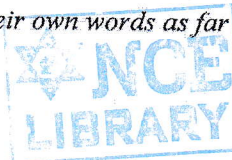


Exam.	Regular	
Level	BE	Full Marks 80
Programme	BEI	Pass Marks 32
Year / Part	III / II	Time 3 hrs.

Subject: - Project Management (CT 658)

- ✓ 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. Define the triple constraint in project and discuss the relationship among its components with a diagram. [5]
2. Define PMBOK and explain its process based approach. [2+4]
3. What do you mean by Project portfolio management? How is it related to project management maturity? [2+3]
4. What is the different between product life cycle and project life cycle? [5]
5. Discuss the influence of organizational structure on project management. [5]
6. With the help of a diagram, explain how the five process groups overlap during a typical project phase. [6]
7. Define WBS and discuss its importance in the project with example. [2+4]
8. An organization is developing an Electronic Information Management System (EIMS) for real-time data acquisition and monitoring. The project involves the following activities: [2+2+2+2]

Activity	Description	Immediate Predecessor	Duration (day)
A	System feasibility study	—	3
B	Database and information architecture design	A	5
C	Sensor interface design	A	4
D	Embedded software development	B	6
E	Hardware assembly and interfacing	B, C	5
F	System integration and validation	D, E	4

- a) Draw the network diagram for the above project.
 - b) Determine the Earliest Start (ES), Earliest Finish (EF), Latest Start (LS), and Latest Finish (LF) times for all activities.
 - c) Identify the critical path and compute the total project duration.
 - d) Explain the managerial importance of total float and free float for Activity C in planning and controlling the project schedule.
9. Define EVM, A software company is developing an AI Based crop disease detection System. The total project budget (BAC) is Rs.15 lakhs rupees. A progress review is done when 50% of the work was planned to be completed. The report shows a Schedule Performance Index (SPI) of 0.9. At this point, the company has already spent Rs. 8 lakhs. What does the SPI value indicate about the project schedule? Calculate the Earned Value (EV) and Expected Cost at Completion (EAC) assuming the project continues with the same performance. The management considers a maximum acceptable cost overrun of Rs. 2 lakhs. Based on the EAC, should management intervene? Explain it. [2+1+2+2+2]
 10. Quality is one the most important factors to be considered for effective delivery of project objectives. How quality assurance and quality control is implemented in order to deliver a successful project? [5]

11. Why is documentation and reporting necessary in a project? How can you organize and conduct effective meetings in the project? [2+3]
12. Discuss briefly on risk identification techniques. Create a sample risk register of any ICT related project. [3+3]
13. Write short notes on: (Any Three) [3×3]
- a) Project charter
 - b) Balance scorecard
 - c) TQM
 - d) Pareto chart
 - e) External environmental factor
 - f) Code of ethics in ICT

Exam.	Back	
Level	BE	Full Marks 80
Programme	BEI	Pass Marks 32
Year / Part	III / II	Time 3 hrs.

Subject: - Project Management (CT 658)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
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1. What are the triple constraints of project? How is project different from the operational work? [3+2]
2. What are the essential interpersonal & managerial skills to be successful project manager? [2+3]
3. What is a work breakdown structure? How does WBS affect the work estimate of the project duration / activity? Explain with example. [1+4]
4. Define PMBOK. How the external environmental influence on ICT project? [2+3]
5. What are the differentiation between product life cycle & project life cycle? Describe different types of organizational structure. [2+4]
6. Consider the following project and answer the followings [2+2+2+1+2]
 - i) Draw the network diagram. (ii) Draw the forward and backward pass.
 - iii) Calculate the critical path with their respective activity.
 - iv) Calculate the total duration of the project (v) Find the total float of activity D, F.

