R1867

Sub. Code
2BS1C1

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2024

First Semester

Software Development

FUNDAMENTALS OF C PROGRAMMING

(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. What is the purpose of using flowcharts in algorithm design? (CO1, K1)

   (a) To convert algorithms into executable code directly.

   (b) To visualize the steps and logic of an algorithm.

   (c) To replace pseudocode in program documentation.

   (d) To execute algorithms step-by-step.

2. ———————— symbol is used to denote a single-line comment in C. (CO1, K1)

   (a) // (b) /*

   (c) * (d) #

3. ———————— statement is used to terminate the current iteration of a loop and pass control to the next iteration. (CO2, K4)

   (a) Break (b) Continue

   (c) Goto (d) Return

4. ———————— is the return type of a function that does not return any value in C programming. (CO2, K4)

(a) void (b) int

(c) float (d) char

5. ———————— is used to determine the length of a string. (CO3, K5)

(a) length( ) (b) strlen( )

(c) strlength( ) (d) string_length( )

6. Which of the following statements is true about passing arrays to functions in C? (CO3, K5)

(a) Arrays cannot be passed to functions in C

(b) Only the base address of the array is passed to the function

(c) Entire array elements are copied to the function

(d) Arrays can only be passed by reference

7. How do you declare a pointer to an integer variable in C? (CO4, K2)

(a) int *ptr; (b) ptr : int;

(c) ptr @ int; (d) intptr( );

8. Function Pointer is used for ————————. (CO4, K2)

(a) Storing the address of a function

(b) Declaring a function without defining it

(c) Passing functions as arguments to other functions

(d) Returning a function from another function

9. What does the feof( ) function in C programming do? (CO5, K1)

(a) Moves the file pointer to the end of the file.

(b) Checks if the end-of-file (EOF) indicator has been set for a file.

(c) Opens a new file for writing

(d) Deletes a file from the filesystem

10. ———————— directive is used to include standard input/output library functions. (CO5, K1)

(a) #include <stdlib.h>

(b) #include <stdio.h>

(c) #include<math.h>

(d) #include <string.h>

Part B (5 × 5 = 25)

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

11. (a) List the key features of Algorithm. (CO1, K3)

Or

(b) How to compile and execute C Programs? Explain. (CO1, K3)

12. (a) Compare Break and Continue Statement. (CO2, K4)

Or

(b) What is Recursive function? Explain with example. (CO2, K4)

13. (a) Write the Procedure to access array elements in C explain with example. (CO3, K5)

Or

(b) Justify String taxonomy in detail. (CO3, K5)

14. (a) How the pointer variable is declared and initialized? Explain. (CO4, K3)

Or

(b) Differentiate Array and Pointer with suitable example. (CO4, K3)

15. (a) Discuss the procedure to write data into files. (CO5, K5)

Or

(b) Illustrate Pre-processor directives in detail. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Illustrate the structure of C program with example. (CO1, K3)

Or

(b) What is the purpose of Printf( ) and Scanf( ) function? Explain. (CO1, K3)

17. (a) Categorize storage Classes in C with example. (CO2, K4)

Or

(b) How to Pass Parameters in function? Explain. (CO2, K4)

18. (a) Write a C program to find largest element in an array. (CO3, K5)

Or

(b) Explain the procedure to implement Two Dimensional Array. (CO3, K5)

19. (a) Illustrate an array of Pointers with suitable example. (CO4, K3)

Or

(b) Explain in detail about Dynamic Memory Allocation. (CO4, K3)

20. (a) Explain in detail about Command line arguments. (CO5, K5)

Or

(b) How to handle errors during file operation? Explain. (CO5, K5)

———————

R1868

Sub. Code
2BS1C2

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2024

First Semester

Software Development

FUNDAMENTALS OF DIGITAL COMPUTER AND PROGRAMMING

(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 a correct binary to decimal conversion of 1101? (CO1, K3)

   (a) 11 (b) 13

   (c) 14 (d) 15

2. ———————— logic gate outputs true only when both inputs are true. (CO1, K1)

   (a) AND (b) OR

   (c) XOR (d) NOT

3. What is the fundamental element of Boolean algebra? (CO2, K2)

   (a) Variables (b) Constants

   (c) Operators (d) Functions

4. How do you represent a 'don't care' condition in Karnaugh maps? (CO2, K2)

(a) By leaving the corresponding cell blank

(b) By placing an 'X' in the corresponding cell

(c) By placing a 'D' in the corresponding cell

(d) By marking the cell with a diagonal line

5. ———— is used for binary-coded decimal (BCD) addition. (CO3, K2)

