



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2016/2017**

COURSE NAME : ENGINEERING MANAGEMENT
COURSE CODE : BEE30103
PROGRAMME : BEV/BEJ
EXAMINATION DATE : JUNE 2017
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) STUDENT ARE NOT ALLOWED TO BRING OUT THE QUESTION PAPER

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THIS QUESTION PAPER CONSISTS OF SIXTEEN (16) PAGES

- Q1** Pareto charts are used to _____.
- a. identify inspection points in a process
 - b. show an assembly sequence
 - c. outline production schedules
 - d. organize errors, problems or defects
 - e. provide guidelines for quality training
- Q2** ISO 9000 seeks standardization in terms of _____.
- a. products
 - b. production procedures
 - c. suppliers' specifications
 - d. procedures to manage quality
 - e. environmental management
- Q3** Which of following statement is **true** regarding control charts?
- a. Values above the upper and lower control limits indicate points out of adjustment.
 - b. Control charts are built so that new data can be quickly compared to past performance data.
 - c. Control charts graphically present data.
 - d. Control charts plot data over time.
 - e. All of the above are true.
- Q4** Project success or failure is determined by the outcome of the project variables, including:
- a. resource
 - b. scope
 - c. time
 - d. quality
 - e. all of the above
- Q5** An assembly line is an example of a _____.
- a. product focused process
 - b. customized process
 - c. repetitive process
 - d. specialized process
 - e. all of the above



- Q6** Typical differences between goods and services do **not** include:
- a. cost per unit
 - b. ability to inventory items
 - c. timing of production and consumption
 - d. customer interaction
 - e. knowledge content
- Q7** Which of the following is **not** an operations decision?
- a. maintenance
 - b. price
 - c. layout design
 - d. quality
 - e. inventory
- Q8** The top hierarchy of the Maslow's theory of needs is;
- a. physiological needs
 - b. safety and security needs
 - c. esteem needs
 - d. self-actualization needs
 - e. affectionate needs
- Q9** Which of the following is **not** true regarding income statement?
- a. profit and loss statement data
 - b. shows money flows through business over specific period of time
 - c. shows revenue of the organization
 - d. shows the investments and budgeting information
 - e. used for business report
- Q10** The controller's responsibilities are primarily _____ in nature, while the treasurer's responsibilities are primarily related to _____ .
- a. operational; financial management
 - b. financial management; accounting
 - c. accounting; financial management
 - d. financial management; operations
 - e. operational; accounting

- Q11** Total Quality Management emphasizes:
- the responsibility of the Quality Control staff to identify and solve all quality-related problems
 - a commitment to quality that goes beyond internal company issues to suppliers and customers
 - a system where strong managers are the only decision makers
 - a process where mostly statisticians get involved
 - how resources are transformed into quality goods and services
- Q12** Which of the following is most likely to affect the location decision of a service firm rather than a manufacturing firm?
- energy and utility costs
 - attitude toward unions
 - parking and access
 - cost of shipping finished goods
 - labour costs
- Q13** What is the critical path in the CPM method?
- Path with longest duration
 - Path with least resistance
 - Path with shortest duration
 - Path with least slack
 - Riskiest path in the project
- I and II
 - I and III
 - I and IV
 - III and IV
 - II and III
- Q14** The work order is to;
- show, in schematic form, how the product is assembled
 - list the operations, including assembly and inspection, necessary to produce the component with the material specified in the bill of material
 - provide detailed instructions on how to perform a given task
 - give the instruction to make a given quantity of a particular item, usually to a given schedule
 - show the management functional of the work

- Q15** The market price of a share of common stock is determined by:
- the board of directors of the firm
 - the stock exchange on which the stock is listed
 - the president of the company
 - individuals buying and selling the stock
 - the financial advisor of the company
- Q16** A Project Manager should have the following skills except:
- effective leadership
 - good communication
 - competent and motivated at work
 - lack of effective engagement with stakeholders
 - conflict management
- Q17** Project success or failure is determined by the outcome of the project variables, including:
- resource
 - scope
 - time
 - quality
 - all of the above
- Q18** A Project life cycle consist of
- conception phase
 - definition phase
 - initiation phase
 - implementation phase
 - evaluation phase
- I and II
 - I and IV
 - I, II and III
 - I, II and IV
 - All of the above
- Q19** The Work Breakdown Structure (WBS) of project can be defined as _____.
- the statement of work (SOW)
 - level-by-level subdivision of work to be performed in a contract
 - the entrance and exit criteria of each milestone
 - responsibility assignment matrices
 - risk management plan

