

SECTION A [10 MARKS]

ANSWER ALL QUESTIONS

Question 1

[10]

Direction: For each question, there are four alternatives: A, B, C and D. Choose the correct alternatives and circle it. DO NOT circle more than ONE alternative. If there is more than one choice circled, NO score will be awarded.

- i. A message to be sent via the Internet must be broken down into packets. Identify the protocol responsible for this task.
 - A IP
 - B TCP
 - C FTP
 - D SMTP

- ii. Sending an email to someone in uppercase letters is inappropriate because it is just like
 - A getting angry.
 - B hating the recipient.
 - C shouting at the recipient.
 - D scolding at the recipient.

- iii. **Telegram** is a popular messaging application. Every message and call are secured by cryptographic security so that no one can read or listen to your conversations. Arrange the cryptographic process given below in the correct order.
 - I. Decryption
 - II. Encryption
 - III. Cipher text
 - IV. Plain text
 - V. Plain text
 - A V, II, III, I, IV
 - B V, I, III, II, IV
 - C III, II, V, I, IV
 - D III, V, II, I, IV

iv. A zoologist entered the Boolean search command in **www.google.com** as shown in the figure below.



The search result displayed would be about

- A male Takin found in Bhutan.
- B female Takin found in Bhutan.
- C Takin either male or female found in Bhutan.
- D Takin either male or female not found in Bhutan.

v. Maya wants to organize a surprise party at her place. She wants to send email invitation to her friends in such a way that her friends do not know who all are invited. Which email feature should she use to send her invitation?

- A Forward
- B Attachment
- C Carbon Copy
- D Blind Carbon Copy

vi. Ms. Pema visited <https://www.cam.ac.uk> to learn more about Cambridge University. After browsing she wanted to save the URL so that she could visit the site frequently. Which option in Internet explorer can she use?

- A Favorites
- B Home page
- C View source
- D View downloads

vii. Database administrator grants permission to the school principal to delete students' records from the database, while the class teachers are only allowed to upload the students' bio-data. This situation falls under

- A authorization.
- B authentication.
- C cryptography.
- D identification.

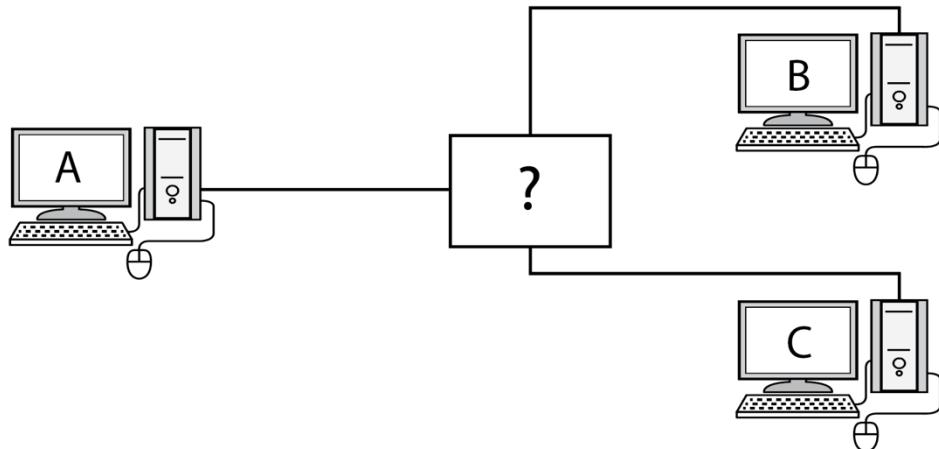
viii. A computer laboratory assistant bought MS Office. He installed the software in ten computers although the license was only for one computer. This is a typical kind of

- A Bootlegging.
- B Counterfeiting.
- C End User Piracy.
- D Hard disk loading.

ix. Amit was asked by his teacher to collect all the project works of his class on a USB flash drive. After the collection of the files, he scanned the drive for virus infection. Antivirus on his system detected one of the word document was infected with virus. Identify the type of virus which has affected the file.

- A Macro virus
- B Boot sector virus
- C File infector virus
- D Multi-partite virus

x. Using the figure given below, answer the question that follow.



An email was sent from A to B and C. The email must be broken down into packets. These packets are in different signal forms in computers and communication channel. The device that must be included between communication channel and the computers is

- A router.
- B bridge.
- C modem.
- D gateway.

SECTION B [10 MARKS]
ANSWER ALL QUESTIONS

Question 2

[10]

Direction: *Fill in each blank with appropriate words or phrases.*

- i. IP address is made up of four numbers each less than _____.
- ii. Modern technological devices have caused an upswing in _____ injuries.
- iii. Karma visited **www.youtube.com** and found an interesting video. He copied the video in his personal computer. This process is referred as _____.
- iv. In order to navigate from one web page to another, users click on the _____.
- v. One of the ways to find a school's website is through search engines. It is important to update the website often in order to improve its ranking as the _____ returns to the site periodically to look for changes.
- vi. In 1980s British computer scientist Tim Berners-Lee created WWW linking hypertext documents which is accessible from any node on a network. This gave birth to global network called _____.
- vii. The website for Ministry of Education of Bhutan is **www.education.gov.** _____.
- viii. To get out of your email account properly, you should click on _____ button.
- ix. The process of converting a digital signal to an analog signal is known as _____.
- x. Chat, video conferencing and newsgroup enables you to _____ with people living far away.

