



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : ENGINEERING MANAGEMENT
COURSE CODE : BEE30103
PROGRAMME : BEV/BEJ
EXAMINATION DATE : DECEMBER 2019/JANUARY 2020
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION :
1) ANSWER ALL QUESTIONS
2) ANSWER PART A IN THE OMR PAPER
3) ANSWER PART B IN THIS QUESTION PAPER
4) STUDENTS ARE NOT ALLOWED TO BRING OUT THE QUESTION PAPER

TERBUKA

THIS QUESTION PAPER CONSISTS OF SIXTEEN (16) PAGES

PART A (50 MARKS)

- Q1** The board of directors has decided to provide bonus to appreciate the sales target achievement of a company. He has given instructions to reward according to the percentage contribution of sale target. What is the level of management in the company?
- Superior level management
 - Top level management
 - Middle level management
 - First-line management Middle level management
- Q2** A manager will be away for a business trip for several days. He has written the details of task for every subordinates under his supervision. What type of management is this?
- Macro management
 - Detail management
 - Micro management
 - Humanized management
- Q3** In setting up a new production line, what is the first resource to be planned?
- Materials resources
 - Human resources
 - Finance resources
 - Information resources
- Q4** The fundamental purpose for the existence of any organization is described by its;
- Policies
 - Mission
 - Procedures
 - Strategy
- Q5** A plan is
- establishing the structure for the objective
 - selecting missions and objectives.
 - keeping filled the organization structure
 - influencing people to achieve the objective
- Q6** The key elements in the management process are;
- Plan, direct, updated, lead and supervise
 - Organize, plan, control, staff and manage
 - Plan, organize, staff, lead and control
 - Plan, lead, organize, manage and control

TERBUKA

Q7 Which of the following is **NOT TRUE** regarding McGregor's Theory X and Theory Y?

- a. Theory X is concern on human behaviour
- b. Theory Y state that the motivator element represents by the hygiene factors
- c. Theory Y relies on self-control and self-direction
- d. The knowledge worker simply does not produce under Theory X

Q8 The formula use to calculate current ratio is

- | | |
|--|---|
| (a) $\frac{\text{Current Assets}}{\text{Current liabilities}}$ | (b) $\frac{\text{Inventory}}{\text{Current liabilities}}$ |
| (c) $\frac{\text{Current liabilities}}{\text{Current assets}}$ | (d) $\frac{\text{Current liabilities}}{\text{Inventory}}$ |

Q9 The top hierarchy of the Maslow's theory of needs is;

- a. Esteem needs
- b. Physiological needs
- c. Self-actualization needs
- d. Safety and security needs

Q10 A Project Manager should have the following skills except:

- a. effective leadership
- b. good communication
- c. competent and motivated at work
- d. lack of effective engagement with stakeholders

Q11 Which of the following is **NOT TRUE** about the advantages of exponential smoothing method?

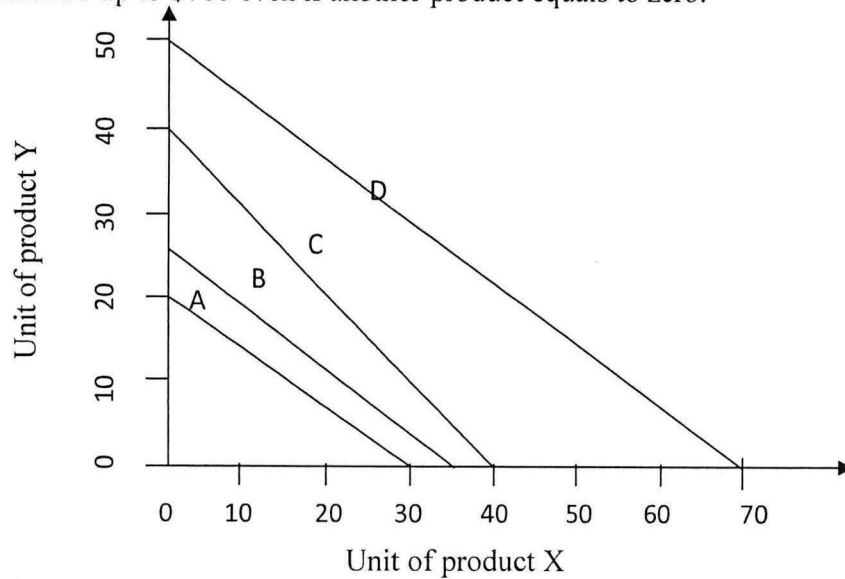
- a. A trend for the period for the whole series can not be found.
- b. No waiting period before reliable forecasts can be calculated
- c. The value of α can be made to change or adapt to changed circumstances
- d. Only required to retain 3 figures for any forecast

