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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2022/2023**

- COURSE NAME : PROJECT AND RISK  
MANAGEMENT IN OIL AND GAS
- COURSE CODE : BDC 41303
- PROGRAMME CODE : BDD
- EXAMINATION DATE : FEBRUARY 2023
- DURATION : 3 HOURS
- INSTRUCTION : 1. ANSWERS ALL QUESTIONS.  
2. THIS FINAL EXAMINATION IS  
CONDUCTED VIA **CLOSED BOOK**.  
3. STUDENTS ARE **PROHIBITED**  
TO CONSULT THEIR OWN  
MATERIAL OR ANY EXTERNAL  
RESOURCES DURING THE  
EXAMINATION CONDUCTED VIA  
CLOSED BOOK .

THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

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Q1 (a) Choose the correct answer for the items below:

- i. A process which a modern refinery can get up to 70% gasoline from the same quality crude through:
- I. Advance reforming
  - II. Fractioning
  - III. Cracking
  - IV. Boiling
- A. I  
B. I & II  
C. I & III  
D. I & IV
- ii. Choose FALSE statement in joint site visit before work commences.
- A. Conducted at the intended work location.
  - B. Conducted during permit to work application.
  - C. Ensure all work preparation, precautions, equipment, and conditions are implemented or in placed.
  - D. Site is safe before the work to commence.
- iii. Name an offshore structure held in place by vertical tendons connected to the sea floor by pile-secure templates.
- A. Shallow water complex
  - B. Gravity base
  - C. Compliant tower
  - D. Floating production
- iv. A wellhead may also be an injection well, used to inject water or gas back into reservoir to maintain pressure and levels to maximize production.
- A. True
  - B. False
- v. What is the type of medical examination test mandatory to perform if someone want to do a job at offshore.
- I. Urine
  - II. X-ray
  - III. Spirometry
  - IV. Audiometry
  - V. Blood
- A. I & II  
B. I, II & III  
C. I, II, III & IV

D. I, II, III, IV & V

(5 marks)

(b) Refining was necessary to divide the crude in fractions that could be blended to precise specification and marketable products. Draw and evaluate the fractioning column through process diagram together with end products.

(8 marks)

(c) The midstream part of the value chain is often defined as gas plants, LNG production and regasification and oil & gas pipeline transport systems. Support this statement by draw a process flow diagram that start from production facility until product of midstream.

(7 marks)

**Q2** (a) The project team is a group of people, including the project manager, who is responsible for managing the project to meet project objectives and deliver value and benefits to the organization. Meanwhile, the team members can change throughout the project as people are added to and released from the project. Differentiate FIVE (5) roles of a project manager and the team members.

(10 marks)

(b) Five stages of Project Management Process are Initiating, Planning, Executing, Monitoring and Controlling, and lastly Closing. Distinguish which stage requires more time and effort, and explain SEVEN (7) actions involved in the selected stage.

(10 marks)

**Q3** (a) A project schedule network diagram is an image depicting the flow of project activities in the logical order in which they will be performed. Based on the data in the **Table Q3a**,

i. Sketch a complete network diagram for the activities from start to end.

(4 marks)

ii. Justify how the network diagram can help in the project management.

(6 marks)

(b) You are the Project Manager and in the process of midway review at the end of first year of a RM 50,000 project. The Earned Value Analysis (EVA) shows that the PV is RM 25,000, the EV is RM 20,000 and the AC is 15,000. Asses the performance of your project in term of schedule, budget and cost spent.

(10 marks)

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**Q4** (a) You are working together in a project when some issues arise in the execution phase that might affect the delivery period. You notify the management that there could be a cost increase if a risk occurs because no action is currently being taken to prevent the risk. In this situation, justify what type of risk you are facing and the response strategy to overcome it?

(6 marks)

(b) Suppose the Project Manager is planning courses of action to develop the strategy for the project. Courses A and B are both feasible options and can be implemented. Senior management has directed that risk be considered, but there is a need to maximize the profit on this project. Course A has the investment cost of RM 40,000, a potential profit of RM 127,500 with a probability of 0.75 success. Another 0.25 probability of failure has potential profit of RM 10,000. While for Course B, the investment cost is RM 75,000, probability of 0.6 success on potential profit of RM 85,000, and 0.4 probability of failure of RM 25,000 profit.

i. Sketch the decision tree to show the means for selecting the most profitable option.

(5 marks)

ii. Examine the Expected Monetary Value (EMV) for both Course A and B.

(7 marks)

iii. Recommend the best option to maximize the profit.

(2 marks)

**Q5** (a) Choose the correct answer for the items below:

i. Name the facility that perform lifting job and have a spider's web of anchor to hold their exact position.

- A. Stand-by vessel
- B. Supply vessel
- C. Crane barge
- D. Flotel

ii. Define three elements are required for combustion.

- I. Fuel
- II. Oxygen
- III. Heat
- IV. Gas

- A. I, II & III
- B. II, III & IV
- C. I, III & IV
- D. I, II & IV

- iii. C-A-B is the sequence of techniques used to sustain life in the absence of spontaneous breathing known as Cardio Pulmonary Resuscitation (CPR). Define C-A-B.
- A. Call, Act & Breath
  - B. Compression, Airway & Breathing
  - C. Cut, Airway & Breathing
  - D. Compression, Aim & Breathing
- iv. If there are a number of survivors in the water, they should form a \_\_\_\_\_ in an effort to stay warmer, remain together and to be seen more easily by rescuers.
- A. HELP
  - B. HUDDLE
  - C. AWAY
  - D. MANDAY
- v. A method that a person steps from the boat to the offshore installation or from the installation to the boat with the help of a knotted rope.
- A. Crew Basket Transfer
  - B. Frog Transfer
  - C. Gangway Transfer
  - D. Swing Rope Transfer

(5 marks)

(b) Knowing where to go in an emergency and how to get there is crucial for offshore workers. The instructions for the alerts and how to handle them are provided in the station bill. In case of an emergency, determine the five most important locations on the installation.

(5 marks)

(c) A new type of in-flight emergency breathing system has been introduced to support the offshore industry called Category A Emergency Breathing System. This is now a requirement in certain countries for all personnel travelling to or from offshore installations/vessels via helicopter where a compressed air emergency breathing system will be provided for use in the event of an emergency ditching by helicopter. Support your answer by providing FOUR (4) advantages of the Compressed Air Emergency Breathing System (CA-EBS).

(10 marks)

-END OF QUESTIONS -

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**Table Q3 (a)**

Activity	Preceding Activity
Start	
A	Start
B	A
C	A
D	B
E	B
E	C
End,	D, E

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