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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024**

- COURSE NAME : PROJECT MANAGEMENT
- COURSE CODE : BPA 31803
- PROGRAMME CODE : BPA
- EXAMINATION DATE : JULY 2024
- DURATION : 3 HOURS
- INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
 2. THIS FINAL EXAMINATION IS CONDUCTED VIA
 - Open book
 - 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 **FOUR (4)** PAGES

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TERBUKA

- Q1** Effective project selection is critical to the success of any organization. There are several criteria that can be used to evaluate the potential value and feasibility of a project. One of the tool that is commonly used to evaluate projects is the Net Present Value (NPV).
- (a) Explain the Net Present Value (NPV) in the context of Project Management
(5 marks)
- (b) Supposed a company evaluates two investment opportunities, Project A and Project B, which require initial investments of RM200,000 and RM300,000 respectively. Project A is projected to yield annual net cash inflows of RM70,000 for the next five years, while Project B is anticipated to generate annual net cash inflows of RM90,000 over the same period. With a predetermined discount rate of 10% for both projects, which project should the company choose based on the comparison of their respective Net Present Values (NPVs). Show your calculations.
(20 marks)
- Q2** The Education District Board of Batu Pahat, on behalf of the Government of Malaysia, invites qualified contractors to tender for the construction of an office building for High School Batu Pahat. The project is intended to provide modern administrative facilities to support various office functions in the school. The project is scheduled to commence in July 2024 and be completed by December 2025. The appointed contractor is expected to provide installation of utilities including electrical, plumbing, and HVAC systems, interior finishing work such as flooring, painting, and installation of fixtures, exterior finishing work including landscaping and paving and a fully constructed office building meeting all architectural, engineering, and legal specifications. Tender submissions can be submitted to bpbs@gov.my before 30th April 2024.
- (a) Construct the Statement of Work (SOW) for the stated construction project.
(20 marks)
- (b) Distinguish between the Statement of Work (SOW) and Project Charter.
(5 marks)
- Q3** Resource management ensures that the right resources are allocated to the right tasks at the right time. This involves assessing the skills, availability, and expertise of team members and assigning tasks accordingly. By strategically allocating resources, project managers can optimize productivity and minimize delays.
- (a) Explain **FIVE (5)** steps in resource loading for project management.
(10 marks)
- (b) Based on table Q3, solve the resource problems accordingly by illustrating the activity network that takes into consideration the resources that overlap. Show the activity networks before and after the resource levelling.

Table Q3: Task Activities

Task	Duration	Resource	Predecessor
A	5Days	Worker 1, Worker 2	-
B	10Days	Equipment 1, Worker 2	A
C	15Days	Equipment 1, Worker 1	A
D	5Days	Worker 2	C
E	5Days	Equipment 1, Worker 1	C
F	5Days	Worker 2	C
G	10Days	Worker 3	B, D, E
H	5Days	Worker 4	F, G

(15 marks)

- Q4** You are tasked with managing a construction project to build a new office complex. The project involves various tasks that need to be completed in a specific sequence. Utilizing the activity network method and the data provided in Table Q4, answer the following questions:

Table Q4: Task Activities for the Office Project

Activity	Duration (weeks)	Predecessors
A Site Preparation	2	-
B Foundation	5	Site Preparation
C Structural Framing	4	Foundation
D Exterior Walls	3	Structural Framing
E Roof Installation	2	Structural Framing
F Interior Framing	3	Roof Installation
G <i>Electrical Wiring</i>	4	<i>Structural Framing</i>
H Plumbing Installation	3	Structural Framing
I HVAC Installation	3	Plumbing Installation
J Interior Finishing	4	Interior Framing
K Exterior Finishing	3	Exterior Walls, Roof Installation
L Landscaping	2	Exterior Finishing

- (a) Develop a network diagram showing the precedence relationships between the activities.

(10 marks)

(b) Calculate the earliest start time, earliest finish time, latest start time, and latest finish time for each activity.

(10 marks)

(c) Determine the critical path and the total project duration.

(5 marks)

- END OF QUESTIONS -