

FUKIEN SECONDARY SCHOOL
S5 First Term Uniform Test (2021-2022)
Information and Communication Technology
(1 hour)

Date: 11th November 2021

Name: _____

Time: 10:15a.m. - 11:15a.m.

Class: _____ No.: _____

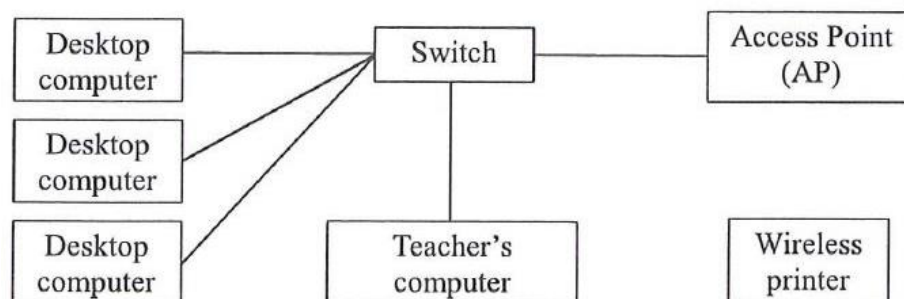
INSTRUCTIONS

1. Write your name, class and class number on both the MC answer sheet and this Question-Answer Book.
2. Answer all questions. You are advised to use an HB pencil to mark all the MC answers on the MC answer sheet. Write your answers in the spaces provided in this Question-Answer Book.
3. Hand in the MC answer sheet and this Question-Answer Book at the end of the test.
4. The total mark of this paper is 100.
5. Candidates are allowed to use a calculator which has been pad-printed with the 'H.K.E.A.A. APPROVED' or 'H.K.E.A. APPROVED' label.

Section A – Multiple Choice Questions (40 marks)

1. Which of the following descriptions of a driver program is correct?
 - A. It enables the operating system to manage files.
 - B. It enables the operating system to control a scanner.
 - C. It monitors the status of virus checking.
 - D. It monitors the usage of RAM.
2. Judy sends a presentation file to Peter. Peter receives the file but cannot open it. Which of the following is / are the possible reason(s)?
 - (1) They are using different operating systems.
 - (2) They are using different presentation software.
 - (3) They are using different communication protocols.
 - A. (1) only
 - B. (1) and (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only
3. Which of the following processes is an example of data collection?
 - A. Taking Towngas meter readings
 - B. Inserting a bank card into an automated teller machine
 - C. Putting a photo on a scanner for scanning
 - D. Entering test marks written on a mark sheet into a spreadsheet
4. Which of the following functions will an operating system usually provide?
 - (1) Control of processes
 - (2) Allocation of memory
 - (3) Record of network traffic
 - A. (1) and (2) only
 - B. (1) and (3) only
 - C. (2) and (3) only
 - D. (1), (2) and (3)
5. Which of the following is **not** a function of a common network operating system?
 - A. Monitoring and restricting access to network resources
 - B. Printing management
 - C. Software development management
 - D. User account management

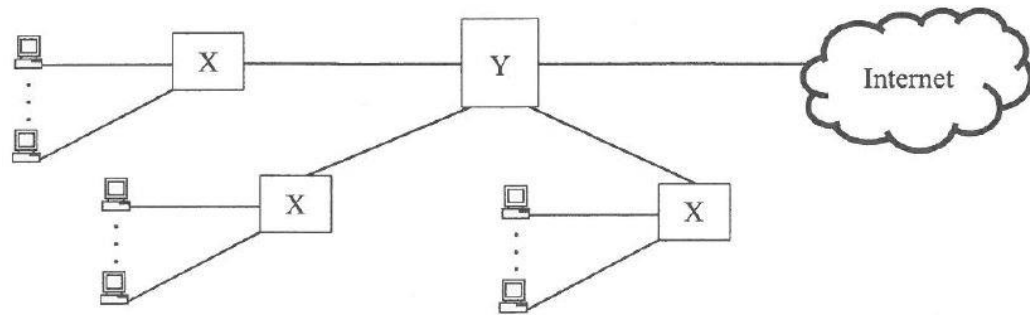
6. Which of the following systems depends on network connectivity?
- A. Real-time system
 - B. Single-user system
 - C. Distributed processing system
 - D. Batch processing system
7. A booking system consists of several booking counters in different locations in a city. Customers can buy tickets for theatres through one of the booking counters. Which of the following best describes the booking system?
- A. Real-time system
 - B. Batch processing system
 - C. Distributed processing system
 - D. Parallel processing system
8. In a real-time information processing system, which of the following attributes is most important?
- A. Wi-Fi connection
 - B. Response time
 - C. Program size
 - D. Cross-platform
9. Study the following network diagram.



