POLITEKNIK
Jabatan Pengajian Politeknik

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENGAJIAN POLITEKNIK
KEMENTERIAN PENDIDIKAN MALAYSIA

JABATAN KEJURUTERAAN MEKANIKAL

PEPERIKSAAN AKHIR

SESI JUN 2013

JJ619: INDUSTRIAL MANAGEMENT

TARIKH   : 25 OKTOBER 2013
TEMPOH : 2 JAM (8.30 AM - 10.30 AM)

Kertas ini mengandungi **SEMBILAN (9)** halaman bercetak termasuk muka hadapan.

Bahagian ini mengandungi ENAM (6) soalan esei. Jawab EMPAT (4) soalan sahaja.

Dokumen sokongan yang disertakan : Tiada

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIARAHKAN

(CLO yang tertera hanya sebagai rujukan)

INSTRUCTION:

This paper consists of **SIX (6)** structured questions. Answer any **FOUR (4)** questions.

ARAHAN :

*Kertas ini mengandungi **ENAM (6)** soalan berstruktur. Sila jawab mana-mana* **EMPAT (4)** *soalan.*

QUESTION 1
SOALAN 1

CLO1
C1

(a)   State the objective of industrial engineering.

Nyatakan objektif kejuruteraan industri.

[2 marks]
[2 *markah*]

CLO1
C2

(b)   Give **FOUR (4)** principle of Scientific Management.

*Berikan **EMPAT (4)** prinsip Pengurusan Saintifik.*

[8 marks]
[8 *markah*]

CLO1
C2, C3

(c)   Briefly explain the Project Organization and sketch an example of Project Organization.

Terangkan secara ringkas dan lakarkan satu contoh Organisasi Projek.

[6 marks]
[6 *markah*]

CLO1
C2

(d)   Define :

Berikan definisi:

   i.   Policies

         Polisi

         [3 marks]
         [3 *markah*]

   ii.   Goals

         Matlamat

         [3 marks]
         [3 *markah*]

   iii. Objective

         Objektif

         [3 marks]
         [3 *markah*]

QUESTION 2
SOALAN 2

CLO1
C1,C2

(a) Gives **TWO (2)** types of plant layout and briefly explain each of them.

*Berikan **DUA (2)** jenis susunatur loji dan terangkan secara ringkas antaranya.*

[6 marks]

[6 *markah*]

CLO1
C1

(b) State the factors that will affect the selection of plant location.

Nyatakan faktor-faktor yang mempengaruhi dalam pemilihan lokasi loji.

[4 marks]

[4 *markah*]

CLO 2
C3

(c) A machine shop produces 60 units of product in 480 minutes per day. Product assembly work is done through the 11 tasks as shown in Table 1.

i.   Draw balancing diagram.   [3 marks]

     Lukiskan rajah keseimbangan   [3 *markah*]

CLO 2
C3

ii. Calculate the cycle time.   [2 marks]

     Kirakan masa kitaran.   [2 *markah*]

CLO 2
C3

iii. Determine the minimum number of work station.   [3 marks]

     Nyatakan bilangan minimum stesen kerja.   [3 *markah*]

CLO 2
C3

iv. Determine work station group.   [5 marks]

     Nyatakan kumpulan stesen kerja.   [5 *markah*]

CLO 2
C5

v.   Calculate the efficiency of this line balancing diagram

[2 marks]

[2 *markah*]

Table 1 / *Jadual 1*

	Time (minute)	Previous Task
A	7	-
B	4	A
C	2	B
D	2	B
E	1	C,D
F	5	A
G	6	F
H	3	F
I	2	H
J	8	G,I
K	7	E,J

QUESTION 3
SOALAN 3

CLO 1
C1

(a)   Define Materials Requirement Planning (MRP)

Definisikan Perancangan Keperluan Bahan (MRP)

[2 marks]

[2 markah]

CLO 1
C2

(b)   Differentiate Economic Order Quantity model (EOQ) and Economic Production Quantity model (EPQ).

Nyatakan perbezaan antara Kuantiti Pesanan Ekonomi (EOQ) dan Kuantiti Pengeluaran Ekonomi (EPQ)

[6 marks]

[6 markah]

CLO 1
C2

(c)   Explain the purpose of inventory.   [6 marks]

Terangkan keperluan inventori   [6 markah]

CLO 1
C1

(d)   Identify types of cost to be considered in an inventory management.

Kenalpasti jenis kos yang perlu dipertimbangkan dalam pengurusan inventori

[8 marks]

[8 markah]

CLO 1
C1

(e)   List **THREE (3)** essential inputs in Materials Requirement Planning (MRP).

