



MALAYSIAN INSTITUTE OF INFORMATION TECHNOLOGY

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**FINAL EXAMINATION  
JANUARY 2016 SEMESTER**

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**SUBJECT CODE** : INB 12604  
**SUBJECT TITLE** : NETWORK FUNDAMENTAL  
**LEVEL** : BACHELOR  
**TIME / DURATION** : 9.00 am – 11.30 am  
( 2 ½ HOURS )  
**DATE** : 25 MAY 2016

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**INSTRUCTIONS TO CANDIDATES**

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1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consists of TWO (2) sections. Section A and Section B
4. Answer ALL questions in section A. Answer TWO (2) question in section B
5. Please write your answers on the answer booklet provided.
6. Answer all questions in English.

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THERE ARE 6 PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

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**SECTION A (TOTAL: 60 marks)****INSTRUCTION: Answer ALL questions.****Please use the answer booklet provided.****Question 1**

- 1) In our current world, we are connected through networking. Based on your understanding, explain what is networking?  
[4 marks]
- 2) There are **TWO** types of networks which is the Local Area Network (LAN) and Wide Area Network (WAN). Describe the **TWO** types of area network and their differences:  
[6 marks]
- 3) Today's, people are connected virtually. People from around the globe can communicate with each other's through the internet. Point out the impact of network to our daily live  
[10 marks].

**Question 2**

- 1) There are **TWO** Types of network model the OSI Layer Model and TCP/IP Model.. Discuss the differences between the **TWO** types of network Model?  
[4 marks]
- 2) Data Link layer and Network Layer are part of OSI layer model. Compare the function for both Layer.  
[6 marks]
- 3) Based on the OSI layer model, illustrate the communications between **TWO** nodes from source to destination.  
[10 marks]

**Question 3**

1) Define MAC address and IP Address.

[4 marks]

2) Describe the differences between MAC address and IP Address.

[6 marks]

3) Point out the differences between Sub Netting and VLSM and justify the pro and cons for both method.

[10 marks]

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**SECTION B (TOTAL: 40 marks)****INSTRUCTION: Answer TWO questions.****Please use the answer booklet provided.****Question 4**

- 1) The word wireless is dictionary defined as "having no wires". In networking terminology, wireless is the term used to describe any computer network where there is no physical wired connection between sender and receiver, but rather the network is connected by radio waves and/or microwaves to maintain communications. Wireless networking utilizes specific equipment such as NICs, APs and routers in place of wires (copper or optical fiber) for connectivity. Determine the pro and cons of using wireless instead of using wired network

[10 marks]

- 2) Layer 2 (switches) and Layer 3 (routers) devices are been used in standard network operation. There are differences between these TWO devices in term of their functionality, operation and utilizations. Illustrate your answer in table form to show the differences between **LAYER 3** devices and **LAYER 2** devices?

[10 marks]

**Question 5**

- 1) You have been hired as an IT executive for IOL sdn bhd. Your first task is to design a network topology based on the requirement given to you. Below are the details for the new network architecture.

Department Name	Description	Number of Users
Marketing	To promote products for the company	90 users
Public relationship	To search for sponsorship and partner for any event and projects for the company	80 users
Tech Team	Provide support for internal and external users	50 users
Helpdesk team	Provide first line support for the customer	40 users
Administrative	Manage company overall	30 users

TABLE 1

[10 marks]

- 2) Your next task will be calculate the ip address based on host given in table 1. Given 10.10.0.0/24 as your first network address.

[10 marks]

**Question 6**

- 1) IP Address a unique string of numbers separated by periods that identifies each computer using the Internet Protocol to communicate over a network. Point out the improvement that have been brought by IP version 6 from IP version 4?

[10 marks]

- 2) There are TWO types of routing which is the Distance Vector and Link state. Explain the differences between these routing protocols?

[10 marks]

END OF QUESTION

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