

**CONFIDENTIAL**



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

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

COURSE NAME : ENGINEERING MANAGEMENT

COURSE CODE : BEE 30103

PROGRAMME CODE : BEJ / BEV

EXAMINATION DATE : JULY/ AUGUST 2023

DURATION : 3 HOURS

INSTRUCTION

1. ANSWER 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.

4. STUDENT ARE **NOT ALLOWED** TO BRING OUT THE QUESTION PAPER.

THIS QUESTION PAPER CONSISTS OF **ELEVEN (11)** PAGES

**TERBUKA**

**CONFIDENTIAL**

**PART A:**

There are total of **FIFTY (50)** multiple choice questions. Each question is given one mark.

- Q1** Base on your understanding managers typically perform management functions in what order?  
A Organizing, planning, controlling, leading  
B Leading, planning, controlling, organizing  
C Planning, organizing, leading, controlling  
D Controlling, planning, organizing, leading
- Q2** The process of establishing objectives and suitable courses of action before taking an action is known as \_\_\_\_\_  
A Planning  
B Organizing  
C Management  
D Coordinating
- Q3** At what level of an organization does a corporate manager operate?  
A Functional  
B Top level  
C Middle Level  
D First line level
- Q4** Which of the following is **NOT** recognized as a key skill of managers?  
A Human skills  
B Technical skills  
C Conceptual skills  
D Predictive skills
- Q5** The BMW corporation opens an opportunity to become a car industry leader in the region within seven years. This technique is considered:  
A Tactical planning  
B Strategic planning  
C Long-term planning  
D Short-term planning
- Q6** The forms of control commonly used by managers in an organization include work assignment, inspection and giving instructions. A manager who has power to influence on his subordinates is said to have:  
A Expert power  
B Reward power  
C Coercive power  
D Legitimate power

**TERBUKA**

- Q7** Which of the following statements refer to the importance of an organization chart?
- I it shows the types of jobs performs
  - II it shows the duties and responsibilities
  - III It shows the works segments of employee groups
  - IV it shows the relationship between managers and subordinates
- A I, II and III  
B I, II and IV  
C II, III and IV  
D I, II, III and IV
- Q8** The following individuals are famous pioneers in the motivational content theories **EXCEPT**:
- A Fayol
  - B Maslow
  - C Herzberg
  - D McGragor
- Q9** Managers set up control systems to establish standard and compare performance. The step in the control process that an organization must follow to achieve organization effectiveness are:
- I Set the standards
  - II Not taking any corrective action
  - III Compare the actual performance with the standards
  - IV Measure the actual performance against the benchmark
- A I, II and III  
B I, III and IV  
C II, III and IV  
D I, II, III and IV
- Q10** Which of the following is **NOT** true regarding control?
- A Control is forward looking
  - B Control is a continuous process
  - C Control is closely related to organizing
  - D Control embedded in every level of the organizational hierarchy
- Q11** What organizations might be facing if they do not have a proper documentation?
- A Transparency
  - B Predictable result
  - C Product quality varies
  - D Streamline implementation
- Q12** The followings are types of collaboration tools **EXCEPT**:
- A Communication technology
  - B Conferencing technology
  - C Coordination technology
  - D Consumer technology

**TERBUKA**



- Q13** Managers used Pareto charts to \_\_\_\_\_.
- A identify inspection points in a process
  - B organize errors, problems or defects
  - C outline production schedules
  - D show an assembly sequence
- Q14** The acronym SWOT stands for \_\_\_\_\_.
- A Services, Worldwide, Overcome, Threats
  - B Strengths, Worldwide, Overcome, Threats
  - C Special, Weaknesses, Opportunities, Threats
  - D Strengths, Weaknesses, Opportunities, Threats
- Q15** Which of the following statements is **TRUE** regarding control charts?
- A Values above the upper and lower control limits indicate points out of adjustment
  - B Control charts graphically present data
  - C Control charts plot data over time
  - D All of the above
- Q16** Two variables, x and y, are related. Variable x increases or decreases with y. Which of the following tools could best be used to graphically show this relationship?
- A Scatter Plot
  - B Histogram
  - C Control Charts
  - D Ishikawa diagram
- Q17** Strategic planning purpose is to find ways for the company to perform its best in terms of :
- A overcome losses
  - B avoid paying taxes
  - C use its strengths to take advantage of attractive opportunities in the environment
  - D avoid the expense of costly research and development while still getting the benefits
- Q18** Which of the following describes the importance of collaboration in the workplace?
- A Find out what others are doing
  - B Submit a proposal
  - C Answer questions
  - D All of the above
- Q19** In an industry, Cause-and-effect diagram identifies source of variations that grouped into few categories **EXCEPT**;
- A Model
  - B Human
  - C Material
  - D Methods