(a) Half Adder (b) Full Adder

(c) Subtractor (d) Multiplexer

6. A Clocked RS Flip Flop typically changes its states in response to ————. (CO3, K2)

(a) Input voltage level

(b) Clock signal edge

(c) Temperature change

(d) Power supply fluctuation

7. ———— is not a symbol of flowchart. (CO4, K1)

(a) Rectangle (b) Diamond

(c) Circle (d) Hexagon

8. Which shape has all sides equal and all internal angles equal to 90 degrees? (CO4, K1)

(a) Square (b) Rectangle

(c) Rhombus (d) Parallelogram

9. After rearranging the elements of an array [1, 2, 3, 4, 5], what is the first element? (CO5, K2)

(a) 5 (b) 4

(c) 1 (d) 3

10. Convert the decimal number 42 to its hexadecimal equivalent. (CO5, K2)

(a) 2A (b) 2C

(c) 2E (d) 2F

Part B (5 × 5 = 25)

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

11. (a) Convert Binary number 101011_2 to Decimal equivalent. (CO1, K3)

Or

(b) Illustrate the characteristics of Logic gates. (CO1, K3)

12. (a) State and prove De Morgan's Theorem with example. (CO2, K4)

Or

(b) Simplify the Boolean Expression X'Y + XY + XY' + X'Y'. (CO2, K4)

13. (a) Compare Encoder and Decoder. (CO3, K3)

Or

(b) Illustrate T Flip Flop Circuit. (CO3, K3)

14. (a) Construct the flowchart to determine the greatest of two numbers. (CO4, K5)

Or

(b) Write an algorithm to perform Arithmetic Operations using two numbers. (CO4, K5)

15. (a) Construct the flowchart to test the given string is Palindrome. (CO5, K5)

Or

(b) Write an algorithm to rearrange elements in an array. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Construct logic gates for following (i) AND (ii) NOT (iii) NAND. (CO1, K3)

Or

(b) Explain about Binary addition with suitable example. (CO1, K3)

17. (a) Write the characteristics of DON'T CARE conditions. (CO2, K4)

Or

(b) How to implement AND-OR-INVERT Operation? Explain. (CO2, K4)

18. (a) Design a full adder circuit explain its operations. (CO3, K3)

Or

(b) Construct RS Flip Flop and explain its operations. (CO3, K3)

19. (a) Write an algorithm to check whether the given number is odd/even. (CO4, K5)

Or

(b) Construct a flowchart to find Area of Shapes. (CO4, K5)

20. (a) Develop an algorithm to determine the difference between two given dates. (CO5, K5)

Or

(b) Construct a flowchart to find sum of digit. (CO5, K5)

R1861

Sub. Code
2BV3G1

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2024

Third Semester

Fashion Technology/Software Development

TECHNICAL ENGLISH

(Common for B.Voc. (FT/SD))

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

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

1. ———— adjective might be used to describe the weather. (CO1, K1)

   (a) Sunny (b) Sunnily

   (c) Sunnier (d) Sunniest

2. Look at that giant man. Have you ever seen a one? (CO1, K3)

   (a) tall (b) small

   (c) huge (d) taller

3. There was some ———— agreement over the topic. (CO2, K1)

   (a) un (b) mis

   (c) in (d) dis

4. I was shocked at her rude ————————. (CO2, K1)

(a) ment (b) ness

(c) ence (d) nt

5. "She is intelligent" is a ———————— sentence. (CO3, K4)

(a) SVC (b) SVO

(c) SVA (d) SVOC

6. If you heat ice, it ————————. (CO3, K3)

(a) melts (b) will melt

(c) melted (d) would melt

7. You ———————— obey the rules. (CO4, K3)

(a) must (b) ought

(c) should (d) need to

8. It ———————— rain tomorrow. (CO4, K3)

(a) will (b) may

(c) would (d) should

9. I dislike ———————— to the movies by myself. (CO5, K3)

(a) going (b) to go

(c) go (d) shall go

10. We started ———————— dinner without you. (CO5, K3)

(a) eating (b) to eat

(c) eat (d) ate

Part B (5 × 5 = 25)

