UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 6 Examination in Engineering: January 2022

Module Number: IS6203   **Module Name: Entrepreneurship and Project Management**

[Three Hours]

[Answer **all question**, each question carries ten marks]

Q1 a) Define the term 'entrepreneur' in your own words.

[3 Marks]

b) Briefly explain four key characteristics of an entrepreneur.

[4 Marks]

c) Explain the impact of entrepreneurship on economy.

[3 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.

[6 Marks]

c) Briefly explain the inter-relationships between innovation and entrepreneurship.

[2 Marks]

Q3 a) Briefly explain the reasons for entrepreneurs to start business.

[2 Marks]

b) Explain the key elements of a business plan.

[5 Marks]

c) What are the main benefits of developing a business plan?

[3 Marks]

Q4 a) Briefly explain the term 'Project' in your words while explaining its characteristics.

[2 Marks]

b) Explain the concept of 'Work Breakdown Structure' 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 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

Task	Description	Duration (Days)	Predecessor/s
A	Requirement Analysis	5	-
B	Systems Design	15	A
C	Programming	25	B
D	Telecoms	15	B
E	Hardware Installation	30	B
F	Integration	10	C, D
G	System Testing	10	E, F
H	Training / Support	5	G
I	Handover and Go-Live	5	H

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]