**TERBUKA**

- Q20** Definition of Enterprise Resource Planning (ERP) system represent\_\_\_\_\_.
- A entire organization
  - B marketing and sales
  - C production department
  - D major departments only
- Q21** Which of the following statement emphasizes Total Quality Management (TQM) ?
- A the responsibility of the Quality Control staffs to identify and solve all quality-related problems
  - B a commitment to quality that goes beyond internal company issues to suppliers and customers
  - C how resources are transformed into quality goods and services
  - D a process where mostly statisticians get involved
- Q22** Standardization is an appropriate strategy in which stage of the product life cycle?
- A growth
  - B decline
  - C maturity
  - D retirement
- Q23** "Kaizen" is a Japanese term which mean\_\_\_\_\_.
- A setting standards
  - B Just-in-time (JIT)
  - C foolproof mechanism
  - D continuous improvement
- Q24** ISO 9000 policy seeks standardization in terms of\_\_\_\_\_.
- A procedures to manage quality
  - B suppliers' specifications
  - C production procedures
  - D products
- Q25** According to theory, TQM & ISO both focusses on
- A Supplier
  - B Customer
  - C Material
  - D Employee
- Q26** DMAIC improves a system through the following management **EXCEPT**;
- A The shortest path for delivery of goods
  - B Shortened the processing time
  - C Increase the value of goods
  - D Improve the process

**TERBUKA**

- Q27** Lean concepts have **FIVE (5)** processes. Which of the following statement is in the right sequence?
- A Seek continuous improvement → Establish pull based on customer demand → Create flow to the customer → Map the value stream → Identify you customer and their value
  - B Identify you customer and their value → Seek continuous improvement → Map the value stream → Create flow to the customer → Establish pull based on customer demand
  - C Identify you customer and their value → Map the value stream → Create flow to the Customer → Establish pull based on customer demand → Seek continuous improvement
  - D None of the above
- Q28** AMD Sdn Bhd has discovered an over processing and defects in the production line. From your point of view which of the management concept is suitable to be applied to address this issue?
- A Lean Six Sigma
  - B Control Quality
  - C Plan Quality Management
  - D Total Quality Management
- Q29** The Six Sigma concept was first created by which of the following industrial company?
- A Honda
  - B Iceland
  - C Samsung
  - D Motorola
- Q30** The establishment of ISO 27001 is for\_\_\_\_\_.
- A The field of quality management
  - B The management system for information security (ISMS)
  - C The social theme of environmental legislation/ management
  - D Energy management and offers insights into the energy consumption of companies
- Q31** Identify which of these element is **NOT** one of the constraints in project management?
- A Cost
  - B Team
  - C Quality
  - D Schedule
- Q32** Which of the following sequence represent the elements of project management process?
- A Initiation, Planning, Execution, Controls, Closeout
  - B Planning, Resourcing, Execution, Monitoring, Delivering
  - C Managing, Time, Processing, Cost, Human Power
  - D High-Tier Management, Medium-Tier Management, Lower-Tier Management



- Q33** A project is a one-time job that has definite starting and ending points with clear objectives. Which of the following term is **NOT** considered in defining the objectives?
- A Scope
  - B Cost
  - C Human resources
  - D Schedule
- Q34** Which of the following list show, the phases of a project life cycle?
- A starting, planning, organizing, controlling, leading and closing
  - B concept, definition, development, hand-over and closure
  - C initiation, definition, planning, monitoring and operations
  - D concept, definition, initiation, implementation and evaluation
- Q35** A good project manager **SHOULD NOT** have which of the following skill set?
- A Supporting
  - B Delegating
  - C Negotiating
  - D Micromanaging
- Q36** \_\_\_\_\_ is the process of formally recognizing that a new project exists or that an existing project should continue into its next phase.
- A Initiation
  - B Planning
  - C Recognition
  - D Determining
- Q37** Project management objective or aim is to \_\_\_\_\_.
- A work without any organizational constraints
  - B control the financial aspect of project
  - C maintaining status quo of process
  - D meet manager's expectations
- Q38** A project planning tool that subdivided complicated tasks into smaller tasks is known as \_\_\_\_\_.
- A Gantt Chart
  - B Milestone Schedule
  - C Responsibility Matrix
  - D Work Breakdown Structure
- Q39** Maintainability in Engineering Management term is defined as \_\_\_\_\_.
- A the result of design
  - B unnecessary for unreliable system
  - C the ability of an item to be maintained
  - D the product or system in good condition