In order to allow all desktop computers to connect to the wireless printer, which of the following actions should be taken?

- A. The AP should be installed between the switch and teacher's computer.
- B. The teacher's computer should be turned on.
- C. The wireless printer should be connected to the AP.
- D. The switch should be replaced by a router.

10. Below is a typical computer network for a school campus:



What are X and Y?

X

Y

- | | |
|----------------------|------------------------|
| A. Switch | Network interface card |
| B. Access Point (AP) | Network interface card |
| C. Router | Access Point (AP) |
| D. Switch | Router |

11. Mr Li considers some communication links for building a network in a company and compares their effective data transfer rates. Which of the following comparisons is correct?

- | | | | | |
|-------------------------|---|----------------------|---|----------------------|
| A. Cat 6 (twisted pair) | < | Satellite | < | Fibre optics |
| B. Satellite | < | Cat 6 (twisted pair) | < | Fibre optics |
| C. Cat 6 (twisted pair) | < | Fibre optics | < | Satellite |
| D. Satellite | < | Fibre optics | < | Cat 6 (twisted pair) |

12. Why should network interface cards (NICs) be used in a computer network?

- (1) The network needs to support data transfer at 10GB per second.
- (2) NICs connect computers to the network.
- (3) NICs convert analogue signals into digital signal and vice versa.

- A. (1) only
- B. (2) only
- C. (3) only
- D. (1) and (3) only

13. A company subscribes for a 100M leased line instead of a 100M broadband connection because _____.
- A. the maximum data transfer rate is higher
 - B. it is cheaper
 - C. it is more secure
 - D. it is for commercial use only
14. Which of the following is most important to an Internet connection?
- A. Router
 - B. Switch
 - C. 802.11n
 - D. 192.168.0.1
15. Ms Wong wants to establish a wired network of three computers for sharing a printer and some files at home. Which of the following devices is **not** necessary?
- A. Network card
 - B. Switch
 - C. Repeater
 - D. Twisted pair cable
16. Which of the following protocols is/are involved when browsing <https://www.gov.hk>?
- (1) FTP
 - (2) IP
 - (3) DNS
- A. (1) only
 - B. (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only
17. The Internet of Things (IoT) refers to the networks formed by devices which can collect and exchange data. The networks are usually connected to the Internet. Which of the following items should the devices usually have?
- A. An IP address
 - B. A CPU with high processing power
 - C. A DNS
 - D. A large storage capacity

18. An IP address of a computer on the Internet should be
- (1) at least 32 bits long.
 - (2) assigned to the network interface card of the computer by the manufacturer.
 - (3) unique.
- A. (2) only
B. (3) only
C. (1) and (2) only
D. (1) and (3) only
19. The length of IP addresses is changed from 32 bits to 128 bits. What is the major reason for this change?
- A. More IP addresses can be used.
B. More web contents can be surfed.
C. Less computational power is required of web servers.
D. It is more difficult to hack networked computers.
20. Which of the following statements about Domain Name and Internet Protocol address is **not** correct?
- A. The Internet Protocol address of a common network device consists of four sets of numbers.
B. Domain Name is normally easier to remember.
C. Domain Name can remain unchanged even if the host computer is moved to a different network.
D. Domain Name supports a faster connection to the requested host computer.

- (c) Give **TWO** functions provided by the OS. Briefly describe each of them.

(4 marks)

2. There are two modes of operation: real-time processing and batch processing.

- (a) Describe briefly **TWO** main differences between real-time processing and batch processing.

