



**PENINSULA**  
**C O L L E G E**  
GEORGETOWN

## TAKE HOME EXAMINATION

**Student NRIC** : \_\_\_\_\_

**Student ID** : \_\_\_\_\_

Programme	:	<b>DIPLOMA IN COMPUTER SCIENCE (MQA/PA13808)</b>
		<b>DIPLOMA IN E-BUSINESS TECHNOLOGY (MQA/PA13807)</b>
Intake	:	<b>JAN 2021 (YEAR 1 SEMESTER 2)</b>
Course	:	<b>INTRODUCTION TO NETWORKING</b>
Course Code	:	<b>DCS1133 / DEB2143</b>
Duration	:	<b>3 HOURS</b>

### INSTRUCTIONS TO CANDIDATES:

1. Please read the instructions given in the question paper **CAREFULLY**.
2. The question paper consists of **FOUR (4)** questions.
3. Answer **ALL** questions.
4. Answers to the questions are to be written into own A4 sized papers.
5. Please write your NRIC number or student ID number on every page of your answer script. **Do NOT** write your name.
6. Please write a page number on every page of your answer script.
7. Please **KEEP** the hardcopy of your answer script.
8. 1 mark will be deducted for every minute delay in submission after the 20 minutes lapse with a maximum of 10 minutes delay is allowed.
9. After 1.30 pm, any submission will **NOT** be accepted, 0 marks will be awarded.

### WARNING:

The Examination Board of Peninsula College Georgetown regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed and in the accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from Peninsula College Georgetown.

*(This booklet contains 3 printed pages including this page)*

**DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ALLOWED TO DO SO**

Answer **ALL** questions on the separate sheet provided.

**[100 marks]**

1. a) Explain **THREE (3)** types of character code. (6 marks)
  
- b) Differentiate among **THREE (3)** data flow alternatives with the help of diagrams. (9 marks)
  
- c) Give any **SIX (6)** uses of data communication. (6 marks)
  
- d) Describe **TWO (2)** sublayers in the data link layer. (4 marks)
  
2. a) List **FIVE (5)** possible causes of noise or interference in an 802.11 wireless LAN. (5 marks)
  
- b) Comment on how token passing protocol is better than the CSMA/CD protocol. (6 marks)
  
- c) Distinguish **FOUR (4)** differences between hub and switch. (8 marks)
  
- d) Find **SIX (6)** features of Bluetooth wireless technology. (6 marks)
  
3. a) Discuss **TWO (2)** categories of routing method. (6 marks)
  
- b) One of the problems with message switching is it needs to handle a large message.
  - i) Name a solution to solve the problem stated above. (1 mark)
  - ii) Elaborate on the solution provided in **Question 3b)ii)**. (6 marks)
  
- c) Analyse **THREE (3)** differences between circuit switching and packet switching. (6 marks)
  
- d) Justify any **THREE (3)** criteria when planning a network in a company. (6 marks)

4. a) Provide **FIVE (5)** functions of the Transmission Control Protocol (TCP). (5 marks)
- b) Identify at least **FIVE (5)** characteristics of X.25 protocols. (5 marks)
- c) Illustrate and express how Packet Switching Exchange (PSE) and Packet Assembler / Disassemble (PAD) are used in X.25 network with the assist of a diagram. (8 marks)
- d) Demonstrate how does a firewall work with the help of a drawing. (7 marks)

**- END OF QUESTIONS -**