- Q40** Critical Path (CP) in Project Management is a method for modelling projects where all the necessary input factors are considered within the optimal timeline for completing it (to get an output). Which of the following **DOES NOT** represent the input factors for (CP)?
- A Customer
  - B Milestone
  - C Time estimates
  - D Task dependencies
- Q41** As a Manager, which of the following activities are required in executing a project's plan **EXCEPT**:
- I Reporting to customer
  - II Level project resources
  - III Schedule work packages
  - IV Establish team operating rules
- A I, II and IV
  - B II, III and IV
  - C I, III, and IV
  - D I, II, III and IV
- Q42** Reliability is the performance of the system, or an equipment is to work \_\_\_\_\_ for a given \_\_\_\_\_ when used under \_\_\_\_\_ conditions.
- A complete, task, demand
  - B intermittently, time, faulty
  - C continuously, break of time, stress
  - D satisfactorily, period of time, specified operating
- Q43** According to Engineering Management Theory, the purposes of maintenance are:
- I Prevent breakdown or failures
  - II Minimize production loss from failures
  - III Increase reliability of the operating systems
  - IV Maximize performance of production equipment efficiently
- A I, II and III
  - B II, III and IV
  - C I, II, and IV
  - D I, II, III and IV
- Q44** Which of the following maintenance implies that repairs are made after the equipment is failed and cannot perform its normal function anymore?
- A Periodic maintenance
  - B Corrective maintenance
  - C Functional maintenance
  - D Preventive maintenance



- Q45** The frequency of maintenance will be \_\_\_\_, when the reliability of a product is \_\_\_\_.
- A high, low
  - B low, high
  - C small, big
  - D big, small
- Q46** Which maintenance is important because if neglected can result in breakdown of machines?
- A Facility maintenance
  - B Periodic maintenance
  - C Scheduled maintenance
  - D Condition-based maintenance
- Q47** What do you think are the costs a company have to endure for not doing maintenance?
- I The cost will be reduced
  - II Loss income due to failures
  - III Reduce reliability of a system
  - IV Equipment may damage in the long run
- A I, II and IV
  - B II, III and IV
  - C I, III, and IV
  - D I, II, III, and IV
- Q48** \_\_\_\_\_ maintenance make use of human sense and other sensitive instruments such as audio gauge and vibration analyzer.
- A Periodic
  - B Machine
  - C Predictive
  - D Instrument
- Q49** From your understanding, which of the categories list below is related to maintenance?
- A Break-down, Scheduled, Preventive, Condition-based
  - B Break-down, Corrective, Reliable, Predictive
  - C Corrective, Periodic, Reliable, Prevention
  - D Corrective, Facility, Machine, Software
- Q50** Which of the following statement define the principal objectives in maintenance :
- I Maximize useful life of equipment
  - II Maximize severity of interruption.
  - III To achieve customer satisfaction
  - IV Prevent safety hazards
- A I, II and IV
  - B II, III and IV
  - C I, III, and IV
  - D I, II, III and IV

**TERBUKA**

**PART B:**

*Answer all the questions*

**Q1** (a) The process of getting things done, effectively and efficiently, with and through other people is known as management. Therefore, management hierarchy is important. With the aid of diagram describe the three management levels and the roles required for each level.

(6 marks)

(b) Planning is the process of thinking regarding the activities required in establishing goals, setting out objectives and defining the methods by which these goals and objectives are to be attained. Base on your understanding state the **FOUR (4)** purpose of planning.

(4 marks)

**Q2** (a) Strategic planning is a process in which an organization's leaders apply in their company. With an aid of a diagram, briefly outline the concept of strategic planning, and the steps involved in implementing this technique in organizations.

(4 marks)

(b) There are seven basic quality management tools and techniques that can help organization to identify, analyze and assess data that are relevant to their business.

Provide **ONE (1)** quality management tool that is suitable to helps users identify the various factors (or causes) leading, to an effect. Then, explain in detail the characteristics of the chosen tool.

(6 marks)

**Q3** (a) 'Kaizen' is a Japanese term meaning change for the better or also known as continuous improvement, is an important principle of Total Quality Management (TQM). It is a Japanese business philosophy that seeks to make never-ending improvements to the process of converting inputs into outputs in operations and involve all employees.

Base on your understanding, describe in detail about the process for continuous quality improvement that can identify the most effective solution before implementation.

(6 marks)

(b) Tabulate the differences between continuous improvement and traditional approach.

(4 marks)

**TERBUKA**

**Q4** In any project assignment, their consists of eleven activities, label as A to K. The duration (in days), and the activities preceding each of them as shown in **Table Q4**.

**Table Q4**

Activities	Preceding activities	Duration (weeks)
A	-	11
B	-	10
C	A	12
D	B	12
E	B	28
F	A	15
G	C	33
H	D	42
I	A	18
J	E, H, G	5
K	F, I, J	8

(a) Construct a PERT network diagram for the project. State the early start, late start, early finish and late finish in the diagram. (9 marks)

(b) Calculate the critical path in the network diagram. (1 mark)

**Q5** (a) The key success of Panasonic Sdn Bhd is based on reliability of its system or product, which can be based on **FOUR (4)** main elements. Describe each element of reliability in detail to ensure Panasonic Sdn Bhd sustainability. (6 marks)

(b) Compare **TWO (2)** advantages and disadvantages of preventive maintenance. (4 marks)

**-END OF QUESTIONS -**

**TERBUKA**