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UNIVERSITI KUALA LUMPUR
Malaysian Institute of Marine Engineering Technology

FINAL EXAMINATION

JULY 2025 SEMESTER SESSION (7-WEEK)

SUBJECT CODE	:	**LKB40503**
SUBJECT TITLE	:	**OFFSHORE PROJECT MANAGEMENT**
PROGRAMME NAME (FOR MPU: PROGRAMME LEVEL)	:	**BET (OFFSHORE) WITH HONOURS**
TIME / DURATION	:	**09.00 AM - 11.30 AM (2 HOURS 30 MINUTES)**
DATE	:	**18 SEPTEMBER 2025**

INSTRUCTIONS TO CANDIDATES

1. Please read **CAREFULLY** the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **TWO (2)** sections; Section A and Section B.
4. Answer **ALL** question in Section A, and **THREE (3)** questions **ONLY** in Section B.
5. Please write your answers on the OMR sheet for Section A and answer the booklet provided for Section B.
6. Answer **ALL** questions in English language **ONLY**.

THERE ARE 12 PAGES OF QUESTIONS, EXCLUDING THIS COVER PAGE.

SECTION A (40 marks)

INSTRUCTION: Answer ALL questions.

Please use the OMR provided.

1. While managing an offshore project, what task would the Operations Department typically perform to support daily execution?
   A. Draft environmental compliance reports
   B. Supervise daily site operations and manage resources
   C. Negotiate service contracts with legal counsel
   D. Handle staff recruitment processes

2. During offshore operations, how should employees apply their obligations under Malaysian labour laws?
   A. Participate in labor union planning
   B. Report unsafe practices and follow safety rules
   C. Oversee departmental financial accounts
   D. Approve organizational policy changes

3. How does onshore engineering contribute during the early stages of an offshore project?
   A. Develop advertising campaigns
   B. Fabricate and test structures for offshore use
   C. Conduct underwater inspections
   D. Manage accommodation planning

4. While working offshore, what condition typically defines the working environment?
   A. Minimal risk with simple workflows
   B. Low involvement with onshore planning
   C. High operational risk from environmental challenges
   D. Lack of regulatory control

5. In an offshore development project, how does the onshore team support the offshore team?
   A. By controlling offshore tasks remotely
   B. By providing preparation and logistical coordination

C. By working independently from offshore functions

D. By overseeing procurement of offshore assets

6. When starting a new offshore project, what does defining the project mission help to achieve?

A. Track financial spending

B. Clarify the project's core reason and overall goal

C. Finalize the expected deliverables

D. Assign a timeline to each task

7. How does the temporary nature of offshore projects influence project execution?

A. It creates a long-term maintenance schedule

B. It focuses the project on site profitability

C. It emphasizes the unique and time-bound goals

D. It narrows environmental impact

8. As a project manager initiating a new scope, what must be established to guide the team?

A. Conduct end-of-project audit

B. Define scope and objectives

C. Finalize procurement list

D. Hire safety consultants

9. What is the relationship between a project mission and its objectives?

A. Objectives define the mission's purpose

B. Objectives are broader than mission statements

C. The terms are used interchangeably

D. Mission explains the purpose; objectives break it into measurable parts

10. Which of the following would a work package typically include in offshore execution?

A. Instructions for regulatory reviews

B. A clearly defined and manageable set of tasks

C. Financial risk assessments

D. The master safety checklist

11. In the context of offshore maintenance, how can project management contribute to equipment reliability?
    A. By designing platform prototypes
    B. By scheduling inspections and routine repairs
    C. By discussing new client contracts
    D. By leading environmental lobbying efforts

12. Which activity best represents the role of the Operations Department on-site?
    A. Writing training guidelines
    B. Supervising installation and routine maintenance
    C. Calculating employee bonuses
    D. Drafting procurement contracts

13. When drafting offshore contracts, why is it critical to detail terms and conditions?
    A. To allow for frequent changes in scope
    B. To safeguard responsibilities and expectations of all parties
    C. To reduce payment milestones
    D. To avoid legal requirements

14. While preparing work packages for offshore repairs, what must you ensure?
    A. Include branding tasks
    B. Make tasks measurable, clear, and achievable
    C. Exclude external contractors
    D. Minimize safety documentation

15. In a projectized structure, who holds the main decision-making authority?
    A. Department heads
    B. Project manager
    C. General manager
    D. Field supervisor