- Q20** The progress review meetings must discuss the following agenda except
- review of action items from last meeting
 - update on activities and schedule
 - problem identification and corrective action plan
 - planning the statement of work (SOW)
 - change request status
- Q21** The close-out meeting should discuss the following agenda except
- identifying area for improvement
 - summarize what was done well
 - update the project resource plan
 - evaluate the subcontractor performance
 - documenting the lessons learned for the project notebook
- Q22** Forecasts used for new product planning, capital expenditures, facility location or expansion, and R&D typically utilize a _____.
- short-range time horizon
 - medium-range time horizon
 - long-range time horizon
 - naive method, because there is no data history
 - all of the above
- Q23** A forecast with a time horizon of about 5 to 7 years is typically called a _____.
- long-range forecast
 - medium-range forecast
 - short-range forecast
 - weather forecast
 - strategic forecast
- Q24** One purpose of short-range forecasts is to determine _____.
- production planning
 - inventory budgets
 - research and development plans
 - facility location
 - job assignments

- Q25** An operations manager is **not** likely to be involved in;
- the design of products and services to satisfy customers' wants and needs
 - the quality of products and services to satisfy customers' wants and needs
 - the identification of customers' wants and needs
 - work scheduling to meet the due dates promised to customers
 - forecasting sales
- Q26** The fundamental purpose for the existence of any organization is described by its;
- policies
 - mission
 - procedures
 - strategy
 - tactics
- Q27** Cost minimization is an appropriate strategy in which stage of the product life cycle?
- introduction
 - growth
 - maturity
 - decline
 - retirement
- Q28** Forecasts used for new product planning, capital expenditures, facility location or expansion, and R&D typically utilize a;
- short-range time horizon
 - medium-range time horizon
 - long-range time horizon
 - naive method, because there is no data history
 - all of the above
- Q29** Which of the following is **true**?
- Corporate mission is shaped by functional strategies
 - Corporate strategy is shaped by functional strategies
 - Functional strategies are shaped by corporate strategy
 - External conditions are shaped by corporate mission
 - None of the above

- Q30** The information that is documented in a bill of materials are;
- the tolerances for each component
 - the cost of the product
 - the components, their description, and the quantity of each required to make one unit of a product
 - the existing inventory level for the product
 - all of the above
- Q31** Which of the following scenarios illustrates a moment that exceeds the customer's expectations?
- an express mail service that guarantees overnight delivery
 - a flight attendant that responds shortly after being called
 - a hairdresser that cuts your hair at the right length
 - a professor that contacts people in several companies to find you a job
 - all of the above
- Q32** "Quality is defined by the customer" is _____.
- an unrealistic definition of quality
 - a user-based definition of quality
 - a manufacturing-based definition of quality
 - a product-based definition of quality
 - the definition proposed by the American Society for Quality Control
- Q33** Which of the following is **not** one of the major categories of costs associated with quality?
- prevention costs
 - appraisal costs
 - internal failures
 - external failures
 - none of the above
- Q34** "Kaizen" is a Japanese term meaning _____.
- foolproof mechanism
 - Just-in-time (JIT)
 - a fishbone diagram
 - setting standards
 - continuous improvement

- Q35** Which of the following uses three types of participants: decision makers, staff personnel, and respondents?
- a. executive opinions
 - b. sales force composites
 - c. the Delphi method
 - d. consumer surveys
 - e. time series analysis
- Q36** A forecast with a time horizon of about 3 months to 3 years is typically called a _____.
- a. long-range forecast
 - b. medium-range forecast
 - c. short-range forecast
 - d. weather forecast
 - e. strategic forecast
- Q37** Standardization is an appropriate strategy in which stage of the product life cycle?
- a. introduction
 - b. growth
 - c. maturity
 - d. decline
 - e. retirement
- Q38** Which of the following is **not** a characteristic of simple moving averages?
- a. it smoothes random variations in the data
 - b. it has minimal data storage requirements
 - c. it weights each historical value equally
 - d. it smoothes real variations in the data
 - e. it is a quantitative method
- Q39** The dimensions, tolerances, materials, and finishes of a component are typically shown on a(n);
- a. assembly chart
 - b. engineering drawing
 - c. bill of material
 - d. assembly drawing
 - e. route sheet

- Q40** 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
 - e. it provides solution for energy issues
- Q41** _____ is concerned with the acquisition, financing, and management of assets with some overall goal in mind.
- a. Financial management
 - b. Profit Maximization
 - c. Agency theory
 - d. Social responsibility
 - e. Asset management
- Q42** Which of the following is true regarding organization design?
- a. Tall organizations are expensive and need more managers
 - b. Multiple levels can increase communication and decision time
 - c. Wide spans leave managers with inadequate times to supervise activities
 - d. Organization design is a grouping of activities to obtain objectives
 - e. All of the above are true.
- Q43** Among the elements that make products more friendly to the environment are _____ .
- a. using less materials
 - b. more recycled materials
 - c. using less energy
 - d. ability to recycle product
 - e. all of the above
- Q44** Budgeting, paying the bills, and collection of funds are activities associated with the:
- a. management function
 - b. control function
 - c. finance/accounting function
 - d. production/operations function
 - e. staffing function

