R4507

Sub. Code
25BSD2C1

B.Voc. DEGREE EXAMINATION, APRIL – 2026

Second Semester

Software Development

INTEGRATED MULTIMEDIA DEVELOPMENT AND WEB TECHNOLOGY

(CBCS – 2025 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. Multimedia is a combination of _____. (CO1, K1)
   (a) Text and graphics only
   (b) Audio and video only
   (c) Text, image, audio, video and animation
   (d) Graphics and animation only

2. _____ image formats uses lossy compression. (CO1, K2)
   (a) PNG (b) BMP
   (c) JPEG (d) TIFF

3. In 2D graphics, an image is mainly represented using _____. (CO2, K2)
   (a) Voxels (b) Polygons
   (c) Pixels (d) Vectors only

4. Morphing in multimedia refers to _____ (CO2, K1)
   (a) Compressing multimedia files
   (b) Converting 2D images to 3D
   (c) Smooth transformation of one image into another
   (d) Removing noise from images

5. _____tag defines the basic structure of an HTML document. (CO3, K2)
   (a) <body> (b) <html>
   (c) <head> (d) <title>

6. _____ attribute is mandatory for displaying an image in HTML. (CO3, K1)
   (a) src (b) alt
   (c) title (d) width

7. JavaScript is primarily a _____. (CO4, K2)
   (a) Server-side programming language
   (b) Markup language
   (c) Client-side scripting language
   (d) Database query language

8. Which JavaScript statement is used to display output on the screen? (CO4, K1)
   (a) print( ) (b) display( )
   (c) document.write( ) (d) output( )

9. Bootstrap follows which design approach by default? (CO5, K2)
   (a) Desktop-first design
   (b) Content-first design
   (c) Mobile-first design
   (d) Grid-first design

10. _____ Bootstrap component is used to create responsive layouts. (CO5, K2)
   (a) Forms (b) Buttons
   (c) Grid system (d) Typography

Part B (5 × 5 = 25)

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

11. (a) Define multimedia and explain its importance in communication systems. (CO1,K1)

Or

(b) Describe the features and applications of the MP4 multimedia file format. (CO1, K2)

12. (a) Explain the basic concepts of 2D graphics used in multimedia development. (CO2, K4)

Or

(b) What is the role of digital marketing as an application of Multimedia? Explain. (CO2, K3)

13. (a) Illustrate the basic syntax of HTML with a simple example. (CO3, K2)

Or

(b) What are the different types of lists in HTML? Explain with examples. (CO3, K5)

14. (a) Illustrate an overview of JavaScript and explain its features. (CO4, K4)

Or

(b) Describe control statements in JavaScript with suitable example. (CO4, K5)

15. (a) Explain the concept of mobile-first design and justify why Bootstrap follows this approach. (CO5, K3)

Or

(b) How custom CSS can be used to override Bootstrap styles? Explain. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Illustrate the components of multimedia with suitable examples. (CO1, K4)

Or

(b) Discuss about multimedia compression techniques and justify the need for compression. (CO1, K2)

17. (a) Explain image processing techniques used in multimedia systems with suitable example. (CO2, K4)

Or

(b) What is the role of multimedia in E-learning systems? Highlighting its advantages. (CO2, K1)

18. (a) How to add audio elements in HTML? With example. (CO3, K5)

Or

(b) Discuss about form controls in HTML and explain its attribute. (CO3, K4)

19. (a) Explain constructors in JavaScript and discuss their role in creating objects. (CO4, K4)

Or

(b) How to handle events from textbox and password elements? Explain. (CO4, K5)

20. (a) Describe the process of installing and customizing Bootstrap in detail. (CO5, K2)

Or

(b) How to create a blog layout using Bootstrap grid mixins and variables? Explain with suitable explanation. (CO5, K5)

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R4508	Sub. Code 25BSD2C2

B.Voc. DEGREE EXAMINATION, APRIL – 2026

Second Semester

Software Development

COMPUTER NETWORKS AND ADMINISTRATION

(CBCS – 2025 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 network hardware? (CO1, K1)