16. How does the Operations Department benefit from Project Control's input?
    A. Operations supervises Project Control's deliverables
    B. Project Control supplies progress data to support scheduling
    C. Both departments operate separately
    D. Operations tracks budgets while Control oversees safety

17. How does enforcing safety practices help achieve project objectives?
    A. It improves output quantity
    B. It reduces long-term operating costs
    C. It protects workers and prevents accidents
    D. It enhances brand visibility

18. What is one advantage of using a matrix organizational model for offshore projects?
    A. Strict task separation
    B. Shared resources and stronger collaboration
    C. No managerial conflicts
    D. Simpler task scheduling

19. Why might a project team undergo restructuring?
    A. To prolong project duration
    B. To improve collaboration and optimize resources
    C. To reduce stakeholder involvement
    D. To assign more managers

20. How does reorganizing a project team contribute to project performance?
    A. By decreasing overhead costs
    B. By streamlining communication and aligning with goals
    C. By adding complexity to reporting
    D. By removing role duplication

21. What role does stakeholder communication play in project delivery?
    A. It slows down decision-making
    B. It keeps all parties engaged and informed of progress
    C. It defines material procurement cycles
    D. It eliminates project risk

22. How would you apply a risk register in project execution?
    A. Use it to plan team meetings
    B. Use it to record and monitor identified risks
    C. Use it to estimate project costs
    D. Use it to assign WBS codes

23. As a project manager, how do you coordinate multiple work packages effectively?
A. Delegate all responsibility to departments
B. Monitor progress and integrate tasks across all teams
C. Focus on financial reporting
D. Supervise repair activities only

24. What is meant by "site conditions" in offshore projects?
A. Ownership details
B. Physical and environmental characteristics at the project site
C. Project's scope and schedule
D. Site-level revenue models

25. How would you apply risk mitigation in an offshore project?
A. Remove all project-related risks
B. Minimize the likelihood or impact of potential risks
C. Assign tasks to HR teams
D. Increase the contingency portion of the budget

26. Which document would you prepare during the Project Initiation phase to outline the project's purpose and key stakeholders?
A. Work Breakdown Structure (WBS)
B. Project Charter
C. Risk Management Plan
D. Communication Matrix

27. When defining project goals, how does this help the team perform better?
A. By calculating costs of materials
B. By providing clarity and direction for team members
C. By reviewing regulatory documents
D. By assigning tasks to supervisors

28. In a hierarchical structure used in offshore engineering, how are decisions typically made?
A. Through democratic team discussions
B. By senior management and passed down the chain
C. By external project consultants
D. By consensus voting

29. What tool would you use during the monitoring and controlling phase to track progress against project objectives?
A. Project charter
B. Performance measurement baseline
C. Final audit report
D. Offshore vendor agreement

30. In a projectized organization, how should a project manager apply their authority?
A. Oversee all departments daily
B. Lead and control all project-specific activities
C. Supervise HR and finance functions
D. Monitor general company operations

31. How does the Project Management Office (PMO) contribute during offshore project execution?
A. Manage offshore cargo logistics
B. Plan, coordinate, and support overall project delivery
C. Handle employee complaints
D. Create promotional materials

32. How would you explain the project life cycle in an offshore context?
A. The manufacturing process for offshore parts
B. The sequential phases from initiation to closure
C. A single phase's timeline
D. The budget tracking system

33. How would you describe material handling in an offshore setting?
A. Drafting compliance documentation
B. Transporting, storing, and lifting project equipment
C. Performing safety audits
D. Conducting staff performance reviews

34. What is your main responsibility during the monitoring and controlling phase?
A. Deliver final outputs
B. Create new project objectives
C. Track and adjust progress/performance metrics
D. Close all documentation

35. To comply with Malaysian Labour Laws, what must offshore employers ensure?
A. Weekly pay regardless of working hours
B. Safe work environments and fair employment practices
C. Free accommodation on-site
D. Annual bonuses for all field staff

36. What should be your main task during project planning?
A. Wrap up and close the project
B. Define scope, objectives, and timelines
C. Start work package execution
D. Reflect on completed lessons

37. Which situation below represents a risk factor in offshore engineering?
A. Calm sea conditions
B. Routine team meetings
C. Unpredictable weather patterns
D. Early material delivery

38. Which of the following illustrates a major challenge in offshore contract administration?
A. Managing sea conditions
B. Handling disputes and contract modifications
C. Avoiding key deliverables
D. Ignoring safety guidelines

39. How would you use a contingency reserve in project financial planning?

A. Increase available budget

B. Allocate funds for anticipated and unexpected risks

C. Cover day-to-day labor costs

D. Discourage risk-taking behavior

40. Which metric would you monitor to evaluate offshore safety performance?

A. Offshore project profit margin

B. Lost Time Injury Frequency (LTIF)

C. Number of staff promotions

D. Production volume

SECTION B (Total: 60 marks)

INSTRUCTION: Answer only THREE (3) questions.
Please use the answer booklet provided.

