

**SULIT**

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First Semester Examination  
Academic Session 2021/2022

February/March 2022

**EUP501 – Engineering Management**

Duration : 2 hours

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Please ensure that this examination paper contains **FIVE (5)** printed pages before you begin the examination.

**Instructions:** This paper contains **FIVE (5)** questions. Answer **ALL** questions.

All questions **MUST BE** answered on a new page.

-2-

- (1). (a). Provide the **FIVE (5)** steps in Effective Change Management and give a brief explanation for each step.

[5 marks]

- (b). Climate change is one of the biggest challenge faced by the world. We are witnessing the followings:

- Temperatures across the world are rising
- Drought and wild fires are starting to occur more frequently
- Rainfall patterns are changing
- Glaciers and snow are melting
- Global mean sea level is rising, and others

While the world is trying to mitigate the worsening situation, there is so much that we can do to change the situation. However, as a civil engineer, you have been trained to ensure that the needs of humanity continue to be met satisfactorily in years to come, despite the challenges from the climate change situation.

- (i). Identify **ONE (1)** issue in the civil engineering world that will be affected by the climate change. Describe the changes that will happen to this issue as a result of climate change, and how will it affect the attainment of the Sustainable Development Goals (SDG);

[5 marks]

- (ii). You are the head of an organization on sustainability. Using the principles of CHANGE MANAGEMENT, explain how you can advice the authority of your city, on strategies that needs to be done to minimize the impact of climate change on the issue that you have selected in (i).

[10 marks]

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- (2). (a). For any organization, the goal is always to improve your performance as time goes by. Using the S-curve diagram, explain the journey and challenges an organization may face over time.

[5 marks]

- (b). In a competitive world, the challenges faced by any organization will be greater. Describe the concept of “BLUE OCEAN” vs “RED OCEAN” to explain the meaning of COMPETITION.

[5 marks]

- (c). The construction industry in Malaysia and in any Low and Middle Income Country (LMIC) are known to be very slow to change towards more sustainable and modern construction. Provide your arguments to why this is the case. Use the knowledge that you have gained from this course.

[10 marks]

(3). Strategic management focuses on the management of the organization's overall purpose, that is concerned with deciding on strategies and the ways they are implemented to ensure all the needs of the present are considered with those of the future. Based on this statement:

(a). Briefly explain the **THREE (3)** key elements of the strategic management process.

[10 marks]

(b). Explain the formulation of the following strategies by giving **ONE (1)** suitable example for each strategy in the construction industry:

(i). Differentiation Strategy.

[5 marks]

(ii). Overall Cost Leadership Strategy.

[5 marks]

(4). Most of the mega building and infrastructure projects around the world have experienced time and cost overrun prior to project commissioning.

(a). Identify the potential risk factors that could dictate time and cost overrun in construction projects. Describe through appropriate examples their potential impact towards construction projects if they occur in the real practice.

[10 marks]

(b). Identify what is the best risk mitigation strategy or counter measure to minimise all the risks identified. Describe through appropriate examples the potential implication of the strategy or counter measure proposed towards construction projects.

[10 marks]

...5/-

-5-

- (5). A company plans to improve the quality of newly built building. You are the right person to monitor the progress of the quality improvement. Re-engineering is the solution at the moment. You have to prepare the re-engineering timetable and the conceptualized process for a re-engineering makeover. Explain both in detail.

[20 marks]

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