Activity	Predecessor	Duration (week)
A	-	2
B	-	6
C	-	4
D	A	3
E	C	5
F	A	4
G	B,D,E	2
Total =		26 weeks

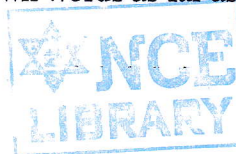
7. What is EVM? Suppose you have project with total budget Rs. 500000/- scheduled to last for 8 months, you check your records and find that you have spent Rs. 300000/- so far. The team has completed only 40% of the project work but when you check the schedule it says that they should have to complete 50% of the work. Now calculate EV, PV, SPI, CPI, EAC, and find the new estimate duration for above project. [2+1+1+1+1+1+1]
8. Why reporting system is required in a project? Explain the hazards of communication error in a project. [3+3]
9. Why risk management is important in project? What are the response strategies for positive risk? [3+2]
10. What do you mean by project procurement management? Explain the different processes adopted in the procurement management? [2+4]
11. How the control charts used to monitor the quality of project result? How to improve quality in ICT project? [3+2]
12. Write short notes on: (Any Five) [5×3]
 - a) Balanced Scorecard (b) COCOMO for ICT project (c) ICT Code of Ethics
 - d) PMMM (e) SWOT Analysis (f) TQM (g) Project Charter

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INSTITUTE OF ENGINEERING
Examination Control Division
2081 Ashwin

Exam.	Back		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management (CT 658)

- ✓ 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) What are the typical stages of Project Life Cycle, as per PMI? Write a brief note. [4]
b) Differentiate between effective and ineffective project managers, at least with five different characteristics. [6]
2. a) Define project portfolio management. Discuss briefly the drivers for making project success. [2+4]
b) What is System development methodology? Mention at least three different methods and compare with Agile development methodology. [2+4]
3. a) Explain the concept of project management processes and discuss how process groups overlap within a project. [5]
b) What type of information should be included while making the project charter? Write a sample project charter. [2+5]
4. A software development project is to be considered by Bhaktamandu, has the following different activities to be accomplished as listed on table below. [10]

Activities	Predecessor	Duration(Days)
A	-	3
B	A	4
C	A	2
D	B	5
E	C	1
F	C	2
G	D,E	4
H	F,G	3

Answer the followings:

- a) Draw the network diagram.
 - b) Find the critical path using given data.
 - c) Calculate late start and late finish.
 - d) Find the Total Float time of Activity E,F.
5. The project was schedule to be completed in 12 months and the budget of the project was Rs 1,20,000. After 4 months it was found that Rs 50,000 has been spent and 40% of the work has been completed. [2+2+2]
- a) Calculate the cost variance and schedule variance for the project.
 - b) Calculate the cost performance index and schedule performance index.

Calculate the estimated cost and time for completing the project if the project continues without any changes.

6. ISO/IEC 5055:2021 is an ISO standard for measuring the internal structure of a software product on four business-critical factors: Security, Reliability, Performance Efficiency, and Maintainability.

If you are building a typical software and associated support system of accounting and financial audit record management system for academic institutes and Universities, how you will be using ISO/IEC 5055:2021 for ensuring quality of your system?

[8]

7. a) Explain briefly on project communication planning. What are the steps to conduct effective meeting?

[3+2]

- b) What are the benefits of procurement management? List out the components of bidding document.

[2+3]

8. Write brief notes on: following

[4×3]

- a) Balanced scorecard
- b) Organizational Process Asset
- c) Possible impact of AGI on Software project management
- d) Tornado analysis

Exam.	Level	BE	Full Marks	80
Programme	BEI		Pass Marks	32
Year / Part	III / II		Time	3 hrs.

Subject: - Project management (CT 658)

- ✓ 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 are the phases in project life cycle? How does a project life cycle differ from product life cycle? [2+3]
2. What are the essential interpersonal skill and managerial skill to be a successful Project Manager? [2+3]
3. Define project management Office. What are the reasons for success of the ICT projects? [2+3]
4. Describe different type of organizational structure. [6]
5. Consider the following activity detail table having all the duration in day answer the followings:

Activity	Predecessor	Duration
A	-	3
B	A	5
C	A	7
D	B	10
E	C	5
F	D, E	4

- a) Prepare the network diagram. [3]
- b) Identify the critical path and activity. [3]
- c) Find the project duration. [2]
6. Describe briefly about nine knowledge area under PMI. [6]
7. What is EVM? If your project is scheduled for 2 years. There are six different teams working on five major functional areas. Some teams are ahead of schedule while others are falling behind. There are cost overruns in some areas but you have also saved costs in others. Due to all this, it is difficult to understand whether you are over or under budget. Nine months into the project, while the total project budget is Rs 4200000/- you have already spent 1650000/- CPI is 0.875/-. Can you perform EV analysis and Budget Forecast? And Find the value of Earn Value (EV) and Variance at Completion (VAC). Does the project is over budget or under budget? [1+2+1+2+1]
8. Define project charter. Describe about project scope mangement process. [1+4]
9. Why communication management is important in ICT project? How to run the effective meeting in project? [3+2]
10. Define project quality. Explain 80/20 rule of the Pareto principle with example. [2+3]
11. Why risk management is an essential part of project management? Describe the risk identification techniques in ICT project? [2+3]
12. What do you mean by Project Procurement Management? What are the different processes adopted for procurement in ICT project? [2+3]
13. Why do you need custom processes for IT Projects? [4]
14. Write short notes on: (Any Three) [3×3]
 - a) Balanced score card (BSC)
 - b) Problem in ICT project
 - c) SWOT analysis
 - d) Characteristics of project

