

**R2733**

**Sub. Code**

**2BV6G2**

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Sixth Semester**

**Software Development**

**FUNDAMENTALS OF DIGITAL MARKETING**

**(CBCS – 2022 onwards)**

**(Common for : B.Voc. (Fashion Technology/Software Development))**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. \_\_\_\_\_ is NOT a component of digital marketing.  
(CO1, K2)
  - (a) SEO
  - (b) Social Media Marketing
  - (c) Print Advertising
  - (d) Email Marketing
2. What does PPC stand for in digital marketing? (CO1, K2)
  - (a) Pay Per Campaign
  - (b) Pay Per Click
  - (c) Product Promotion Cost
  - (d) Purchase Point Conversion

3. \_\_\_\_\_ is NOT a key consideration in writing effective web content. (CO2, K1)
- (a) Keyword optimization
  - (b) Complex technical jargon
  - (c) Readability and engagement
  - (d) Call-to-action (CTA) elements
4. \_\_\_\_\_ factor is the most important when choosing a domain name. (CO2, K1)
- (a) Length of the name
  - (b) SEO friendliness and brand relevance
  - (c) Using special characters
  - (d) Choosing random words
5. \_\_\_\_\_ is a key metric for measuring the success of an email marketing campaign. (CO3, K3)
- (a) Number of emails sent
  - (b) Open rate and click-through rate
  - (c) The length of the email
  - (d) Number of social media followers
6. What is a good practice when adding social media to a website? (CO3, K3)
- (a) Hiding social media links
  - (b) Embedding social media feeds for real-time updates
  - (c) Posting only promotional content
  - (d) Avoiding user interaction

7. \_\_\_\_\_ is a key strategy for fostering a positive online image. (CO4 K4)
- (a) Ignoring customer feedback
  - (b) Engaging with customers and responding to reviews
  - (c) Posting misleading information about competitors
  - (d) Avoiding transparency
8. How can businesses monitor online conversations about their brand? (CO4, K4)
- (a) Using social listening tools like Google Alerts and Hootsuite
  - (b) Ignoring comments and reviews
  - (c) Blocking negative users
  - (d) Deleting all negative feedback
9. \_\_\_\_\_ is the primary function of a payment gateway in online transactions. (CO5, K2)
- (a) Storing customer payment information
  - (b) Encrypting and securely transmitting payment data between customers and merchants
  - (c) Offering discounts to customers
  - (d) Providing loans to e-commerce businesses
10. What is the key advantage of using cyber wallets? (CO5, K2)
- (a) They eliminate the need for online transactions
  - (b) They allow secure and convenient digital payments
  - (c) They require users to carry cash at all times
  - (d) They only work with physical debit/credit cards

**Part B**

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Differentiate traditional marketing and digital marketing. (CO1, K2)

Or

- (b) What are the essential components of a digital marketing strategy? (CO1, K2)

12. (a) Explain the role of a website in digital marketing. (CO2, K1)

Or

- (b) Illustrate the budgeting procedure in digital marketing and its key elements. (CO2, K1)

13. (a) What are the key steps in planning an email marketing campaign? (CO3, K3)

Or

- (b) What are the rules of engagement for social media marketing? (CO3, K3)

14. (a) Explain the importance of fostering a positive online image for businesses. (CO4, K4)

Or

- (b) What are the benefits of monitoring online conversations about a brand? (CO4, K4)

15. (a) How does intellectual property law protect digital businesses? (CO5, K5)

Or

- (b) Describe the role of NFC in mobile payments. (CO5, K2)

**Part C**

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Illustrate the impact of technology on digital marketing. (CO1, K2)

Or

- (b) How does understanding the digital consumer shape marketing strategies? (CO1, K2)
17. (a) Discuss the steps involved in building an effective website for digital marketing success. (CO2, K1)

Or

- (b) Discuss cost estimating, cost budgeting and cost control in digital marketing. (CO2, K1)
18. (a) What strategies should businesses follow when adding social media to their websites? (CO3, K3)