   (a) Operating system

   (b) Router

   (c) Protocol

   (d) Browser

2. ARPANET was originally developed for _____ (CO1, K3)

   (a) Commercial networking

   (b) Educational institutions only

   (c) Military research communication

   (d) Social networking

3. How many layers are present in the OSI reference model? (CO2, K3)

(a) Five

(b) Six

(c) Seven

(d) Eight

4. _____ protocol operates at the transport layer of the TCP/IP model. (CO2, K4)

(a) IP

(b) ARP

(c) TCP

(d) HTTP

5. _____ IEEE standard defines Ethernet technology. (CO3, K2)

(a) IEEE 802.3

(b) IEEE 802.5

(c) IEEE 802.11

(d) IEEE 802.4

6. Which type of network establishes a dedicated path before data transmission? (CO3, K2)

(a) Packet-switched network

(b) Virtual circuit network

(c) Circuit-switched network

(d) Datagram network

7. _____ security service ensures that information is accessible only to authorized users. (CO4, K2)

(a) Authentication

(b) Integrity

(c) Confidentiality

(d) Non-repudiation

8. _____ cryptographic technique uses the same key for encryption and decryption. (CO4, K5)

(a) Asymmetric key cryptography

(b) Public key cryptography

(c) Symmetric key cryptography

(d) Hashing

9. The primary objective of network management is to _____ (CO5, K3)

(a) Increase hardware cost

(b) Monitor and control network resources

(c) Reduce network size

(d) Eliminate network protocols

10. _____ network management protocol is widely used for monitoring networks. (CO5, K1)

(a) FTP

(b) HTTP

(c) SNMP

(d) SMTP

Part B (5 × 5 = 25)

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

11. (a) Illustrate the components of network hardware used in computer networks. (CO1, K3)

Or

(b) Describe the TCP/IP reference model and list the functions of each layer. (CO1, K2)

12. (a) Explain the OSI reference model and its significance in network communication. (CO2, K4)

Or

(b) Describe the responsibilities of the network layer in OSI model. (CO2, K3)

13. (a) Illustrate IEEE standards related to Local Area Networks. (CO3, K2)

Or

(b) Explain circuit-switched networks with suitable examples. (CO3, K4)

14. (a) What are the various security services in network security? Explain. (CO4, K2)

Or

(b) Describe symmetric key cryptography with suitable examples. (CO4, K5)

15. (a) What are the needs for network management in modern computer networks? Explain. (CO5, K1)

Or

(b) Illustrate the administrative model used in network management systems. (CO5, K3)

Part C (5 × 8 = 40)

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

16. (a) Illustrate the architecture of ARPANET and the Internet. (CO1, K3)

Or

(b) Explain in detail about guided transmission medias with advantages and disadvantages (CO1, K1)

17. (a) Explain the functions of data link layer in detail. (CO2, K3)

Or

(b) Explain about application layer with suitable examples. (CO2, K4)

18. (a) Illustrate Token Bus and Token Ring networks and highlight its features. (CO3, K2)

Or

(b) Discuss Local Area Networks (LANs) in detail, including characteristics, services and topologies. (CO3, K2)

19. (a) Discuss in detail about IPv4 and IPv6 security in detail. (CO4, K5)

Or

(b) Describe about digital signatures in detail. (CO4, K2)

20. (a) Explain network management protocols and discuss their functions in detail. (CO5, K3)

Or

(b) Describe in detail about Fault management and security management. (CO5, K2)

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R4973	Sub. Code
	2BV6G2

B.Voc. DEGREE EXAMINATION, APRIL – 2026

Sixth Semester

Fashion Technology / Software development

FUNDAMENTALS OF DIGITAL MARKETING

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

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions by choosing the correct option.

1. Digital marketing mainly evolved due to (CO1, K1)
   (a) Print media
   (b) Technological advancement
   (c) Outdoor advertising
   (d) Word-of-mouth

2. Digital marketing strategy is closely related to (CO1, K2)
   (a) Production planning
   (b) Business objectives
   (c) Inventory control
   (d) Distribution channels

3. The website is considered as the (CO2, K1)
   (a) Sales tool
   (b) Hub of digital marketing
   (c) Promotion mix
   (d) Advertising medium

4. Website hosting refers to (CO2, K2)
   (a) Designing a webpage
   (b) Storing a website on servers
   (c) Writing web content
   (d) Registering trademarks

5. Digital marketing budgeting mainly helps in (CO3, K1)
   (a) Creativity (b) Cost control
   (c) Branding (d) Promotion