Exam.	Back		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management (CT 658)

- ✓ 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) What is project? List out different bases of project classification. [1+5]
 b) What do you mean by Internal, External and Task/operation environment in project? [2+2+2]
 c) Differentiate between Portfolio, Program and Project with suitable examples. [4]
2. a) What are the phases in Project Life Cycle? How does a Project Life Cycle differ from Product Life Cycle? [2+4]
 b) Explain about Matrix organization and its type. [6]
 c) What is PMI framework? [4]
3. a) Define project scope with example. As a project manager, what type of information you should include while making the project charter? [2+3]
 b) Consider the following activity detail table having all the duration in day answer the followings:

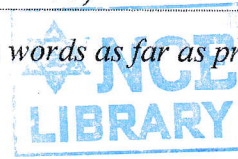
Activity	Predecessor	Duration
A	-	3
B	A	4
C	A	2
D	B	5
E	C	1
F	C	2
G	D, E	4
H	F, G	3

- (i) Prepare the network diagram. [4]
 (ii) Identify the critical activity. [2]
 (iii) Find the project duration. [2]
 (iv) Find EST, EFT, LST, LFT, TF, FF, IF and Independent float. [3]
4. a) Suppose you have a project that is scheduled to be completed in 10 days at a budgeted cost of 100000/- at the end of day 6 you do an analysis and you determine the job is 70% complete and you have spent 65000/-
 (i) What is the project's earned value at Day 6th? [1]
 (ii) What is the project's budget at completion? [1]
 (iii) Is the project ahead, behind schedule or on time? [2]
 (iv) Is the project expected to complete on budget, under or over budget? [2]
 (v) What is project's SPI and CPI at Day 6th? [2]
- b) How is quality assured in software industry? Differentiate between quality assurance and quality control. [4]
 c) Why reporting system is required in a project? Explain the hazards of communication error in a project. [2+2]
5. a) Describe different methods of qualitative and quantitative analysis of risk. [4+4]
 b) Discuss the process of procurement in any project. [5]
 c) Small IT companies can't follow all the suggestions as per PMI, so they can develop their own custom processes for managing project. Do you agree? Discuss. [3]

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management CT 658)

- ✓ 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. Define project management. Why it is important? And how do you identify the completion of project phases? [1.5+2+1.5]
2. What do you mean by general management skill? What are the essential interpersonal and managerial skills? [2+3]
3. What is system view of project management? Explain about three sphere model of system management. [2+4]
4. What is project charter? What type of information should be included while making the project charter? Explain with example. [1+4]
5. What are the differentiation between product life cycle & project life cycle? Describe different types of organizational structure. [2+4]
6. Consider the following project and answer the followings [2+2+1+2+2]
 - i) Construct the network diagram.
 - ii) Calculate the forward and backward pass.
 - iii) Calculate the total time to complete the project
 - iv) Identify the critical path with justifiable calculations.
 - v) Calculate the total float on each activity.

Activity	Predecessor	Duration (days)
A	-	11
B	-	15
C	A	8
D	A,B	10
E	B	5
F	C,D	4
G	E,F	7
Total =		60 days

7. Define EVM. Your project is scheduled for 2 years. Nine months into the project, while the total project budget is Rs 42,00,000. You have already spent Rs 16,50,000. CPI is 0.875. Calculate EV, EAC, ETC, VAC and is the project is behind the schedule or ahead schedule? [2+1+1+1+1+2]
8. What is the project communication management? Why it is important to complete project successfully? Find the no. of communication channels among 7 people. [1+2+2]
9. What is project risk management? What are the risk identification techniques? [2+3]
10. What do you mean by Project Procurement Management? Explain the different processes adopted in the procurement management? [2+4]
11. Quality is one the most important factors to be considered for effective delivery of project objectives. How quality assurance and quality control is implemented in order to deliver a successful project? [2+3]
12. Write short notes on: (Any Five) [5×3]
 - a) Balanced Scorecard (BSC)
 - b) Role of Feasibility Study
 - g) WBS
 - c) Project Triple Constraints
 - d) Quantitative Risk Analysis
 - e) Statement of Work (SOW)
 - f) Portfolio Management

