M.Sc. (IT) (Sem-II)   March-2023

Information Technology : Modern Networking (R-2020)

(2½ Hours)   **[Total Marks: 75]**

N. B.: (1) **All** questions are **compulsory**.

(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.

(3) Answers to the **same question** must be **written together**.

(4) Numbers to the **right** indicate **marks**.

(5) Draw **neat labeled diagrams** wherever **necessary**.

(6) Use of **Non-programmable** calculator is **allowed**.

Q.1 Attempt _any three_ of the following: **15**

A. What is QoS? What are the properties of QoS?

B. Explain the techniques of congestion control.

C. List and explain applications of Wi-Fi.

D. Explain the Global Network Architecture.

E. What are routing protocols? Explain.

Q.2 Attempt _any three_ of the following: **15**

A. Explain the Open Daylight Architecture.

B. Explain the requirements stated by ODCA for modern networking.

C. Explain the functions provided by SDN controller.

D. Explain high-level architecture of SDN.

E. What is REST? Explain its constraints.

Q.3 Attempt _any three_ of the following: **15**

A. Explain the elements of compute domain of NFV.

B. Explain high-level NFV framework.

C. Explain the requirements of NFV.

D. Explain elements of compute domain in NFV.

E. Explain architectural use cases in NFV.

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Q.4 Attempt _any three_ of the following: **15**

    A. Explain the tasks of control plane in QoS framework.

    B. Explain services of ISA.

    C. Explain the characteristics of Differentiated Services.

    D. Explain QoS/QoE layered model.

    E. Explain Black-box media-based Qos/QoE mapping models.

Q.5 Attempt _any three_ of the following: **15**

    A. Explain components of IoT.

    B. Explain the NIST Cloud Computing Reference Architecture.

    C. Explain the Cisco IoT system.

    D. Explain the five basic security requirements.

    E. Explain IoT Security framework.

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