Or

- (b) Describe the different forms of social media. (CO3, K3)
19. (a) Explain how businesses can use online channels to improve brand perception. (CO4, K4)

Or

- (b) Illustrate the impact of social media on online reputation management. (CO4, K4)

20. (a) Describe the key components of a successful mobile payment ecosystem. (CO5, K2)

Or

- (b) Discuss the legal and regulatory challenges in digital payment systems. (CO5, K5)
-

<b>R2734</b>
--------------

<b>Sub. Code</b>
------------------

<b>2BS2C1</b>
---------------

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Second Semester**

**Software Development**

**WEB TECHNOLOGY**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Which among the following option is correct regarding HTML? (CO1, K2)
  - (a) Modelling Language
  - (b) Language
  - (c) Partial programming language
  - (d) Used to structure web documents
2. The full form of OSI is \_\_\_\_\_. (CO1, K1)
  - (a) Operating system interface
  - (b) Optical system Interconnection
  - (c) Operating system
  - (d) Open system Interconnection
3. Which HTML tag is used to create a hyperlink? (CO2, K2)
  - (a) <link>
  - (b) <href>
  - (c) <a>
  - (d) <hyperlink>

4. In the Internet, the domain name space (tree) is divided into \_\_\_\_\_ different sections. (CO2, K1)
- (a) two (b) four  
(c) three (d) none of these
5. Which one of the following is not an application layer protocol used in internet? (CO3, K2)
- (a) remote procedure call  
(b) internet relay chat  
(c) resource reservation protocol  
(d) local procedure call
6. Which element is used to give title to a table? (CO3, K2)
- (a) Caption (b) Headline  
(c) Title (d) Heading
7. How to insert an image in HTML? (CO4, K1)
- (a) `<img href = "jtp.png" />`  
(b) `<img url = "jtp.png" />`  
(c) `<img link = "jtp.png" />`  
(d) `<img src = "jtp.png" />`
8. When does JavaScript code appear inline within an HTML file? (CO4, K1)
- (a) Between or Outside the "script" tag  
(b) Between the header tag  
(c) Outside the "script" tag  
(d) Between the "script" tag
9. Which of the following is used with the switch statement? (CO5, K2)
- (a) Continue (b) Exit  
(c) Break (d) Do



10. Which of the following bootstrap styles can be used to create a default progress bar? (CO5, K2)
- (a) .progress, .progress-bar
  - (b) .link-progress-bar
  - (c) .nav-progress
  - (d) All of the above

**Part B** (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Discuss in brief about the evolution and growth of computer networking. (CO1, K5)
- Or
- (b) Highlight the Growth of Internet. (CO1, K2)
12. (a) Compare FTP, POP and SMTP. (CO2, K4)
- Or
- (b) Discuss in brief about the DNS Server model with a neat structure. (CO2, K5)
13. (a) Compare HTML and XHTML with proper explanations. (CO3, K4)
- Or
- (b) How do you insert an image using HTML tag? Explain with an example. (CO3, K5)
14. (a) How to handle events from button elements? Explain. (CO4, K2)
- Or
- (b) Discuss in brief about the primitive data types used in Javascript. (CO4, K5)
15. (a) Mention the features and main components of Bootstrap. (CO5, K4)
- Or
- (b) Discuss the steps involved in creating a blog layout with bootstrap grid mixins and variables. (CO5, K2)

**Part C**

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Discuss in detail about networking and its types with a neat structure. (CO1, K5)

Or

- (b) Describe in detail about the OSI seven layer reference model with a neat structure. (CO1, K5)

17. (a) Explain in detail about the application layer protocol with neat structure. (CO2, K5)

Or

- (b) How to transfer web document using HTTP? Explain. (CO2, K5)

18. (a) Discuss in detail about the structure of HTML and its elements with example. (CO3, K5)

Or

- (b) Describe in detail about the video element in HTML with an example. (CO3, K4)

19. (a) Explain in detail about the control statements in Javascript with an example. (CO4, K5)

Or

- (b) Javascript, including its types with an example. (CO4, K5)