(4 marks)

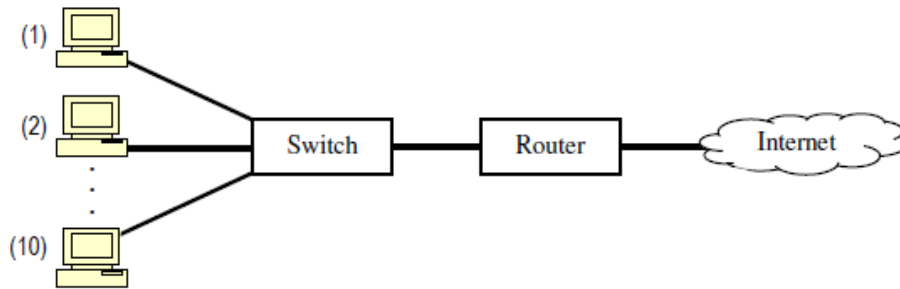
- (b) Identify which mode of operation should be used for the following situations. Put ticks '✓' in the appropriate boxes below.

No	Situation	Real-time system	Batch processing system
(i)	Printing uniform test reports		
(ii)	Pilot training simulation		
(iii)	Book reservation in library		

(6 marks)

3. Peter has a router and a number of 24-port switches in his office.

(a) He has built a network of 10 computers as shown below.



(i) Describe briefly the function of the device 'Switch'.

(ii) Describe briefly the function of the device 'Router'.

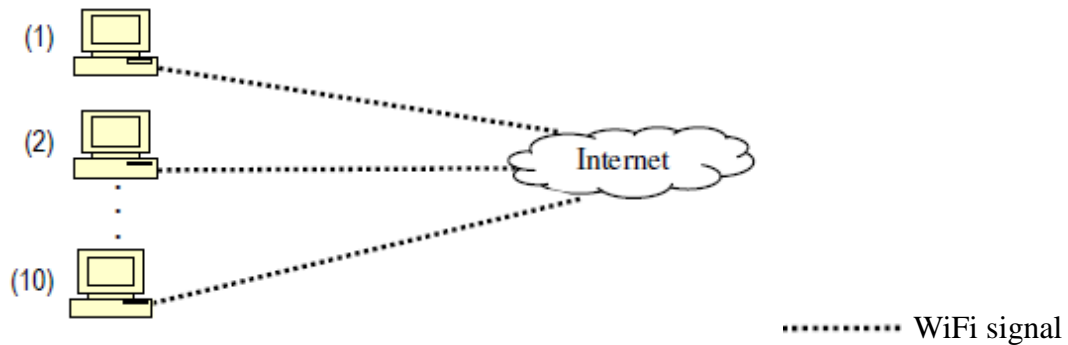
(iii) Suggest another device which can be used to substitute 'Switch'.

(iv) Give the name of the hardware component inside the computers for connecting to the network.

(v) If the router is out of order, is there any network service available?
Explain your answer briefly.

(12 marks)

Peter can build the following network connection using GovWiFi（香港政府WiFi通）.



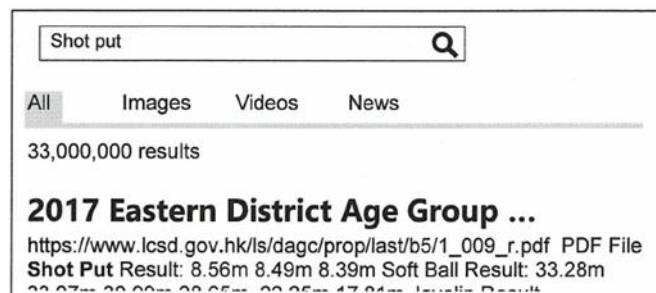
- (b) Give one advantage and one disadvantage of this network over the one in (a).

Advantage: _____

Disadvantage: _____

(4 marks)

4. A teacher, Mr Li, planned to teach students shot put skills. He used a search engine to search for videos about shot put skills. He typed some keywords and obtained the following search result:



- (a) After Mr Li had gone home, he tried to use the same keywords to search again in his home computer again. However, he found that the search results are different. Suggest **TWO** reasons for this situation.

(4 marks)

- (b) Mr Li found two suitable videos and sent their hyperlinks to his students. On the weekend, a student found that he could not watch one of the videos using computer in a public library. Give **TWO** possible reasons for this.

(4 marks)

5. A company has branches in different countries. The computer networks in the offices form a wide area network. Ms Wong regularly visits the offices. She will use a notebook computer to connect to the wide area network.

- (a) Other than email, suggest **THREE** types of computer applications Ms Wong can use to transfer files.

(6 marks)

- (b) In an international airport, Ms Wong can directly connect to the free Wi-Fi network. Ms Wong finds that the speed of the Internet connection is slow although the network signal is strong. Why?

(4 marks)

END OF PAPER