- Q45** The project team members responsibilities are as follows:
- I. Estimate the duration of work tasks
 - II. Help prepare the project network diagram
 - III. Keep the project manager informed on project issues
 - IV. Dishonest and late submission of work report
 - V. Participate in the project close-out meeting
- a. I and II
 - b. I and IV
 - c. I, II, III and V
 - d. I, II, III and IV
 - e. II, III, IV and V
- Q46** What is the critical path in the Critical Path Method?
- I. Path with longest duration
 - II. Path with least resistance
 - III. Path with shortest duration
 - IV. Path with least slack
 - V. Riskiest path in the project
- a. I and II
 - b. I and III
 - c. I and IV
 - d. III and IV
 - e. II and III
- Q47** The Program Evaluation Review Technique (PERT) is a project management tool used to schedule, organize, and coordinate tasks within a project. PERT is used when
- a. the project activity times are certain
 - b. the project activity times are not certain
 - c. the project activity needs more than 1 year to complete
 - d. the project activity needs less than 6 months to complete
 - e. the project activity requires a lot of funding
- Q48** What is the meaning of “slack” time which is used in the network diagram?
- a. The difference between early finish time and early start time
 - b. The difference between late finish time and late start time
 - c. The difference between early start time and early finish time
 - d. The difference between late start time and early start time
 - e. The difference between end project time and start project time

Q49 Which of the following is **not** true about Delphi method used in the forecasting

- a. it is a qualitative method forecasting
- b. it is a quantitative method forecasting
- c. it requires the opinions of some experts
- d. it involved a few series of questionnaire sessions
- e. it requires to have a coordinator to analyze the experts responses

Q50 Which of the following is **not** a characteristic of simple moving averages?

- a. it smoothes random variations in the data
- b. weigh each historical value equally
- c. lags changes in the data
- d. qualitative forecasting method
- e. smoothes real variations in the data



PART B

- Q1** (a) Organizing is a process of coordinating task goals and activities to manage resources. Discuss the important characteristics of an organization in engineering management. (8 marks)

- (b) Managers need to have **THREE (3)** types of skills, technical skills, interpersonal skill and conceptual skill. Based on **Figure 1**, relate it with the importance of these skills. (12 marks)

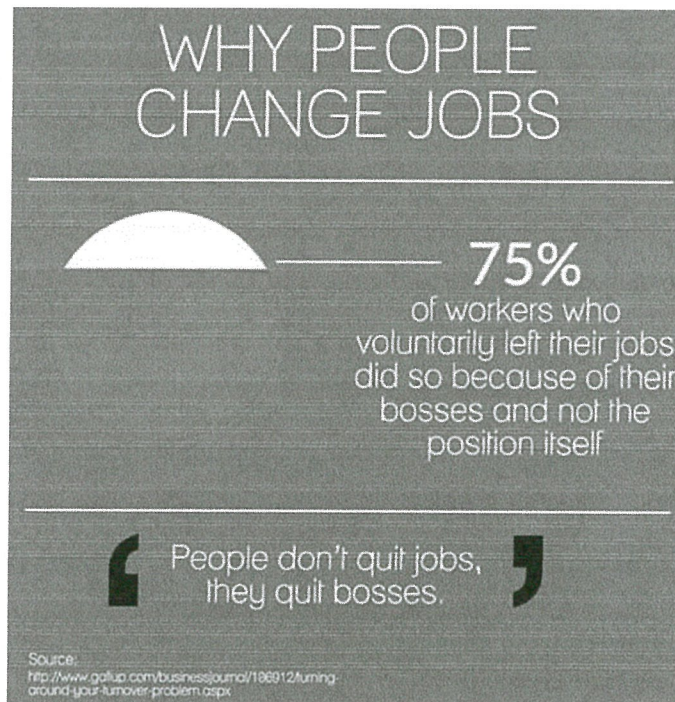


Figure 1

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Q2 (a) Discuss the **THREE (3)** main variables that are optimized in project management.

(6 marks)

(b) A project consists of eleven activities, A to K. The duration (in days), and the activities preceding each of them shown in **Table Q2**

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Table Q2

Preceding activities	Activities	Duration (days)
C, F, J	A	7
E	B	6
-	C	9
B, H	D	7
C, J	E	3
-	F	8
A, I	G	4
J	H	9
E, F	I	9
-	J	7
B, H, I	K	5

- (i) Construct a PERT network diagram for the project. Assuming that the slack time for each activity is **ONE (1)** day, state the early start, late start, early finish and late finish in the diagram.

(10 marks)



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(ii) Find the critical path in the network diagram

(2 marks)

Q3 There are many TQM tools and techniques that can help organization to identify, analyse and assess data that relevant to their business.

(a) Provide **ONE (1)** TQM tool that is suitable to define the correlation between two variables. Then, explain in detail the characteristics of the chosen tool.

(6 marks)

(b) Describe in detail the steps required in the construction of a Cause-and-Effect Diagram.

(6 marks)

-END OF QUESTIONS-

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