20. (a) Explain in detail about bootstrap CDN and its features and advantages. (CO5, K5)

Or

- (b) Enumerate the process of implementing the bootstrap base CSS. (CO5, K4)

**R2735**

**Sub. Code**

**2BS2C2**

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Second Semester**

**Software Development**

**INTRODUCTION TO MULTIMEDIA**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Which of the following is an example of a multimedia file format for images? (CO1, K1)  
(a) .mp3 (b) .mp4  
(c) .jpg (d) .exe
2. Which multimedia element is often used to create a more immersive experience in websites and games? (CO1, K2)  
(a) Text (b) Video  
(c) Animation (d) Tables
3. MIDI is \_\_\_\_\_. (CO2, K1)  
(a) Protocol (b) Device  
(c) LAN (d) None of these
4. \_\_\_\_\_ is used to reduce the size of Multimedia file. (CO2, K2)  
(a) Data handling (b) Data Coupling  
(c) Data compression (d) Data dependency

5. Each \_\_\_\_\_ represents a particular colour.  
(CO3, K2)
- (a) Frame (b) Character  
(c) Pixel Value (d) None of the above
6. How many categories of image file compressions there?  
(CO3, K2)
- (a) 6 (b) 2  
(c) 4 (d) 3
7. Video file format is \_\_\_\_\_. (CO4, K1)
- (a) Tiff (b) AVI  
(c) WAV (d) Both (a) and (b)
8. Which color model is used for most computer model and video systems?  
(CO4, K2)
- (a) RGB (b) RYB  
(c) CMY (d) HS
9. \_\_\_\_\_ is a multimedia authoring software.  
(CO5, K1)
- (a) Page maker (b) Director  
(c) Excel (d) None of the above
10. \_\_\_\_\_ is an advantage of icon based authoring tool.  
(CO5, K2)
- (a) Complex interaction and layering of multimedia products  
(b) For simpler linear presentation  
(c) Video presentation made easy  
(d) None of the above

**Part B**

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) How to transit from conventional media to digital media? Explain. (CO1, K4)

Or

- (b) Illustrate digital font techniques. (CO1, K4)

12. (a) Summarize the steps involved in the digitization of sound. (CO2, K2)

Or

- (b) Explain the following concepts in multimedia:  
(i) decibel system (ii) data rate. (CO2, K5)

13. (a) Highlight the uses of image editing software. (CO3, K4)

Or

- (b) Explain Color Palettes in detail. (CO3, K5)

14. (a) Mention some common video file formats. (CO4, K2)

Or

- (b) Determine the functionalities and uses of morphing. (CO4, K5)

15. (a) Explain in brief about Multimedia Authoring basics. (CO5, K5)

Or

- (b) Differentiate between Macromedia Director and Flash. (CO5, K4)

**Part C**

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Describe the components of Multimedia. (CO1, K5)

Or

- (b) Describe in detail about different font families and typefaces used in Multimedia with examples.  
(CO1, K4)

17. (a) Discuss in detail about the process of sound synthesis in multimedia with a neat structure.  
(CO2, K6)

Or

- (b) Explain in detail about the methods used for audio compression and its transmission over the Internet.  
(CO2, K5)

18. (a) Explain color models and its types in detail.  
(CO3, K5)

Or

- (b) Explain the fundamental steps involved in image processing.  
(CO3, K5)

19. (a) Elaborate in detail about various Broadcast Video standards and their applications.  
(CO4, K5)

Or

- (b) Describe the video recording formats commonly used in multimedia.  
(CO4, K5)

20. (a) Discuss in detail about the key features and functionalities of Multimedia authoring tools.  
(CO5, K6)

Or

- (b) Explain in detail about macromedia flash highlighting its features and tools.  
(CO5, K6)