6. Website intelligence is used to (CO3, K2)
   (a) Design graphics
   (b) Measure website performance
   (c) Host websites
   (d) Register domains

7. E-mail marketing is considered as (CO4, K1)
   (a) Indirect marketing
   (b) New direct mail
   (c) Mass advertising
   (d) Offline promotion

8. Social Media dashboards help in (CO4, K2)
   (a) Content creation
   (b) Monitoring all updates in one place
   (c) Website hosting
   (d) Cost estimation

9. PayTM and PayPal are examples of (CO5, K1)
   (a) Hosting services
   (b) Cyber wallets
   (c) Social media platforms
   (d) Search engines

10. Intellectual Property Rights protect (CO5, K2)
   (a) Employees (b) Creative work
   (c) Customers (d) Payment gateways

Part B (5 × 5 = 25)

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

11. (a) Apply the concept of digital evolution of marketing to a modern business. (CO1, K3)

Or

(b) Illustrate how digital marketing strategy supports business objectives. (CO1, K3)

12. (a) Analyse the importance of an effective website in digital marketing success. (CO2, K4)

Or

(b) Examine the role of web content and information arrangement in attracting customers. (CO2, K4)

13. (a) Design an e-mail marketing campaign and suggest methods to measure its success. (CO3, K6)

Or

(b) Create a social media engagement strategy using dashboards. (CO3, K6)

14. (a) Evaluate the importance of budgeting and cost control in digital marketing. (CO4, K5)

Or

(b) Assess the role of website intelligence in measuring digital performance. (CO4, K5)

15. (a) Evaluate different online payment systems used in digital marketing. (CO5, K5)

Or

(b) Assess the importance of privacy and intellectual property rights in online business. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Analyse the transformation of traditional marketing into digital marketing. (CO1, K4)

Or

(b) Examine the impact of technology on modern advertising. (CO1, K4)

17. (a) Critically evaluate the role of websites as the core of digital marketing. (CO2, K5)

Or

(b) Assess the effectiveness of web design and content strategy in digital success. (CO2, K5)

18. (a) Design an integrated e-mail and social media marketing plan. (CO3, K6)

Or

(b) Create a strategy for online consumer engagement using social media platforms. (CO3, K6)

19. (a) Develop a complete plan to promote business through online channels. (CO4, K6)

Or

(b) Create a framework to analyse opportunities for strategic partnership. (CO4, K6)

20. (a) Evaluate the role of online payment systems in customer satisfaction and loyalty. (CO5, K5)

Or

(b) Assess the ethical, legal and social challenges in digital marketing. (CO5, K5)

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R4974	Sub. Code
	2BS4C1

B.Voc. DEGREE EXAMINATION, APRIL – 2026

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. A common method to represent the flow of control in a program graphically is called a _____ (CO1, K1)

   (a) Flowchart (b) Pseudocode

   (c) Decision Table (d) Algorithm

2. The practice of describing the behavior of a program in detail for future reference is called _____. (CO1, K1)

   (a) Documentation

   (b) Debugging

   (c) Testing

   (d) Program Design

3. A string in Python is enclosed in either _____ or _____. (CO2, K3)

   (a) [ ], { } b) " ", ' '

   (c) ( ), [ ] (d) ( ), “

4. In Python, indentation is used to define the body of loops, functions, and conditionals. Indentation is done using spaces or _____. (CO2, K3)

(a) Curly braces { } (b) Semicolons ;

(c) Tabs (d) Parentheses ( )

5. In a for loop, to iterate through numbers from 1 to 5, use the function _____. (CO3, K4)

(a) range (1, 5) (b) range (1, 6)

(c) range(5) (d) range (6)

6. The _____ statement is used when a statement is syntactically required but no code needs to be executed. (CO3, K4)

(a) continue (b) pass

(c) break (d) return

7. In the tuple, my_tuple = (1, 2, 3, 4), the element at index 2 is _____. (CO4, K3)

(a) 1 (b) 2

(c) 3 (d) 4

8. To get the current date and time in Python, you can use the method datetime.now() from the _____ module (CO4, K3)

(a) date (b) calendar

(c) datetime (d) time

9. To manually raise an exception in Python, we use the keyword _____. (CO5, K4)

(a) throw (b) raise

(c) exception (d) error

10. In Python, the special method _____ is used to initialize an object when it is created. (CO5, K4)

(a) init() (b) start

(c) _init_() (d) _new_ ()