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

11. (a) Change the following nouns into adjectives (ous/ish/ful/less/able) (CO1, K3)

(i) Danger

(ii) Beauty

(iii) Fool

(iv) Harm

(v) Function

Or

(b) Identify the adjectives. (CO1, K4)

(i) He is a strong man

(ii) She has a red pen

(iii) The tall girl won the race

(iv) The rich gave him the ring

(v) He is a versatile man

12. (a) Correct the spelling of the following words: (CO2, K2)

(i) persuasive

(ii) marriageable

(iii) attendance

(iv) tution

(v) scholarship

Or

(b) Match the following: (CO2, K2)

(i)	How nice to	(1)	Disagreement
(ii)	I'm worried	(2)	Surprise
(iii)	Certainly	(3)	Giving permission
(iv)	You can	(4)	Fear
(v)	I don't think so	(5)	Agreement

13. (a) Write a sentence for each sentence pattern given below: (CO3, K6)

(i) SV

(ii) SVO

(iii) SVA

(iv) SVC

(v) SVOA

Or

(b) Complete the following sentences: (CO3, K6)

(i) Wait a minute, the telephone is ————————

(ii) Rekha is good at ————————

(iii) If I had wings ————————

(iv) As I was very tired ————————

(v) Due to heavy rain ————————

14. (a) Correct the errors in the following sentences: (CO4, K3)

(i) She have left the house already.

(ii) The President may came to Tamilnadu next week.

(iii) No one have attended the seminar.

(iv) Economics are interesting subject.

(v) My friend, Ravi along with his parents have come to my marriage.

Or

(b) Apply the correct word (ate/eight) (CO4, K3)

(i) I wake up at ——————

(ii) I —————— too much

(iii) The monkey —————— two apples

(iv) The Octopus has —————— legs

(v) It is —————— O'clock.

15. (a) Examine the Simple present tense and present continuous tense with examples. (CO5, K4)

Or

(b) Define Adjective and explains its types with examples. (CO5, K4)

Part C ($5 \times 8 = 40$)

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

16. (a) Write the simple present tense and present continuous tense with examples. (CO1, K4)

Or

(b) Change the following into passive voice: (CO1, K3)

(i) I play cricket

(ii) Do the work

(iii) I shall write the exam tomorrow

(iv) She built a house

(v) Raju was writing poetry

(vi) Ram paints a picture

(vii) She drives a car

(viii) Susi is watching a movie.

17. (a) Change the following into simple past tense. (CO2, K3)

(i) I eat mangoes

(ii) He sleeps well

(iii) They play football

(iv) We catch the bus

(v) The birds fly away

(vi) Rani obeys the rules

(vii) Students study well

(viii) I swim well

Or

(b) Write the "Wh" question forms with examples. (CO2, K6)

18. (a) Match the following: (CO3, K2)

(i)	Glutton	(1)	A person who dislikes
(ii)	Misogynist	(2)	Excessive eater
(iii)	Philanthropist	(3)	A person who never drinks alcohol
(iv)	Teetotaler	(4)	Wanting
(v)	Voracious	(5)	A person who seeks to promote the welfare of others by donating money

Or

(b) Use the following pairs of words in sentences of your own to bring out the difference in their meanings: (CO3, K6)

(i) counsel; council

(ii) stationary; stationery

(iii) face; pace

(iv) idol; idle

(v) industry; industrious

19. (a) Match the following (CO3, K3)

(i)	God bless you	(1)	Greetings
(ii)	Can I	(2)	Declining an offer
(iii)	No, Thank you	(3)	Granting forgiveness
(iv)	That's all right	(4)	Permission
(v)	Hi	(5)	Wishes
(vi)	Bye	(6)	Blessings
(vii)	Fly with multicolours	(7)	Seeking approval
(viii)	May I help you?	(8)	End of a conversation

Or

(b) Write sentences using the following idioms: (CO3, K6)

(i) To bring to light

(ii) To carry on

(iii) Come into force

(iv) To break the ice

(v) A bone to pick

(vi) Between the devil and the deep sea

(vii) To be on the alert

(viii) Look before you leap.