**R2736**

**Sub. Code**

**2BS4C1**

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Fourth Semester**

**Software Development**

**INTRODUCTION TO PYTHON PROGRAMMING  
CONCEPTS**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. The method of breaking down a program into smaller, manageable parts is called \_\_\_\_\_ programming. (CO1, K1)  
(a) Top-down (b) Modular  
(c) Bottom-up (d) Structured
2. A \_\_\_\_\_ is used to describe a sequence of steps to solve a problem in programming. (CO1, K1)  
(a) Decision Table (b) Flowchart  
(c) Pseudocode (d) Algorithm
3. To assign the value of 10 to the variable x, use the operator \_\_\_\_\_. (CO2, K2)  
(a) = (b) ==  
(c) += (d) +
4. In Python, to check if any one of the given condition is true, we use the \_\_\_\_\_ operator. (CO2, K3)  
(a) and (b) or  
(c) not (d) ==

5. \_\_\_\_\_ is the purpose of elif statement in Python.  
(CO3, K4)
- (a) To handle Exception
  - (b) To define a function
  - (c) To create a loop
  - (d) To check the condition, whether if statement is false
6. If the while condition is always True, then it will create \_\_\_\_\_.  
(CO3, K4)
- (a) Infinite loop
  - (b) Nested loop
  - (c) Conditional loop
  - (d) Recursive loop
7. In Python, tuples are \_\_\_\_\_.  
(CO4, K3)
- (a) Mutable
  - (b) Immutable
  - (c) Fixed-size
  - (d) Reversible
8. To define a function in Python, we use the keyword \_\_\_\_\_.  
(CO4, K3)
- (a) create
  - (b) function
  - (c) func
  - (d) def
9. Which of the following is not a type of Inheritance?  
(CO5, K4)
- (a) Double-level
  - (b) Multi-level
  - (c) Single-level
  - (d) Multiple
10. Information hiding is typically achieved using \_\_\_\_\_ access modifier.  
(CO5, K4)
- (a) public
  - (b) private
  - (c) protected
  - (d) abstract



**Part B**

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Differentiate top-down and bottom up programming. (CO1, K1)

Or

- (b) Write a note on program design. (CO1, K1)

12. (a) Illustrate structure of a python Program with neat sketch. (CO2, K3)

Or

- (b) Describe keywords and Identifiers in Python. (CO2, K3)

13. (a) Compare while Loop and For Loop in python. (CO3, K4)

Or

- (b) Illustrate break and continue statement in python. (CO3, K4)

14. (a) Describe Date and Time function in python with example. (CO4, K3)

Or

- (b) Explain Tuples and its operations in python. (CO4, K3)

15. (a) Write a detailed note on Classes and Object in python. (CO5, K4)

Or

- (b) Discuss about Encapsulation in python. (CO5, K4)

**Part C**

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) How to design a flowchart? Explain with Example.  
(CO1, K1)

Or

- (b) Describe the various types of errors in problem solving Techniques.  
(CO1, K1)

17. (a) Discuss in detail about types of operators in python.  
(CO2, K3)

Or

- (b) Explain: (i) String Slicing (ii) String Concatenation with example.  
(CO2, K3)

18. (a) Describe Loop statements in detail with example.  
(CO3, K4)

Or

- (b) Discuss Input and Output Statements in python with example.  
(CO3, K4)

19. (a) Illustrate about Dictionary operations with example.  
(CO4, K3)

Or

- (b) Write a detailed note on functions with example.  
(CO4, K3)

20. (a) Explain in detail about Inheritance and its types in python.  
(CO5, K4)

Or

- (b) Examine how to handle exceptions in python.  
(CO5, K4)

<b>R2737</b>
--------------

<b>Sub. Code</b>
------------------

<b>2BS4C2</b>
---------------

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Fourth Semester**

**Software Development**

**COMPUTER NETWORKS AND ADMINISTRATION**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. The hardware that connects devices within a Local Area Network (LAN) and forwards data between them is called a \_\_\_\_\_. (CO1, K1)  
(a) Router                      (b) Switch  
(c) Hub                         (d) Modem
2. The network layer of the TCP/IP model handles logical addressing, routing, and packet forwarding. An example of this would be \_\_\_\_\_. (CO1, K3)  
(a) IP Addressing      (b) Data Framing  
(c) Error Detection    (d) Data Compression
3. The layer in the OSI model responsible for routing data across networks and ensuring data reaches its destination is the \_\_\_\_\_. (CO2, K3)  
(a) Network Layer    (b) Transport Layer  
(c) Data Link Layer   (d) Application Layer

