Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Object Oriented Analysis and Design [IT-701]
Branch: IT

Time: 3:00 Hrs   **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.

Q.1   a) Explain about Object Oriented Analysis and Design process.
        b) Write notes on:
        i) Encapsulation
        ii) Class Hierarchy

Q.2.   a) Explain Aggregation and Generalization.
        b) Explain the OO system design life cycle model.

Q.3   a) With a suitable example explain how to design a class.
        Give all possible representation in a class (name, attribute, visibility, methods, responsibilities).
        b) Explain the Object Modelling technique with suitable example.

Q.4   a) Give the comparison list of Object oriented programming language C++ and JAVA.
        b) Explain the state chart diagram with a suitable example.
        Also define its components and use.

Q.5   a) Illustrate with an example, the relationship between sequence diagram and use cases.
        b) What do you mean by Interaction diagrams? Explain them with a suitable example.

Q.6.   a) Compare about use-case driven approaches.
        b) Explain in brief, Relational V/s Object oriented databases.

Q.7   a) Explain in detail the characteristics of Object oriented programming languages.
        b) Discuss about UML deployment and component diagrams.
        Draw the diagrams for a banking application.

Q.8   Explain the following:
        a) Unified Modeling Language (UML)

b) UML Class diagram

c) Purposes of Modeling

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Wireless & Mobile Computing [IT-702]
Branch: IT

Time: 3:00 Hrs   **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
        2. All question carry equal marks.

Q.1   (a) What is Antenna? Draw and explain any four types ofAntenna.
          (b) Why are need Multiple Access Technique? Differentiate
TDMA, FDMA and CDMA techniques.

Q.2   (a) Draw and explain the architecture of cellular system. Whatis Hand off?
          (b) What type of services are provided by GSM system? Explain its architecture.

Q.3   (a) Name two types of GSM logical channels and explain them in detail.
          (b) Discuss DECT system with its features and characteristics.

Q.4   (a) Describe the physical layer architecture of 802.1 standard.
          (b) What is HIPERLAN-2? Draw and explain HIPERLAN-2protocol stack.

Q.5   (a) Define the need of Adhoc networks. Write special features and challenges of Adhoc networks.
          (b) What are the functions of Routing protocols in Adhoc network? Give a classification of Adhoc routing protocols.

Q.6   (a) Describe Indirect TCP and Snooping TCP protocols used in Adhoc networks.
          (b) Write a short note on WAP.

Q.7   (a) What is Firewall? Explain the design principle of Firewall.
          (b) Differentiate Viruses, Worms and Trojan horse.

Q.8   Write short notes on any two of the followings.
          (a) Password management   (b) Intruders
          (c) TETRA   (d) Biometrics

Bachelor of Engineering
Seventh Semester Main Examination, Dec- 2020
Cloud Computing [IT-703]
Branch: IT

Time: 3:00 Hrs   **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
        2. All question carry equal marks.

Q.1   Explain cloud and dynamic infrastructure?

Q.2   List the different cloud application available in the market? Explain the scenarios" when to not used cloud" ?

Q.3   Write short note on cloud adoption and cloud rudiments. What do you mean by social network analysis?

Q.4   What are the fundamental components introduced in cloud reference model.

Q.5   What is clouds scalability? Explain the terms of "virtual desktop infrastructure".

Q.6   Write a brief note on cloud ecosystem along with the example.

Q.7   What is need of virtualization? Discuss the architecture of hyper -V and discuss use in cloud computing.

Q.8   Write the different between block and file level storage virtualization.

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
Simulation & Modeling [IT-711]
Branch: IT

Time: 3:00 Hrs   **Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. All question carry equal marks.

Q.1   (a) What do you mean by continuous and discrete system? Explain it with suitable examples. Give difference between linear and non-linear system.
(b) Explain the concept of system and environment in simulation. Also discuss the various advantages and disadvantages of simulation. Discuss the various types of simulation.

Q.2   (a) Discuss the role of simulation in model evaluation an studies. Explain in brief about static and dynamic models.
(b) Briefly write the different steps involved and four guiding principles associated with simulation modeling.

Q.3   (a) Explain the concept of Monte Carlo method of computer based simulation in detail. Also write its application areas.
(b) What do you mean by the term analog and hybrid simulation? Explain the various steps required in building a financial simulation model for an organization.

Q.4   (a) Describe the exponential growth model and decay model. Explain the steps required in validation of a SD model.

(b) Explain the simulation of system dynamics for waiting times in single server queuing system. Describe the characteristics of queuing system.

Q.5   (a) What are the system dynamics diagrams? Explain in brief. Also describe about the calumnious system models.
(b) Explain the concept of discrete and continuous probability function in simulations. Differentiate between random numbers and pseudo random numbers.

Q.6   (a) Discuss stochastic variables and process in details. How could random numbers that are uniform on the interval [0,1] be transformed in to random numbers that are uniform on the interval [-11,17]?

(b) Discuss the inverse transformation method for generating the non-uniform continuous random number using the following function.
F( ) 1/ ( );0 1 x xA x = + $\leq\leq$ = 0, elsewhere.

Q.7   (a) What are logistic curves and multi segments models? Write the classification of simulation languages in brief.
(b) Explain the simulation in GPSS with the help of a block diagram for the single server queue simulation.

Q.8   (a) Write short notes on any two:
i) Markov chain
ii) ARENA
iii) Queuing theory in computer system
(b) Develop a model and write a program in dynamo for inventory control.

Enrollment No...........................

Bachelor of Engineering
Seventh Semester Main Examination, Dec-2020
E-Commerce & Governance [IT-722]
Branch: IT

Time: 3:00 Hrs   **Max Marks 70**

Note: 1. Attempt any five questions out of eight.
        2. All question carry equal marks.

Q.1   What do you understand by supply chain management? How does e-commerce help in supply chain management?
                                    OR
Explain the importance of electronic commerce. How does internet advertising offer a two-way channel for electronic commerce?

Q.2   What is E-Governance? Explain the benefits and reasons for the introduction of E-Governance in a country.

Q.3   Define the term Electronic Data Interchange (EDI). Discuss all the building blocks of EDI system.

Q.4   Write brief notes on the terms
(i) E-readiness

(ii) Digital divides

Q.5   (a) What are different threats to electronic payment systems? Suggest some measures to prevent them.
(b) Explain phishing attack, denial of service attack, sniffing and spoofing.

Q.6   What are the challenges in implementing E-Governance in a developing country like India?

Q.7   Name different models of E-Governance and write in brief about mobilization and lobbying model and critical flow model of E-Governance.

<div align="center">OR</div>

With suitable examples name any three business models of E-Commerce. Explain B2B and C2C models in detail.

Q.8   Write short notes on any two of the followings.
(i) Marketing on the web
(ii) Value Chain
(iii) Secure Electronic Transaction (SET) protocol
(iv) E-Seva