UNIVERSITI MALAYSIA PERLIS

OPEN BOOK TEST (ONLINE)
Semester Pertama
Sidang Akademik 2021/2022

Oktober 2021

**NDJ20103 – Digital System ll /
DKT212 – Digital System ll
[Sistem Digit ll]**

Paper 1

Masa   : 35 minit

Please make sure that this question paper has **TWO (2)** printed pages including this front page before you start the examination.
[Sila pastikan kertas soalan ini mengandungi DUA (2) muka surat yang bercetak termasuk muka hadapan sebelum anda memulakan peperiksaan ini.]

This paper has **TWO (2)** questions. Answer **ALL** questions**.** (15 Marks)
[Kertas ini mengandungi DUA (2) soalan. Jawab SEMUA soalan. (15 Markah)]

Question 1

Give your complete answer in **Appendix 1.**

a) Draw an asynchronous active-HIGH JK flip flop block diagram with a negative edge triggering clock pulse.

(2 marks)

b) Complete the output waveform for Q according to the flip flop on **Question 1(a)**. Let input J & K set to 1. Assume the output for Q initially 0.

(3 marks)

Question 2

Give your complete answer in **Appendix 2.**

a) Draw a master-slave flip flop block diagram. Let the master as a D flip flop while the slaves as a JK flip flop.

(4 marks)

b) From the master-slave block diagram **on Question 2(a)**, complete the timing diagram in **Appendix 2**. Let assume the output for Q_{Master} and Q_{Slave} initially 0.
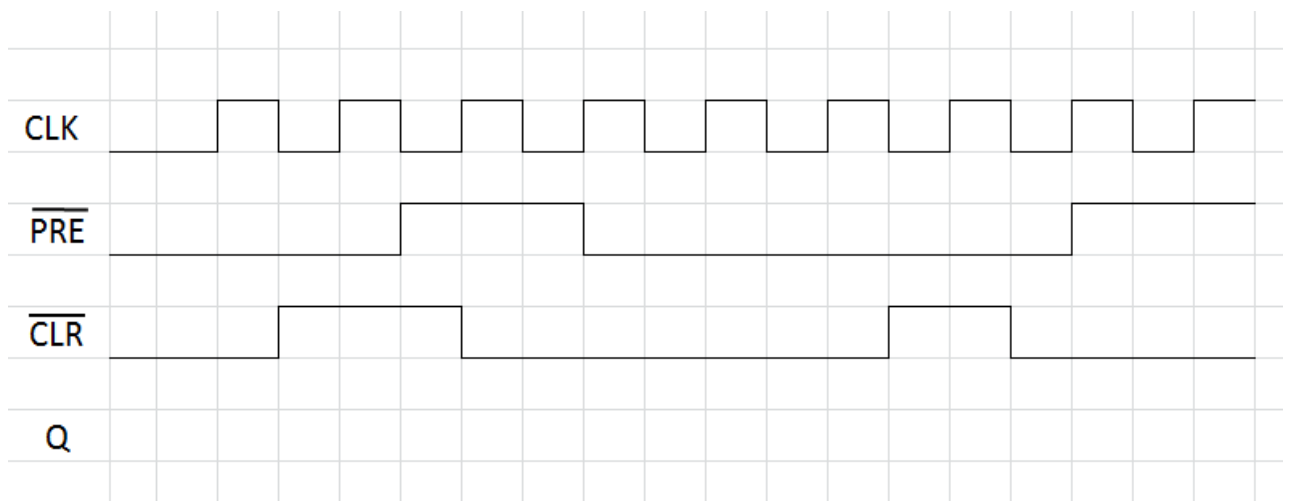
(6 marks)

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Appendix 1

Nama: _____

ID:_____

Question 1

a)

b)

Appendix 2

Nama: _____

ID:_____

Question 2

a)

b)