*Senaraikan **TIGA (3)** kepentingan input dalm Perancangan Keperluaan Bahan (MRP).*

[3 marks]

[3 markah]

QUESTION 4
SOALAN 4

CLO 1
C1,C3

(a)   A company has to accomplish 6 jobs where the required time and processing time are shown in the Table 2.

     i.   Give the process sequence according to FCFS, DD and SPT priority.

     ii.   Calculate the average flow time, lateness and average work station for each of the priority rules.

     iii.   State the appropriate priority.

Sebuah syarikat perlu menyiapkan 6 kerja di mana masa memproses dan masa dikehendaki adalah seperti dalam Jadual 2.

     i.   *Dapatkan jujukan memproses mengikut keutamaan FCFS, DD dan SPT.*

     ii.   *Kirakan purata masa alir, kelewatan dan purata stesen kerja bagi setiap keutamaan.*

     iii.   *Nyatakan keutamaan yang sesuai.*

Table 2 / Jadual 2

Job/Kerja	Processing Time (days)/ Masa Memproses (hari)	Required Time (days)/ Masa Dikehendaki (hari)
A	20	50
B	30	70
C	10	45
D	16	100
E	18	80

[13 marks]

[13 markah]

(b)   Table 3 shows 6 jobs which need to be done and each work had to go through Work Centre 1 and Work Centre 2. Using the Johnson method find the:

Jadual 2 menunjukkan 6 kerja yang perlu dilakukan dan setiap kerja perlu melalui Pusat Kerja 1 dan Pusat Kerja 2. Dengan menggunakan kaedah Johnson dapatkan,

CLO 1
C3

i.   sequence chart or bar chart   [10 marks]

     Carta jujukan dan carta bar   [10 *markah*]

CLO 1
C1

ii.   idle time for work centre 2   [2 marks]

     Masa melahu bagi Pusat Kerja 2   [2 *markah*]

Table 3 / Jadual 3

Job / Kerja	Work Center 1 (hours)/ Pusat Kerja 1 (jam)	Work Center 2 (hours)/ Pusat kerja 2 (jam)
A	6	12
B	3	7
C	18	9
D	15	14
E	16	8
F	10	15

QUESTION 5

SOALAN 5

CLO1
C1

(a)   Define the philosophy of Total Quality Management (TQM).

    Definisikan falsafah Pengurusan Kualiti Menyeluruh (TQM)

          [1marks]

          [1 *markah*]

CLO1
C2

(b)   The cost of poor quality is the difference between what it actually costs to produce a product and what it would cost if there are no defects. Categorize cost of poor quality and give an example for each of them.

    Kos bagi kualiti yang rendah adalah berbeza antara kos bagi menghasilkan produk dan kos untuk menghasilkan sesuatu produk yang tidak mempunyai kecacatan. Kategorikan kos bagi kualiti yang rendah beserta contoh.

          [8 marks]

          [8 markah]

CLO1
C2

(c)   Identify **FOUR (4)** benefits of implementing Total Quality Management (TQM) and briefly explain each of them.

    *Kenalpasti **EMPAT (4)** kelebihan mengamalkan Pengurusan kualiti menyeluruh (TQM) dan terangkan secara ringkas antaranya.*

          [8 marks]

          [8 *markah*]

CLO1
C3

(d)   As a Quality Control Engineer, you need to identify quality problems in your company. Show and sketch the possible tools to identify quality problems and their causes.

          [8 marks]

          [8 *markah*]

QUESTION 6

SOALAN 6

CLO1
C1

(a) Define Human Resource Management concept.   [3 marks]

Takrifkan konsep Pengurusan Sumber Manusia.   [*3 markah*]

CLO1
C3

(b) To achieve organization goals, employee needs to be trained after recruiting process. Identify **FOUR (4)** methods that are possible to train the employee.

*Untuk mencapai matlamat dalam organisai, pekerja perlu dilatih selepas proses mengambilan pekerja dilakukan.. Tunjukkan **EMPAT (4)** cara yang mungkin untuk melatih pekerja.*

[8 marks]

[*8 markah*]

CLO1
C1

(c) In order to get employees to work productively and efficiently they must be motivated. Define employee motivation.

Untuk mendapatkan pekerja yang bekerja secara produktif dan cekap,mereka perlu dimotivasi. Berikan definisi motivasi perkerja

[2 marks]

[*2 markah*]

CLO1
C1

(d) State **FOUR (4)** factors that motivate employees.   [4 marks]

*Berikan **EMPAT (4)** faktor yang boleh memotivasikan pekerja.*   [*4 markah*]

CLO1
C2

(e) Describe the methods to improve employee's motivation.   [8 marks]

Terangkan kaedah untuk memperbaiki motivasi pekerja.   [*8 markah*]

SOALAN TAMAT