4. In the context of TCP/IP, if you're troubleshooting issues with reliable data delivery, retransmission of lost data and flow control, you would focus on the \_\_\_\_\_ layer. (CO2, K4)
- (a) Application Layer (b) Network Layer  
(c) Link Layer (d) Transport Layer
5. Ethernet operates using a \_\_\_\_\_ topology, where all devices share a common medium and data is transmitted to all devices in the network. (CO3, K2)
- (a) Star (b) Bus  
(c) Ring (d) Mesh
6. Virtual Circuit Networks are typically used in \_\_\_\_\_ networks to provide reliable data delivery with a fixed path. (CO3, K2)
- (a) LAN (b) WAN  
(c) WLAN (d) PAN
7. Symmetric key cryptography uses the same \_\_\_\_\_ for both encryption and decryption of data. (CO4, K2)
- (a) Private key (b) Public key  
(c) Key (d) Algorithm
8. The process of verifying the identity of the sender and ensuring the data has not been altered in transit is called \_\_\_\_\_. (CO4, K5)
- (a) Confidentiality (b) Authentication  
(c) Integrity (d) Availability
9. A \_\_\_\_\_ is responsible for managing and controlling the devices within a network and includes components such as routers, switches and firewalls. (CO5, K1)
- (a) Network Management Station (NMS)  
(b) Network Interface Card (NIC)  
(c) Router  
(d) Hub

10. Control of users' access to network resources through charges is the main responsibility of \_\_\_\_\_.  
(CO5, K3)
- (a) Reactive Fault Management
  - (b) Reconfigured Fault Management
  - (c) Accounting Management
  - (d) Security Management

**Part B** (5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Write a note on Coaxial Cable. (CO1, K1)

Or

- (b) Explain the evolution from ARPANET to the Internet. (CO1, K3)

12. (a) Differentiate Transport Layer and Application Layer. (CO2, K3)

Or

- (b) Explain about Session Layer in detail. (CO2, K3)

13. (a) What are the services provided by a Local Area Network (LAN)? (CO3, K2)

Or

- (b) Write a note on Token Ring. (CO3, K2)

14. (a) Explain the concept of Public Key Encryption. (CO4, K2)

Or

- (b) Compare between Symmetric Key encryption and Asymmetric Key encryption. (CO4, K2)

15. (a) Explain the role of performance management in detail. (CO5, K1)

Or

- (b) Explain the concept of Fault Management in network management. (CO5, K1)

**Part C** (5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Illustrate TCP/IP reference model with neat sketch. (CO1, K3)

Or

- (b) Write a detailed note on Fiber Optics. (CO1, K3)

17. (a) Explain in detail OSI Reference Model with neat sketch. (CO2, K4)

Or

- (b) Discuss in detail about issues in Data Link layer. (CO2, K4)

18. (a) Explain the working procedure of Wireless LAN (WLAN). (CO3, K2)

Or

- (b) Illustrate Circuit Switched Network with neat sketch. (CO3, K2)

19. (a) Explain the role of Hash function in Message Authentication. (CO4, K5)

Or

- (b) Discuss in detail about Network Security Services. (CO4, K5)

20. (a) Describe the accounting management in detail. (CO5, K3)

Or

- (b) Discuss in detail about Network Management stations. (CO5, K3)

<b>R2738</b>
--------------

<b>Sub. Code</b>
------------------

<b>2BS6E1</b>
---------------

**B.Voc. DEGREE EXAMINATION, APRIL – 2025**

**Sixth Semester**

**Software Development**

**Elective: SOFTWARE ENGINEERING**

**(CBCS – 2022 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. \_\_\_\_\_ is the primary focus of software engineering  
(CO1, K4)
  - (a) Writing code only
  - (b) Managing hardware resources
  - (c) Systematic software development with cost, quality, and time considerations
  - (d) Creating documentation only
  
