SULIT

BAHAGIAN PEPERIKSAAN DAN PENILAIAN
JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI
KEMENTERIAN PENGAJIAN TINGGI

JABATAN KEJURUTERAAN AWAM

PENILAIAN ALTERNATIF BERIKUTAN
PELAKSANAAN PERINTAH KAWALAN BERSYARAT

SESI JUN 2020

DCB30102 : BUILDING TRANSPORTATION

NAMA PENYELARAS KURSUS : MARIAM BINTI ABDULLAH

KAEDAH PENILAIAN : PEPERIKSAAN ONLINE

JENIS PENILAIAN : SOALAN ESEI BERSTRUKTUR (2 SOALAN)

TARIKH PENILAIAN : 2 FEBRUARI 2021

TEMPOH PENILAIAN : 1 JAM

LARANGAN TERHADAP PLAGIARISM (AKTA 174)
PELAJAR TIDAK BOLEH MEMPLAGIAT APA-APA IDEA, PENULISAN, DATA ATAU CIPTAAN ORANG LAIN. PLAGIAT ADALAH SALAH SATU PENYELEWENGAN AKADEMIK. SEKIRANYA PELAJAR DIBUKTIKAN MELAKUKAN PLAGIARISM, PENILAIAN BAGI KURSUS BERKENAAN AKAN DIMANSUHKAN DAN DIBERI GRED F DENGAN NILAI MATA 0.
(RUJUK BUKU ARAHAN-ARAHAN PEPERIKSAAN DAN KAEDAH PENILAIAN (Diploma) EDISI 6, JUN 2019, KLAUSA 17.3)

INSTRUCTION:
This section consists of **TWO (2)** structured questions. Answer **ALL** questions.

ARAHAN:
*Bahagian ini mengandungi **DUA (2)** soalan berstruktur. Jawab semua soalan.*

QUESTION 1
SOALAN 1

CLO1
C3

(a) Describe an electrical elevator
Huraikan lif elektrik

[4 marks]
[*4 markah*]

CLO1
C3

(b) Interpret **TWO (2)** considerations when installing an escalator
*Tafsirkan **DUA (2)** keperluan semasa pemasangan eskalator*

[5 marks]
[*5 markah*]

CLO1
C3

(c) Illustrate **FOUR (4)** arrangements of escalators at a shopping complex
*Gambarkan **EMPAT(4)** susunan eskalator di pusat membeli belah*

[8 marks]
[*8 markah*]

CLO 1
C3

(d) Explain **FOUR (4)** factors to consider when choosing the types of elevator
*Terangkan **EMPAT (4)** faktor yang perlu dipertimbangkan untuk memilih jenis lif*

[8marks]
[*8 markah*]

QUESTION 2
SOALAN 2

CLO2
C4

(a) Based on the requirements of the Uniform Building By-Laws 1984. Explain **FOUR (4)** requirements of stair design in a building.
*Berdasarkan kepada keperluan Undang-undang Kecil Bangunan Seragam 1984. Terangkan **EMPAT (4)** keperluan rekabentuk tangga pada sesebuah bangunan.*

[12 marks]
[*12 markah*]

CLO2
C4

(b) A group of 4 lift cars having a carrying capacity of 20 persons were installed in a new hotel building. Given T_u = 50s, T_d = 27s, T_o = 65s, T_p = 32s, Calculate:
Sekumpulan 4 unit kereta lif mempunyai kapasiti mengangkut 20 orang telah dipasang dalam sebuah bangunan hotel baru. Diberi T_u = 50s, T_d = 27s, T_o = 65s, T_p = 32s, Kirakan:

i) Round trip time.
Masa perjalanan sepusingan.

ii) Interval.
Selang masa.

iii) Capacity of the group.
Kapasiti kumpulan lif.

iv) Quality of the service.
Kualiti servis.

[13 marks]
[*13 markah*]

SOALAN TAMAT

FORMULAR

Formula:

i. Peak demand in 5 minutes $= \frac{(\text{Floor area})(\%\ \text{starting \&stopping time})}{(\text{Floor area per person})(100)}$

with Floor area per person = population density
% starting and stopping time = 17% for unified
= 12% for staggered

ii. Car travel distance, L = (Room height x Number of storey)

iii. Load factor, n = (80% x Maximum capacity of car)

iv. Probable number of stops, $S_1 = S - S\left(\frac{S-1}{S}\right)^n$

with S = maximum number of stops
n = 80% of maximum capacity of car

v. Total upward journey time, $T_o = S_1\left(\frac{L}{SV} + 2V\right)$

with S_1 = probable number of stops
L = car travel distance
S = maximum number of stops
V = car speed

vi. Total downward journey time, $T_d = \left(\frac{L}{V} + 2V\right)$

with L = car travel distance
V = car speed

vii. Door operating time, $T_o = 2(S_1 + 1)\left(\frac{W}{V_d}\right)$

with S_1 = probable number of stops
W = door width
V_d= door speed

viii. Total passenger transfer time, $T_p = 2n$

with n = 80% of maximum capacity of car

ix. Round trip time, $RTT = (T_u + T_d + T_o + T_p)$

with T_u = Total upward journey time
T_d = Total downward journey time
T_o = Door operating time
T_p = Total passenger transfer time

x. $$\text{Interval} = \frac{(\text{Round trip time})}{(\text{Number of cars})}$$

xi. $$\text{Capacity of the group} = \frac{(5 \text{ minutes} \times 60 \text{ seconds} \times \text{Number of cars} \times n)}{(\text{RTT})}$$

with n = 80% of maximum capacity of car
RTT = Round Trip Time