- Q12** Forecasts used for new product planning, capital expenditures, facility location or expansion, and R&D typically utilize a _____.
- naive method
 - short-range time horizon
 - medium-range time horizon
 - long-range time horizon
- Q13** Which of the following is **NOT** related to regression analysis forecasting?
- Gives best fit for a line passing through the data
 - Exploratory Forecasting Method
 - Smoothing constant
 - Develops logical relationships between variables
- Q14** The most critical information to forecast is
- resource needs
 - level of production
 - sale levels
 - need of training
- Q15** Following are true about the rationality requirement **EXCEPT**
- a choice among all possible alternatives
 - complete knowledge and anticipations of consequences after a choice
 - imagination since consequences lie in future
 - making market surveys and through labour market analysis
- Q16** Ali conducted a survey for getting informations on user needs regarding new technology in future. Which type of forecasting that used by Ali?
- Quantitative
 - Qualitative
 - Weighted Moving Average
 - Exponential Smoothing
- Q17** Which of the following is not a characteristic of simple moving averages?
- It smoothes random variations in the data
 - It has minimal data storage requirements
 - It weights each historical value equally
 - It smoothes real variations in the data

Q18 If the sales of year 2014, 2015, 2016, 2017 and 2018 are 1100, 1200, 1300, 1400, and 1500 respectively. By using simple moving average method, sales for 2019 would be forecast as: (Given weight is 0.1, 0.2, 0.3, 0.4, and 0.5 respectively)

- a. 1200
- b. 1500
- c. 1300
- d. 1600

Q19 Given maximize profit, $P = 10x + 14y$. Choose the correct isoprofit line if the profit can be maximised up to \$700 even if another product equals to zero.



- a. A
- b. B
- c. C
- d. D

Q20 Table Q20 shows the actual and future values for forecasting. Given $b = 1040$. By using regression analysis, calculate the value of a for the linear fitting line of $y=a+bx$.

Table Q20

	x	y	xy	x ²
2015	0	1000	0	0
2016	1	1300	1300	1
2017	2	1200	2400	4
2018	3	1500	4500	9
Σ	6	5000	8200	14
Mean	1.5	1250		

The value of b is:

- a. 1040
- b. 1400
- c. 1004
- d. 4100

Q21 "Quality defined by the customer" is _____.

- a. an unrealistic definition of quality
- b. a user-based definition of quality
- c. a manufacturing-based definition of quality
- d. a product-based definition of quality

Q22 Who is responsible for Quality Management in a project?

- a. Quality Engineer
- b. Project Manager
- c. Quality Manager
- d. Project team members

Q23 The cost of quality is/are:

- a. the cost of handling customer complaints
- b. the cost caused by identifying and correcting errors during development of products
- c. the total cost of prevention and appraisal
- d. all of the above

Q24 Which of the following is unacceptable to the customer?

- a. High quality and high grade
- b. High quality and low grade
- c. Low quality and high grade
- d. All of the above

Q25 What of the following are dimensions of product quality?

- I. Aesthetics
 - II. Price
 - III. Features
 - IV. Durability
-
- a. I and II
 - b. I, II, and III
 - c. I, III and IV
 - d. All of the above

Q26 Total Quality Management emphasizes;

- 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. a system where strong managers are the only decision makers
- d. a process where mostly statisticians get involved

Q27 Which of the following is true about ISO 14000 certification?

- a. it is a prerequisite for ISO 9000 certification
- b. it indicates a higher level of adherence to standards than ISO 9000
- c. it is only sought by companies exporting their goods
- d. it deals with environmental management

Q28 "Kaizen" is a Japanese term meaning

- a. continuous improvement
- b. Just-in-time (JIT)
- c. a fishbone diagram
- d. setting standards

Q29 ISO 9000 seeks standardization in terms of

- a. products
- b. production procedures
- c. suppliers' specifications
- d. procedures to manage quality

Q30 Quality audits are a tool and technique of which quality management process?

- a. Control Quality
- b. Plan Quality Management
- c. Perform Quality Assurance
- d. Validate Scope

Q31 Which of the following is not an example of perform quality control

- a. Pareto Chart
- b. Fish Bone Diagram
- c. Inspection
- d. Cost of quality

Q32 Which of the following is NOT the project life cycle

- a. plan
- b. implementation
- c. inventory
- d. evaluation

Q33 A develop detail plan should have the following items **EXCEPT**:

- a. identify project activities
- b. estimation duration
- c. determine resources
- d. close-out

Q34 Which of the following is the objective of a product design

- a. profit
- b. quality
- c. easy of production
- d. all of the above

Q35 A close-out meeting agenda should have the following items **EXCEPT**:

- a. review project statement work
- b. install change control process
- c. summarize what done well
- d. identify areas for improvement

