National University
Science & Technology

International Maritime College Oman
كليــة عمــان البحــرية الدوليــة

ACADEMIC YEAR 2024- 2025

Program	Year	Semester	Paper
LTM	**1**	**2**	**FINAL**

MODULE NAME:	**IT FOUNDATION**		
MODULE CODE:	**PIT I. II**	EXAM DATE:	**8/06/2025**
INSTRUCTOR's NAME:	**Mitha Al-Khazimi**	DURATION:	**2 hrs.**

Questions to be answered on:	Allowed tools:	Number of pages
✓ Space provided on the question paper + submission of the file to Blackboard	Pen, Pencil & Calculator	(Incl. cover page): **5**

Points of attention:

- For each question, the maximum earned points are mentioned between brackets at the end of each question.
- Write very clearly! Answers that are not readable are not marked and don't get points!
- Make sure your answers are written to the point.
- All answers should be written **in English.**
- Write all the answers in **blue or black pen only.**
- Use the **pencil** only for **diagrams & graphs.**
- Show all the calculation steps in the given space.
- When finished submit the question paper, together with the answer scripts and the signed cover page to the invigilator.
- Any cheating/copying may result in an instant failing of the examination.

FINAL MARKS

STUDENT NAME:	**40**
STUDENT ID:	**10**

Number of answer scripts:…...…………..   **Invigilator:**……………..……………..……

Student's signature: …………………….…   **Time of receipt:**…………………...……

Question 1   [15 Marks]

A logistics company in Sohar Port is working on a project that requires several activities to be completed over time.
Answer the following questions based on the table below.

Activity	Duration /Days	Predecessor
A	2	–
B	5	–
C	1	–
D	10	B
E	3	A, D
F	6	C
G	8	E, F

1. Draw the network diagram for the above table.

2. List the network paths.

3. Determine the critical path(s).

4. Calculate ES, EF, LS, and LF.

5. Determine the free float (FF) for all activities.

6. Determine the total float (TF) for all activities.

Question 2   [15 Marks]

Imagine you are responsible for delivering a shipment of frozen meat from Sohar to Muscat.

Your main task is to ensure that the shipment arrives safely and remains at the correct temperature throughout the journey.

Instructions:

Using the **Bow Tie model diagram**, analyse the situation and identify the following:

a. **Hazard** – What is the main risk involved in transporting this shipment?

b. **Top Event** – What is the critical event that could happen if the hazard is not controlled?

c. **Threats** – What are the possible causes that could lead to the top event?

d. **Preventative Barriers** – What measures can be taken to prevent these threats from happening?

e. **Mitigative Barriers** – If the top event occurs, what actions can reduce the impact?

1. **What does the "knot" in the Bow-Tie diagram represent?**
A) The main cause of the event
B) A preventive control
C) The Top Event (the central risk event)
D) The final consequence

2. **One disadvantage of the Bow-Tie method is:**
A) It gives an unclear picture of the risks
B) It cannot be used for hazard analysis
C) It relies heavily on expert judgment
D) It does not include any barriers

3. **If the Early Start (ES) of an activity is 7 and the duration is 12, what is the Early Finish (EF)?**
A) 19
B) 18
C) 12
D) 20

4. **What is the Critical Path in project management?**
A) The shortest sequence of activities to finish the project
B) The longest sequence of activities without delay
C) Tasks that can be delayed without affecting the project
D) An optional path of activities

5. **Tracking progress and making adjustments to keep the project on track is done in which phase?**
A) Initiation
B) Planning
C) Monitoring and Controlling
D) Execution

6. **Projects are generally created to:**
A) Maintain daily business operations
B) Explore theories only
C) Achieve specific objectives within defined limits
D) Function without a defined outcome

7. **What is Free Float?**
A) Time an activity can be delayed without affecting any following activities
B) Time an activity can be delayed without affecting the project end
C) Duration of the critical path
D) Time required to complete all tasks

8. Mitigative barriers are used to:
A) Stop the hazard from occurring
B) Eliminate all project risks
C) Reduce the severity of the consequences after the top event
D) Identify future risks

9.Which of the following is true about non-critical activities in CPM?
A) They can never be delayed
B) They have zero float
C) They can be delayed without affecting the project completion date
D) They are not part of the project

10. What is the purpose of identifying slack or float in a project schedule?
A) To find the most expensive tasks
B) To allow flexibility in scheduling non-critical activities
C) To eliminate unnecessary resources
D) To extend the overall project timeline

MLO & Bloom's Level of Complexity

Q #	MLO Addressed	Complexity Level	Mark	Remark
1	5	Application	15	
2	1, 2	Application	15	
3	4	Remembering & understanding	10	