Part B (5 × 5 = 25)

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

11. (a) Explain Flow chart with example. (CO1, K1)

Or

(b) How to design a program? Explain. (CO1, K1)

12. (a) Discuss about Python Elements. (CO2, K3)

Or

(b) Explain Indentation in Python with example. (CO2, K3)

13. (a) Write a program to find biggest of two numbers. (CO3, K4)

Or

(b) Describe Pass Statements in Python. (CO3, K4)

14. (a) Explain about String functions in Python. (CO4, K3)

Or

(b) How Exit function works in Python? Explain. (CO4, K3)

15. (a) Write a detailed note on Information hiding in Python. (CO5, K4)

Or

(b) Discuss about ADT. (CO5, K4)

Part C (5 × 8 = 40)

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

16. (a) Write a detailed note on Decision Table. (CO1, K1)

Or

(b) Discuss the types of Programming methodologies in detail. (CO1, K1)

17. (a) Write a Python program to create a simple calculator. (CO2, K3)

Or

(b) Explain in detail about String manipulation with example. (CO2, K3)

18. (a) Discuss Conditional Statements in Python with example. (CO3, K4)

Or

(b) Compare break, continue and pass statement in python. (CO3, K4)

19. (a) Explain in detail about Lists and its operations. (CO4, K3)

Or

(b) Write a note on Date and Time functions with example. (CO4, K3)

20. (a) Illustrate OOPS concepts in detail. (CO5, K4)

Or

(b) Discuss about Inheritance and its types with example. (CO5, K4)

R4975

Sub. Code
2BS4C2

B.Voc. DEGREE EXAMINATION, APRIL – 2026

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. _____ device is used to connect multiple computers in a network. (CO1, K1)

   (a) Modem (b) Hub

   (c) Scanner (d) Printer

2. _____ transmission medium provides the highest bandwidth. (CO1, K2)

   (a) Twisted pair (b) Coaxial cable

   (c) Fibre optic cable (d) Radio waves

3. How many layers are there in the OSI Reference Model? (CO2, K2)

   (a) Five (b) Six

   (c) Seven (d) Eight

4. _____ OSI layer is responsible for end-to-end communication. (CO2, K1)

(a) Network layer (b) Transport layer

(c) Session layer (d) Application layer

5. _____ IEEE standard is used for Ethernet. (CO3, K2)

(a) IEEE 802.3 (b) IEEE 802.5

(c) IEEE 802.11 (d) IEEE 802.15

6. _____ topology connects all nodes to a central device. (CO3, K2)

(a) Bus (b) Ring

(c) Star (d) Mesh

7. _____ cryptographic technique uses a single key. (CO4,K2)

(a) Hashing

(b) Asymmetric encryption

(c) Symmetric encryption

(d) Digital signature

8. _____ protocol provides security for IP communication. (CO4, K1)

(a) FTP (b) HTTP

(c) IPsec (d) SMTP

9. _____ management function deals with network failures. (CO5, K1)

(a) Configuration management

(b) Fault management

(c) Performance management

(d) Accounting management

10. _____ database stores network management information. (CO5, K1)

(a) DNS (b) ARPANET

(c) MIB (d) SNMP

Part B (5 × 5 = 25)

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

11. (a) Describe the architecture of network hardware. (CO1, K1)

Or

(b) Compare guided and unguided transmission media. (CO1, K3)

12. (a) Illustrate the functions of data link layer. (CO2, K3)

Or

(b) Describe about TCP/IP protocol suite. (CO2, K4)

13. (a) Illustrate the architecture of LAN (CO3, K3)

Or

(b) Describe the components of wireless LAN. (CO3, K2)

14. (a) Compare symmetric and asymmetric key cryptography. (CO4, K2)

Or

(b) Describe message authentication and hash functions in detail. (CO4, K5)

15. (a) What are the need for network management? Explain. (CO5, K1)

Or

(b) Describe about configuration and fault management. (CO5, K3)

Part C (5 × 8 = 40)

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

16. (a) Explain in detail about ARPANET with neat structure. (CO1, K1)