TRIBHUVAN UNIVERSITY
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Examination Control Division
2080 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management (CT 658)

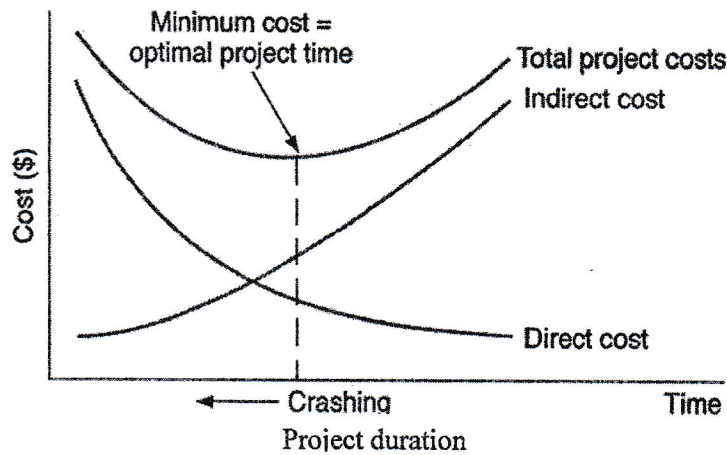
- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.



1. a) Discuss briefly the challenges in IT project in Nepal. [4]
- b) One of the famous actors, Bill Cosby, once said "I don't know the key to success but the key to failure is trying to please everybody." How relevant is this statement in the field of IT System Project Management? What are other traits of successful Project Manager? Explain. [6]
2. a) Differentiate and compare among various organizational structures, with examples. [6]
- b) .What is system view of project management? Explain about three sphere model of system management. [6]
3. Imagine you have got the role of Project Manager for a software project that will make personalized and secure access of your semester-end mark-sheet possible. This will relieve Exam Control office for printing semester end marksheet rather students will browse and download semester end mark-sheet as pdf only through either using browser or ECD app.
- a) Prepare a brief project scope document for the above system project work. [7]
- b) While making the process groups, what are the important considerations that you have to manage and take care of? [5]
4. KasthaPur, an innovative company list out the following activities with its duration in week for upcoming project. [10]

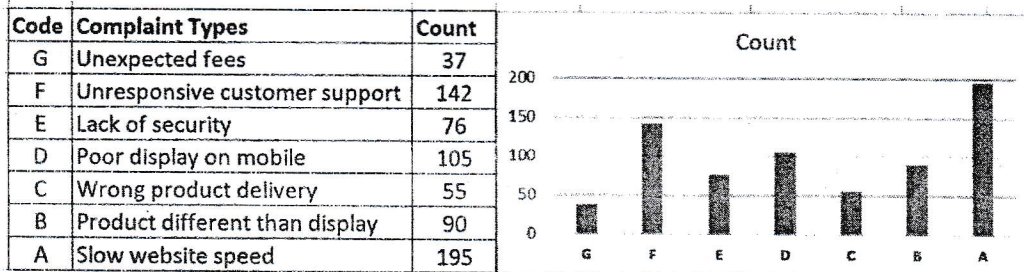
Activity	Immediate predecesso	Duration (weeks)	Answer the followings: a) Prepare activity network diagram. b) Calculate the forward pass and backward pass. c) Calculate the Total float and Free float. d) Identify the critical activity and critical path.
A	-	2	
B	A	3	
C	A	5	
D	B	1	
E	A,B	2	
F	C,D	4	
G	E,F	3	

5. Project Crashing is termed as optimal point of trade-off between project cost and project time for any project while assessing delayed or over-run project. Do you agree or not? In any case justify with the help of right-side graph. [6]



6. Consider below data about customer complaint on e-commerce portal and their services. Draw a free-hand sketch of Pareto diagram after having Pareto analysis with clearly showing all necessary calculations. As per Pareto principles, which are the first three complaints should be addressed first? What will be the coverage of issues by these solving such three issues?

