



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 6 Examination in Engineering: February 2020

Module Number: IS6203

Module Name: Entrepreneurship and Project Management

[Three Hours]

[Answer all questions, each question carries ten marks]

- Q1. a) Define the term 'entrepreneurship' in your own words. [2 Marks]
- b) List and explain key characteristics of an entrepreneur. [4 Marks]
- c) 'Entrepreneurs are moderate risk takers.' Do you agree with this statement or not? Explain your answer. [4 Marks]
- Q2. a) Briefly explain the term 'Innovation' in your words. [2 Marks]
- b) What are the different types of innovation? Explain three of them briefly. [5 Marks]
- c) Briefly explain the inter-relationships between innovation, entrepreneurship, and engineering science. [3 Marks]

Q3. a) Explain the necessity and importance of developing a business plan.

[3 Marks]

b) List down main sections of a business plan.

[2 Marks]

c) What are the key barriers towards entrepreneurship in Sri Lanka? Suggest strategies to overcome such obstacles.

[5 Marks]

Q4. a) Briefly explain the term 'Project' in your words.

[2 Marks]

b) Explain the concept of 'Work Breakdown Structure (WBS)' by using an example from your engineering specialization.

[4 Marks]

c) Briefly explain the project managers' role.

[4 Marks]

Q5. Using the information in Table 1;

a) Draw a network diagram using Activity on Arrow (AoA) method.

[6 Marks]

b) Find the project completion time.

[2 Marks]

c) State the critical path.

[2 Marks]

Table 1

Activity	Predecessor	Duration (days)
A	-	10
B	-	20
C	-	5
D	B	16
E	B	20
F	B	18
G	A, D	10
H	A, D	14
J	F	8
I	F	6
K	C, J	10
L	H, E, I, K	16
M	C, J	10

Q6. The activities associated with a project and related details are given in the following Table 2.

Table 2

Activity	Predecessor	Normal Time (Days)	Crash Time (Days)	Normal Cost (Rs.)	Crash Cost (Rs.)
A	-	2	1	1000	2000
B	A	3	2	800	1200
C	B	5	3	500	1500
D	B	4	2	2000	4000
E	B	5	4	500	2500
F	C	7	4	3000	6000
G	C	2	1	800	1400
H	F, G	2	1	400	1200
I	D, E, H	8	5	4200	6000
J	I	6	4	1000	4000

a) Draw a network diagram for the project.

[2 Marks]

b) Find the critical activities and the critical path.

[2 Marks]

c) Find the project completion time and cost.

[2 Marks]

d) If client wants to reduce the project completion by 2 days, what is the minimum additional cost required?

[4 Marks]