- Q36** Which of the following is the new product development stage
- a. controlling
 - b. technical feasibility
 - c. close-out
 - a. all of the above
- Q37** Which of the following is **NOT** the measurable success indicators
- a. tools
 - b. quality
 - c. schedule
 - d. cost
- Q38** Which of the following is the production documents
- a. assembly drawing
 - b. owner photograph
 - c. opening ceremony layout
 - a. All of the above
- Q39** Which of the following is **NOT** engineering positions in the production activity
- a. Process engineering
 - b. Test engineering
 - c. Sales engineering
 - d. Safety engineering
- Q40** Which of the following is a part of maintaining human resources
- a. training
 - b. replacement
 - c. rewards
 - d. All of the above
- Q41** Maintenance management can be defined as all actions necessary for _____.
- a. replacing an item, or restoring it to an acceptable condition
 - b. retaining an item, or restoring to it to a serviceable condition
 - c. demolishing an item, or recycle it for other purposes
 - d. achieving zero defect condition

- Q42** One of the purposes of maintenance is to maximize the performance of the production equipment. Others are _____.
- a. prevent breakdown or failures
 - b. minimize production loss from failures
 - c. increase reliability of the operation system
 - d. All of the above
- Q43** Principle objectives in maintenance include all of the following except _____.
- a. to achieve product quality and customer satisfaction
 - b. to maximize useful life of the equipment
 - c. to keep equipment safe
 - d. to enhance the competency of the staffs
- Q44** The three types of maintenance are _____.
- a. Corrective, scheduling and preventive
 - b. Corrective, improving and preventive
 - c. Corrective, preventive and replacing
 - d. Corrective, scheduling and recycling
- Q45** Corrective maintenance is the repairs that are made _____.
- a. before the equipment is about to fail.
 - b. during the equipment is experiencing failure.
 - c. according to the maintaining schedule.
 - d. after the equipment is failed
- Q46** Scheduled maintenance is a periodic procedure and includes _____.
- a. inspection, lubrication and enhancement
 - b. inspection, replacing and repairing
 - c. inspection, lubrication and repairing.
 - d. inspection only
- Q47** In predictive maintenance human _____ and sensitive _____ are used.
- a. knowledge, devices
 - b. action, machines
 - c. sense, instruments
 - d. instinct, instruments

Q48 Reliability is the performance of the system or an equipment is to work _____ for a given _____ when used under _____ conditions.

- a. satisfactorily, period of time, specified operating
- b. continuously, break of time, stress
- c. intermittently, time, faulty
- d. continuously, chance, pressurised

Q49 Satisfactory performance is a criterion established which describe what is considered to be _____.

- a. satisfactory components selection
- b. satisfactory system operation
- c. satisfactory spare parts supply
- d. none of the above

Q50 The difference between maintainability and maintenance is

- a. there is no difference
- b. maintainability is a policy parameter, maintenance is a result of the policy
- c. maintainability is a decision parameter, maintenance is a result of the decision
- d. maintainability is a design parameter; maintenance is a result of the design

PART B (50 MARKS)

Q51 You are planning for a new business in a small Printed Circuit Board (PCB) factory. As a managing director, you are given the mandate to plan, organize and execute the engineering entity and production in the factory.

a) Briefly explain the **FOUR (4)** management considerations to enable the production to be successfully set up?

(2 marks)

b) List out the **TWO (2)** environmental issues that the PCB factory will face.

(4 marks)

c) In managing employees, McGregor's theory is usually being adopt. Suggest **TWO (2)** theory proposed by McGregor's and differentiate the **TWO (2)** theories proposed by McGregor.

(4 marks)

Q52 (a) In Total Quality Management (TQM) one of the important principles is called *Kaizen*. Describe it in detail and explain on how Kaizen can be implemented in the scenarios as follows:

i) Movement for meetings (2 marks)

ii) Time for searching documents or project presentation (2 marks)

iii) Re-doing or discarding work due to inadequate information/research (2 marks)

iv) Inviting more people to meetings than is necessary (2 marks)

(b) There are many TQM tools and techniques that can help organization to identify, analyse and assess data that relevant to their business. Explain when Check Sheet can be used.

(2 marks)

Q53

ITAMI Plastic is a vendor company to SHARP and CANON Malaysia. Two main products that ITAMI working on are Battery Lid of Camera (X) and TV panel (Y). The profit is RM20 of battery lid and RM60 of TV panel. Producing a battery lid requires two hours of reworking and one hour of painting; while producing a TV panel takes one hour of reworking, and one-hour painting. ITAMI employs three re-workers and two painters, each working 40 hours a week.

- (a) Calculate the number of battery lids and TV panels should be produced each week to maximize profit.

(4 marks)

- (b) Solve graphically as a linear program and confirm analytically.

(6 marks)

Q54 (a) With the aid of a diagram and explain the demand versus time of a life cycle of the products or services

(3 marks)

(b) Draw a block diagram of a product cycle that start from the customer need up-to the customer use and describe the function of each block

(7 marks)

Q55 (a) In engineering management, there are four main elements of Reliability. Explain only **TWO (2)** of those elements.

(4 marks)

(b) A Bathtub curve is a typical life history curve that shows the comparison of failure rate with time. Discuss **THREE (3)** distinctive phases of the Bathtub curve.

(6 marks)

- END OF QUESTIONS-