process of very crucial component in project management? What are typical issues to be considered in e-bidding as a procurement processing tool? [2+4]
11. Write short notes on: [3×5]
 - a) COCOMO (constructive cost model) for IT project
 - b) Contract closure procedure
 - c) Balanced scorecard framework
 - d) Pare to analysis
 - e) Quality Audit Plan

Subject: - Project Management (CT701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) Briefly explain the traits of being an effective and ineffective project manager? [3+2]
b) Explain the necessity of IT Project Management? How do you perform feasibility study in IT project? [2+2]
2. a) Explain about knowledge areas of PMI framework. [4]
b) Describe project management? Explain the roles and responsibilities of key project members. [2+2]
3. What is a project charter? How do you develop a project charter, explain the inputs and tools and techniques to develop it. [2+5]
4. A project work consists of the following activities as listed below in table. [9]

Activity	Description	Duration in Days
A (1-2)	Start earth work	3
B (1-4)	Vendor selection	2
C (1-3)	Start handling	1
D (2-3)	Continue earth work	3
E (3-6)	Finish earth work	2
F (4-5)	Ordering raw material	4
G (4-8)	Excavation for drains	5
H (5-8)	Receiving raw material	5
I (6-9)	Base concreting	4
J (7-8)	Continue handling	4
K (8-9)	Laying drains	5

Draw the network diagram and trace the critical path of the network. What are the various timings and the total duration of the above project?

5. What do you mean by Project Procurement management and what are the different processes adopted for procurement? [5]
6. Explain various tools and techniques for performance reporting. [5]
7. If earned value is twice its actual cost for a project, calculate its cost performance index and cost variance percentage. Is the project over/under budget? [6]
8. a) Is there always a tradeoff between quality and productivity? Explain with an IT related example. [3]
b) What are the possible steps to improve project quality? [4]
9. What are the essential components of project scope management? Explain. [5]
10. Write short notes on: [5×4]
 - a) Sensitivity analysis
 - b) The Balanced Scorecard
 - c) Six sigma
 - d) Project Management Maturity
 - e) Decision tree analysis

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEX, BCT	Pass Marks	32
Year / Part	IV / I	Time	3 hrs.

Subject: - Project Management (CT701)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. What is a project, and what are its main attributes? How is a project different from what most people do in their day-to-day jobs? Discuss the specific attributes that are specific to IT related projects. [4]
2. What is a Project Management Body of knowledge? Explain different general management skills necessary to be a good project manager. (2+5)
3. What does it mean by the term "project management practice"? Discuss project management framework as per the standard of Project Management Institute (PMI) along with the concept. [5]
4. What is a Software Development Life Cycle (SDLC)? Explain any one of its kind that you prefer in developing an IT project. Why? [2+5]
5. Most of the project follows functional organizational structure. If you agree, justify. [4]
6. Discuss about Project Management Process Groups. [4]
7. Discuss the process of defining project scope in more detail as a project progresses, going from information in a project charter to a project scope statement, WBS and WBS dictionary. [5]
8. Why is there necessity of Project Time management? Explain how is that performed. [1+4]
9. What is a cost estimating? Explain different tools and techniques used for cost estimating. [1+4]
10. What do you understand by Quality in the context of project management? Discuss quality control process and its major outputs. [5]
11. Why better communication is critical for ICT projects? Discuss the contents of communication management plan that should be considered. [5]
12. What is a Project Risk Management? Explain the processes involved briefly. [5]
13. Why are organization moving towards the trend of outsourcing? Discuss the challenges of outsourcing. [5]
14. What are the roles of award and assessment in achieving Excellency in project completion, Briefly explain. [5]
15. Write short notes on: [3×3]
 - a) Expert Judgement
 - b) Arrow Diagramming Method
 - c) Balance score card