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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

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

COURSE NAME : PROJECT AND RISK
MANAGEMENT IN OIL AND GAS

COURSE CODE : BDC 41303

PROGRAMME CODE : BDD

EXAMINATION DATE : JULY/AUGUST 2023

DURATION : 3 HOURS

INSTRUCTION : 1. ANSWER TO **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 **THREE (3)** PAGES

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TERBUKA

- Q1** (a) Permit To Work (PTW) is a technical measure document that refers to permit to work systems required to control work such as maintenance activities in oil and gas work area and so prevent a major accident. Explain and brief the detail items inside PTW?
(6 marks)
- (b) Hot work, cold work, confined space, electrical work and working at height are some of the most common work permits issued by organizations that implement a PTW system. What is a hot work process? Recommend hierarchy of hot work management in hazardous area for Petronas Cari Gali Sdn. Bhd. with detailed description and limitation.
(14 marks)
- Q2** (a) Project managers accomplish work through the project team and other stakeholders. Effective project managers require a balance of technical, interpersonal, and conceptual skills that help them analyse situations and interact appropriately. Appraise 5 important interpersonal skills of an effective project managers.
(10 marks)
- (b) Five stages of Project Management Process are Initiating, Planning, Executing, Monitoring and Controlling, and lastly Closing. Differentiate the roles for each of the stage.
(10 marks)
- Q3** (a) The critical path method (CPM) is a technique that's used by project managers to create a project schedule and estimate the total duration of a project. The CPM method consists in using a network diagram to visually represent the sequences of tasks needed to complete a project.
- i. Sketch a complete network diagram that explains CPM from start to finish.
(4 marks)
- ii. Justify how the CPM 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. Evaluate the performance of your project in terms of schedule, budget and cost spent.
(10 marks)

- Q4** (a) Project risk is an uncertain event or condition that has a positive or negative effect on project objectives. To be successful, an organization should be committed to address risk management proactively and consistently throughout the project. Differentiate between Event Risk, Variability risk, and Ambiguity Risk. (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 an 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 a 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. Determine the Expected Monetary Value (EMV) for both Course A and B. (7 marks)
- iii. Justify the best option to maximize the profit. (2 marks)
- Q5** Companies in the oil and gas industry are usually divided into one of three groups, upstream, downstream, and midstream. Downstream industry can be divided into refining and petrochemicals. Some companies are integrated because, as the name suggests, they combine the functions of two or three of these streams. The midstream part of the value chain is often defined as gas plants, LNG production and regasification and oil and gas pipeline transport systems. Please demonstrate and explain the technology and process involved for gas plants, gas compression, pipelines, and LNG liquefaction & regasification facilities in midstream processes. (20 marks)

-END OF QUESTION -