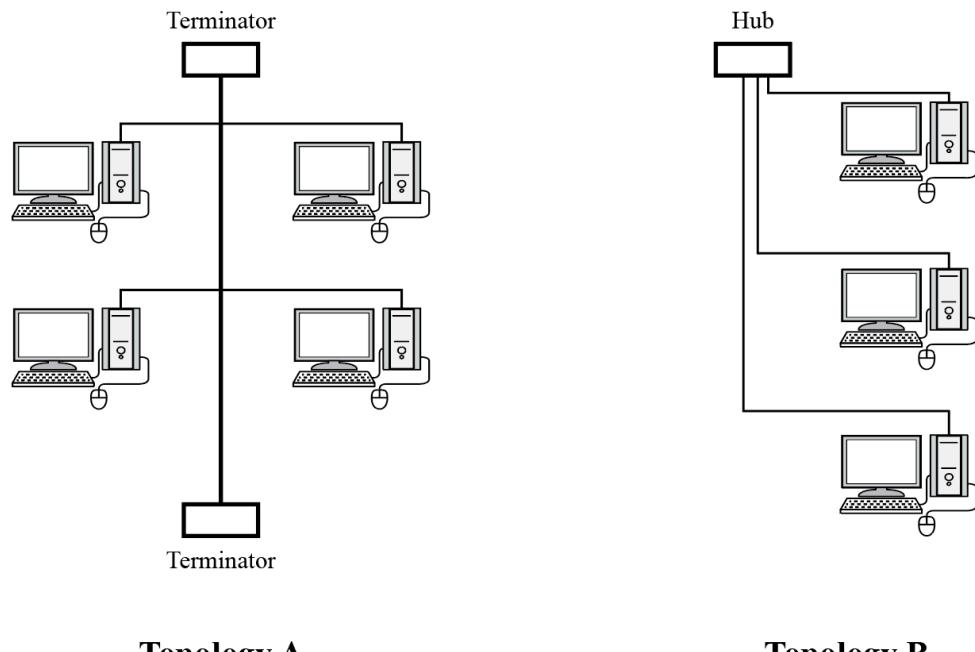
SECTION C [10 MARKS]

ANSWER ALL THE QUESTIONS

Question 3

[10]

i. **Topology B** is better than **Topology A**. Justify with **TWO** reasons.



ii. Dema recently joined Bank of Bhutan Limited as an Assistant Loan Officer. She shared the image of her visiting card on her Instagram account as information to her friends. After that she started receiving calls and emails from her friends, family and others. She opened an attachment with .exe extension sent by an unknown person. Thereafter, her laptop started to behave strangely.

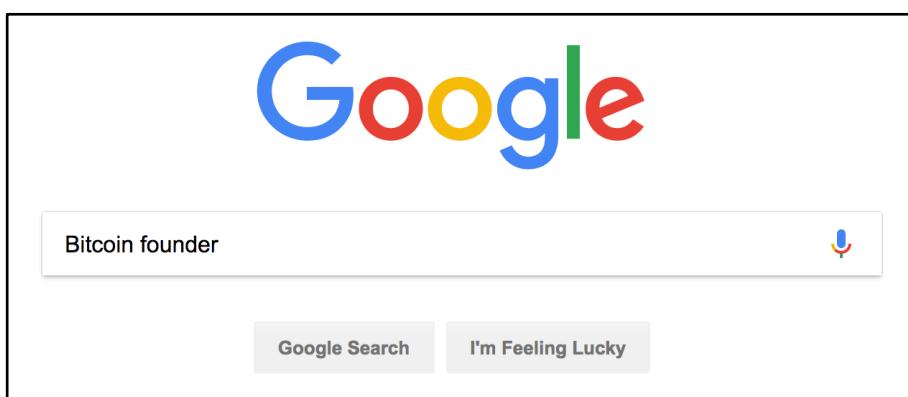
- a) She was not able to login into her Instagram account.
- b) She received hundreds of emails on a regular basis from advertisers.
- c) Web browser became sluggish, and home page was redirected to unusual websites.
- d) Her laptop was taking longer than normal to start and programs were taking ages to open.

List **TWO** mistakes she committed and help her solve the problem.

iii. You are appointed as a network administrator of a school. Design a plan to prevent the spreading of malicious software in the school.

iv. Sonam works in a call center. One of her clients seeks help to send an email. Write a step by step instruction to compose and send an email.

v. Study the figure given below and answer the question that follow.



Describe the process involved and result displayed from the search query.

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