[6+2]



7. a) Discuss briefly on risk identification techniques. Create a sample risk register of any ICT related project.

[2+3]

- b) What do you mean by Project Procurement Management? What are the different processes adopted for procurement in ICT project?

[2+3]

8. Compare the followings:

[4×3]

- Project Cost management versus Earned Value management
- Project Manager versus Program Manager as per PMI
- KPI versus Balanced scorecard
- Formal versus informal communication in PM

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INSTITUTE OF ENGINEERING
Examination Control Division
2079 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management (CT 658)

- ✓ 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. Define project. Differentiate between project and operation. [2+2]
2. Define PMBOK. How the external environmental influences on ICT project? [2+3]
3. What is system view of project management? Explain about three sphere Model of system management. [2+3]
4. Describe about functional organization structure. What are the disadvantages of projectized organizational structure? [3+2]
5. Construct a network diagram for this project and find the critical path using data below. Calculate the Late Start, Late Finish and find the total float. [3+1+1+2]

Activities	Predecessor	Duration (days)
A	-	5
B	A	4
C	A	3
D	A	2
E	B	8
F	C	7
G	D	6
H	E, F, G	4

6. Describe about project process groups. [6]
7. Define EVM. Suppose you are the project manager on an IOT project. The project is set to be completed in 10 months with an estimated cost of Rs 500,000. The project has been running for 5 months now, the team has spent Rs 220,000 and completed an amount of work worth Rs 255,000. Calculate CPI and SPI and Share your conclusion. [1+2+2+1]
8. What is Project Integration Management? What type of information should include while making the project charter? [2+3]
9. Why communication management is important in IT project? As a project manager how do you conduct meeting effectively? [3+3]
10. Quality is one of the most important factors to be controlled for effective delivery of project objectives. How quality assurance and quality control are implemented in order to deliver a successful project? [5]
11. Explain about risk management plan. What are the different sources of risk in IT project? [2+3]
12. Explain about procurement management process flow. [2+3]
13. What is balanced scorecard (BSC)? How is it used in Business Organization? [4]
14. Write short notes on: (Any Three) [3×4]
 - a) Need custom processes for IT project
 - b) Project tripple constraints.
 - c) Different quantitative technique of risk analysis
 - d) Future trend of IT projects

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INSTITUTE OF ENGINEERING
Examination Control Division
2078 Chaitra

Exam.	Regular		
Level	BE	Full Marks	80
Programme	BEI	Pass Marks	32
Year / Part	III / II	Time	3 hrs.

Subject: - Project Management (CT 658)

- ✓ 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) How can you relate the characteristics of project with your minor project? [4]
- b) Define PMBOK. Explain, how project environment influences on IT project? [1+4]
- c) Define project portfolio management. What are the reasons for failure of the ICT projects? [2+5]
2. a) Explain role and responsibilities of key project members. [6]
- b) What is system view of project management? Explain, how organizational structures influence the IT projects? [2+3]
- c) Explain overlaps of project process groups with clear diagram. [5]
3. a) Define the Project Integration Management. What are the essential information required to create Project Charter? [3+3]
- b) Consider the following table of activities.

Activities	Predecessor	Duration (Days)
A	Start	2
B	A	2
C	A	4
D	B, C	2
E	D	4
F	C	4
G	F	3
H	E, G	1
End	H	None

- (i) Draw the network diagram. [2]
- (ii) Complete the forward and backward passes. [4]
- (iii) What activities are on the critical path? Mark critical path in bold Line. [2]
- (iv) Which activities have Total Slack and Free Slack? [2]
4. a) What is EVM? Calculate the schedule and cost variance for a project whose estimated budget is \$100,000 and estimated time is 50 man months. 5 people were involved in the project. After 7 months, 60% of work was completed and \$80,000 was expended. Also estimate the new cost and time for the project. [2+5]
- b) Quality is one of the most important factors to be controlled for effective delivery of project objectives. How quality assurance and quality control are implemented in order to deliver a successful project? [2+3]
- c) Why communication management is important in IT project? As project manager, how do you write effective email? [2+2]
5. a) What is project risk? Explain about risk management plan. [1+4]
- b) Explain step by step procedure for procurement management process in government/public entity. [7]
- c) Write short notes on: [2×2]
 - (i) Custom processes for IT project
 - (ii) Balanced Score card