Or

(b) Discuss any two transmission Medias with advantages and disadvantages. (CO1, K3)

17. (a) Illustrate the architecture of OSI Reference Model. (CO2, K3)

Or

(b) Describe about TCP/IP reference model with neat structure. (CO2, K4)

18. (a) Explain IEEE standards with diagram in detail. (CO3, K2)

Or

(b) Describe the working procedure of wired and wireless LANs. (CO3, K2)

19. (a) Explain in detail about network security services and attacks. (CO4, K2)

Or

(b) Discuss in detail about digital signatures. (CO4, K5)

20. (a) Explain network management functions and administrative model. (CO5, K1)

Or

(b) Discuss about network management protocols. (CO5, K3)

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R4976

Sub. Code
2BS6E1

B.Voc. DEGREE EXAMINATION, APRIL – 2026

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. Which of the following best defines Software Engineering? (CO1, K4)

   (a) The study of programming languages

   (b) A systematic approach to the design, development, and maintenance of software

   (c) Writing code without following a structured methodology

   (d) Testing software without any documentation

2. _____ software development model is best suited for projects with evolving requirements. (CO1, K4)

   (a) Waterfall Model

   (b) V-Model

   (c) Spiral Model

   (d) Big Bang Model

3. _____ section of an SRS document defines constraints like security, reliability, and legal requirements. (CO2, K1)

(a) Functional requirements

(b) Non-functional requirements

(c) Data requirements

(d) System overview

4. Which technique is commonly used to gather software requirements? (CO2,K1)

(a) Interviews (b) Prototyping

(c) Questionnaires (d) All of the above

5. _____ type of coupling is considered the worst in software design. (CO3, K2)

(a) Data coupling (b) Control coupling

(c) Content coupling (d) Stamp coupling

6. _____ is NOT a part of structured design. (CO3, K2)

(a) Refinement (b) Decomposition

(c) Prototyping (d) Modularization

7. Which of the following is NOT a software testing type? (CO4, K3)

(a) Unit Testing

(b) Integration Testing

(c) Code Testing

(d) System Testing

8. Which standard is commonly used for software quality management? (CO4, K3)

(a) ISO 9001 (b) HTML5

(c) UML (d) TCP/IP

9. _____ is an example of a CASE tool for project management. (CO5, K1)

(a) Microsoft Project

(b) Adobe Photoshop

(c) Notepad++

(d) VLC Media Player

10. Which of the following is NOT an approach to software reuse? (CO5, K1)

(a) Component-based development

(b) Design patterns

(c) Code duplication

(d) Software libraries

Part B (5 × 5 = 25)

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

11. (a) Explain the importance of Software Engineering in modern software development. (CO1, K4)

Or

(b) Describe the Classical Waterfall Model and its limitations. (CO1, K4)

12. (a) Describe the key characteristics of a good Software Requirement Specification (SRS) document. (CO2, K1)

Or

(b) How does a requirement review improve software quality? (CO2, K1)

13. (a) What are the different types of coupling in software design? (CO3, K2)

Or

(b) What are the characteristics of a good user interface? Explain. (CO3, K2)

14. (a) Explain the role of system testing in software quality assurance. (CO4, K3)

Or

(b) Describe debugging and its role in software development. (CO4, K3)

15. (a) Discuss the role of CASE tools in software development life cycle (SDLC). (CO5, K1)

Or

(b) What are the key factors affecting software maintenance cost estimation? Explain. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Explain in detail about the Software Development Life Cycle (SDLC) and its different phases. (CO1, K4)

Or

(b) How does the Prototyping Model work? Discuss its benefits and challenges. (CO1, K4)

17. (a) Illustrate the steps to create a software specification document in detail. (CO2, K1)

Or

(b) Explain the refinement process in software requirement analysis and how it improves Software development. (CO2, K1)

18. (a) Explain how UML diagrams help in object-oriented design. Provide examples. (CO3, K2)

Or

(b) Discuss the structured analysis approach and its benefits in software development. (CO3, K2)

19. (a) Describe the importance of software documentation in the development process. (CO4, K3)

Or

(b) How do software reliability metrics help in improving software quality? Explain. (CO4, K3)

20. (a) Discuss software reverse engineering and its advantages in legacy system maintenance.

(CO5, K5)

Or

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

(CO5, K5)

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