2. \_\_\_\_\_model follows a strict sequential flow in the software development process  
(CO1, K4)
  - (a) Spiral Model
  - (b) Agile Model
  - (c) Waterfall Model
  - (d) Prototyping Model

3. \_\_\_\_\_ document is created as an outcome of the requirement analysis phase (CO2, K1)
- (a) Software Design Document (SDD)
  - (b) Software Requirement Specification (SRS)
  - (c) Test Plan Document
  - (d) User Manual
4. \_\_\_\_\_ technique is useful for breaking down top-level processes and entities. (CO2, K1)
- (a) Data Flow Diagrams (DFD)
  - (b) UML diagrams
  - (c) Entity-Relationship Diagrams (ERD)
  - (d) All of the above
5. \_\_\_\_\_ tool is used for structured analysis of a system (C03, K2)
- (a) UML diagrams
  - (b) Data Flow Diagrams (DFD)
  - (c) Class Diagrams
  - (d) Entity-Relationship Diagrams (ERD)
6. \_\_\_\_\_ UML diagram represents the dynamic behavior of a system (CO3, K2)
- (a) Class Diagram
  - (b) Activity Diagram
  - (c) Component Diagram
  - (d) Deployment Diagram



7. \_\_\_\_\_testing technique examines the internal structure of the code (CO4, K3)
- (a) Black-box testing
  - (b) White-box testing
  - (c) Regression testing
  - (d) Load testing
8. Which of the following is NOT a type of software documentation? (CO4, K3)
- (a) User documentation
  - (b) System documentation
  - (c) Code documentation
  - (d) Graphical documentation
9. \_\_\_\_\_is a CASE tool used for software design (CO5, K1)
- (a) Rational Rose
  - (b) Photoshop
  - (c) Microsoft Word
  - (d) Google Docs
10. \_\_\_\_\_ type of maintenance involves adapting software to changing environments (CO5, K1)
- (a) Corrective maintenance
  - (b) Adaptive maintenance
  - (c) Perfective maintenance
  - (d) Preventive maintenance

**Part B**

(5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Explain the role of risk analysis in the Spiral Model.  
(CO1, K4)

Or

- (b) What are the key risk factors in software projects, and how does the Spiral Model help to mitigate them?  
(CO1, K4)

12. (a) Define system scope in requirement analysis and explain its significance.  
(CO2, K1)

Or

- (b) Discuss the importance of consistency and completeness in an SRS document.  
(CO2, K1)

13. (a) Differentiate between function-oriented and object-oriented software design.  
(CO3, K2)

Or

- (b) What is the difference between State Chart Diagrams and Activity Diagrams?  
(CO3, K2)

14. (a) Differentiate between black-box and white-box testing.  
(CO4, K3)

Or

- (b) What is software reliability? How is it measured?  
(CO4, K3)

15. (a) Explain the characteristics of CASE tools.  
(CO5, K1)

Or

- (b) Differentiate between forward engineering and reverse engineering in software development.  
(CO5, K1)

**Part C**

(5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Explain the key characteristics of Software Engineering and how they impact software development. (CO1, K4)

Or

- (b) What is the Spiral Model? Explain its phases with a diagram. (CO1, K4)
17. (a) What are the essential elements of an SRS document? Explain with an example structure. (CO2, K1)

Or

- (b) Explain the process of isolating top-level processes and entities in requirement analysis. (CO2, K1)
18. (a) What are Data Flow Diagrams (DFD)? Explain their levels with an example. (CO3, K2)

Or

- (b) Describe the steps involved in designing an interactive and user-friendly user interface. (CO3, K2)
19. (a) Explain the debugging process with examples. (CO4, K3)

Or

- (b) What are the key principles of software quality management? (CO4, K3)

20. (a) Explain the software maintenance process and its challenges. (CO5, K1)

Or

- (b) Explain the different approaches to software reuse and their impact on software development. (CO5, K5)
-