Question 1

Offshore engineering projects represent some of the most complex and resource-intensive undertakings in the engineering and construction sector. Unlike conventional land-based projects, offshore developments—whether in oil and gas, renewable energy, or subsea infrastructure—are executed in physically remote and often hostile environments. These projects must contend with unpredictable weather conditions, limited accessibility, stringent safety regulations, and highly specialized equipment requirements, all of which demand unique management approaches and tailored execution strategies.

The differences between offshore and land-based projects extend beyond physical location; they shape every stage of the project lifecycle, from feasibility studies and design to construction, commissioning, and maintenance. Factors such as the cost of mobilizing offshore resources, dependence on marine logistics, real-time communication limitations, and higher safety risks influence project scheduling, budgeting, and workforce deployment.

(a) Critically compare the defining characteristics of offshore engineering projects with those of conventional land-based projects. In your analysis, evaluate how these differences influence project strategy and execution.

(6 marks)

(b) Evaluate the implications of operating in remote offshore locations on project management practices. In your answer, consider factors such as logistics, communication, safety, and cost control, and assess how these influence decision-making.

(8 marks)

(c) From an environmental governance perspective, analyze three (3) major regulatory or ecological challenges that could threaten the viability of an offshore engineering project. Propose realistic strategies to address each challenge.

(6 marks)

Question 2

The construction phase in offshore projects is one of the most resource-intensive and operationally complex stages of the project lifecycle. Unlike land-based developments, offshore construction takes place in environments where access is limited, conditions are unpredictable, and operational windows are often constrained by weather, regulatory approvals, and logistical challenges. This demands careful balancing of three critical management elements—resource management, risk management, and time management—each of which directly influences project cost, safety, and quality.

(a) Analyze the interrelationship between resource management, risk management, and time management during offshore construction. Explain how trade-offs between these elements can affect project outcomes.

(6 marks)

(b) Assess how each of the above elements contributes to overall project success. Support your evaluation with specific examples from offshore contexts.

(6 marks)

(c) Critique four (4) major challenges a project manager might encounter when attempting to balance these elements in a live offshore project. Recommend decision-making approaches that can minimize negative impacts.

(8 marks)

Question 3

Monitoring and controlling in offshore projects go beyond tracking progress; they are strategic functions that enable proactive decision-making, risk mitigation, and performance optimization. Effective control systems integrate cost management, scheduling, quality assurance, and safety oversight, supported by clear communication protocols and transparent reporting channels. These systems must also be agile enough to respond to unforeseen events such as equipment failure, marine transport delays, or sudden regulatory changes.

(a) Analyze the strategic role of monitoring and controlling in offshore project execution, with a focus on preventing cost overruns, schedule delays, and quality failures.

(6 marks)

(b) Develop a monitoring and risk management approach for an offshore wind farm installation. Your plan should integrate progress tracking tools, performance metrics, and communication protocols to enable early intervention.

(6 marks)

(c) Evaluate how Earned Value Management (EVM) can be used to guide decision-making in cost and schedule control during offshore construction. In your answer, discuss at least four EVM metrics or processes, and explain how each supports corrective action.

(8 marks)

Question 4

In offshore project management, the seamless integration of project phases with the right team structures is essential for ensuring that objectives are met efficiently, safely, and within budget. Offshore projects typically progress through distinct phases—**conceptualization, design, construction, installation, and operation**—each with its own technical demands, resource requirements, and management priorities. The nature of the work, the expertise needed, and the decision-making processes can vary significantly from one phase to another, requiring deliberate adjustments to team composition and leadership focus.

(a) Analyze how different phases of an offshore project (conceptualization, design, construction, installation, operation) require changes in team composition. Evaluate the risks of misalignment between team structure and project phase.

(6 marks)

(b) Examine how the role of the project manager evolves across the various phases of an offshore project. Provide examples to illustrate shifts in leadership priorities and competencies required.

(8 marks)

(c) Evaluate the potential operational and financial consequences of an inadequate team structure during the execution phase. Propose strategies to restructure the team to restore project efficiency and safety.

(6 marks)

END OF QUESTION PAPER