



UNIVERSITY OF RUHUNA
FACULTY OF MANAGEMENT AND FINANCE

No. of Pages : 04
No. of Questions: 05
Total Marks :70

BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

3000 LEVEL FIRST SEMESTER END EXAMINATION -- AUG / SEP 2025

Three Hours

HRM 31433 - Project Management

Academic Year 2024/2025

Instructions

- ➡ The question paper contains five (05) questions.
- ➡ Answer all questions.
- ➡ Non-programmable calculators are allowed.

(1)

(i) "The knowledge and skills of project management can be transferred across industries." Do you agree with this statement? Explain your answer.

(07 marks)

(ii) Is there a set career path in project management? Briefly describe.

(07 marks)

(Total marks 14)

(2)

(i) Explain the key components of project management.

(03 marks)

(ii) The ORION project team has begun collecting information needed to develop a project network. The information relevant to predecessor activities and activity durations (in months) is provided in the following table.

Activity	Immediate Predecessor	Duration (months)
A	None	5
B	A	10
C	A	6
D	B	10
E	B	3
F	B, C	4
G	D, E, F	12

a) Create the project network using the above information (Activity-On-Arrow method).
(05 marks)

b) What is the critical path and expected duration of the project?
(02 marks)

c) Can activities "D" and "F" be delayed without delaying the entire project? Explain your reasons.
(04 marks)
(Total marks 14)

(3)

(i) What is the meaning of **Optimistic**, **Most Likely**, and **Pessimistic** time durations in relation to a project?
(03 marks)

(ii) Consider the following project tasks and their identified Optimistic, Most Likely, and Pessimistic time durations. Assume activities A-B-D-G-I-K are the critical path of the project.

Time in days			
Activity	Optimistic	Most Likely	Pessimistic
A	4	7	10
B	2	4	8
C	2	5	8
D	16	19	28
E	6	9	24
F	1	7	13
G	4	10	28
H	2	5	14
I	5	8	17
J	2	5	8
K	17	29	45

a) Calculate the weighted average time of each activity.
(03 marks)

b) Calculate the variance of each activity.
(03 marks)

c) What is the expected duration of the project?
(02 marks)

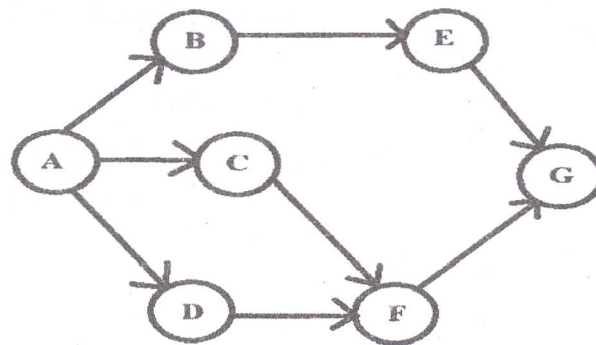
Find the probability of completing the project in 90 days?

(03 marks)
(Total marks 14)

(4)

Suppose you are considering crashing a project. The project's network and the details of time (in weeks) and cost estimations relevant to the activities are stated below.

Activity	Slope (Rs.000)	Maximum crash time (weeks)	Direct costs (Rs.000)			
			Normal		Crash	
			Time	Cost	Time	Cost
A	20	1	3	70	2	90
B	40	2	6	120	4	200
C	30	1	10	70	9	100
D	25	4	11	50	7	150
E	30	2	8	100	6	160
F	30	1	5	90	4	60
G	0	0	6	70	6	70



(i) State the critical path and the duration of the project.

(03 marks)

(ii) Crash the relevant activities of the project until you reach the crash point. (The point at which the duration cannot be further reduced).

(08 marks)

(iii) Calculate the expected duration and direct cost of the project once it has reached the crash point.

(03 marks)
(Total marks 14)

(5)

(i) Briefly explain the difference between direct costs and indirect costs associated with a project.

(03 marks)

(ii) Explain the meaning of project control and the main steps involved in it.

(03 marks)

(iii) The performance of a project was evaluated after four (04) days of its inception. The relevant information for the project is shown in the following table.

Activity	Duration (Days)	Planned value (Rs. 000)	(Baseline planned value Rs. 000)						% Completed after 4 days	Actual cost (Rs. 000)
			1	2	3	4	5	6		
1	3	13	5	8					100%	14
2	4	16	3	7	6				100%	19
3	3	9	4	5					100%	11
4	3	7			3	4			100%	9
5	3	10				5	5		35%	4
6	4	10			3	3	4		64%	9
7	2	6						6	0	0

Compute the following.

a) Cost Variance (CV)

(02 marks)

b) Schedule Variance (SV)

(02 marks)

c) Cost Performance Index (CPI)

(02 marks)

d) Schedule Performance Index (SPI)

(02 marks)

(Total marks 14)