20. (a) Write an essay on "What I would do if I were a Prime Minister". (CO5, K6)

Or

(b) Write an essay on Artificial intelligence and its impact on education. (CO5, K6)

———————

R1869	Sub. Code
	2BS3C1

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2024

Third Semester

Software Development

FUNDAMENTALS OF OPERATING SYSTEM

(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. What is the primary purpose of an operating system? (CO1, K2)

   (a) To manage the computer's hardware resources

   (b) To compile programs written in high-level languages

   (c) To act as an intermediary between the user and hardware

   (d) Both (a) and (c)

2. During the booting process, ———————— component is responsible for loading the operating system into memory. (CO1, K2)

   (a) Bootstrap Loader

   (b) Kernel

   (c) POST

   (d) BIOS/UEFI

3. Which one of the following is the deadlock avoidance algorithm? (CO2, K1)

(a) Banker's Algorithm

(b) Elevator Algorithm

(c) Karn' s Algorithm

(d) Round-Robin Algorithm

4. Which of the following is an advantage of using shared memory for inter-process communication? (CO2, K1)

(a) It is slower compared to message passing

(b) It simplifies synchronization between processes

(c) It allows direct and fast communication between processes

(d) It has low security for data exchange

5. In the context of memory allocation, the scheme that requires each process to have contiguous memory allocation is ————————. (CO3, K3)

(a) Paging

(b) Segmentation

(c) Fragmentation

(d) Swapping

6. What type of organization does a file systems structure provide for file and directories? (CO3, K3)

(a) Linear

(b) Hierarchical

(c) Random

(d) Chronological

7. ———————— is a fundamental component of GUI. (CO4, K4)

(a) Icons (b) Kernel

(c) DBMS (d) CLI

8. What is a primary requirement of a Windows-based GUI? (CO4, K4)

(a) Compatibility with Linux

(b) Command Line Interface

(c) Integration with Mainframe Systems

(d) Customizability

9. ———————— command is used to change the permissions of a file or directory in UNIX. (CO5, K4)

(a) chmod

(b) chown

(c) Is

(d) mov

10. In UNIX, what does the 1s -l command display? (CO5, K4)

(a) The contents of a file

(b) The contents of current directory

(c) The current directory path

(d) The list of running processes

Part B (5 × 5 = 25)

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

11. (a) Explain OS and its primary functions. (CO1, K3)

Or

(b) Describe the steps involved in Booting. (CO1, K3)

12. (a) Explain the concept of process management. (CO2, K4)

Or

(b) Describe two common IPC mechanisms. (CO2, K4)

13. (a) Differentiate Contiguous, Linked and Indexed Allocation methods. (CO3, K3)

Or

(b) Write a note on Virtual Memory. (CO3, K3)

14. (a) Describe the essential components of a Graphical User Interface (GUI). (CO4, K4)

Or

(b) Difference between viruses, worms and attacks in the context of computer security. (CO4, K4)

15. (a) Discuss the key components and their roles in UNIX environment. (CO5, K4)

Or

(b) Explain any five essential commands in UNIX. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Write a detailed note on history of Operating System. (CO1, K3)

Or

(b) Explain in detail about functions of file system. (CO1, K3)

17. (a) Discuss in detail about different CPU scheduling algorithms. (CO2, K4)

Or

(b) How to handle deadlock? Explain in detail. (CO2, K4)

18. (a) Write a detailed note on Demand Paging. (CO3, K5)

Or

(b) Explain the concept of single contiguous memory allocation in detail. (CO3, K5)

19. (a) Describe about Authentication in detail. (CO4, K4)

Or

(b) Explain functionalities in enhancing UI and productivity. (CO4, K4)

20. (a) Illustrate the architecture of the UNIX operating system in detail. (CO5, K4)

Or

(b) How to modify file permissions using chmod, chown and chgrp commands? (CO5, K5)

———————

R1870

Sub. Code
2BS5C1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2024

Fifth Semester

Software Development

PROGRAMMING WITH JAVA

(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 design principle is primarily addressed by abstraction in Java? (CO1, K2)

   (a) Encapsulation (b) Inheritance

   (c) Polymorphism (d) Information Hiding

2. Java constructs ———————— loop is used to evaluate a boolean expression and execute different blocks of code accordingly. (CO1, K2)

   (a) if-else statement (b) switch statement

   (c) while loop (d) for loop

3. Which of the following is a characteristic of the constructor? (CO2, K2)

   (a) Declared as static

   (b) Return a value

   (c) Same name as the class

   (d) Overridden

4. ———————— keyword is used to inherit a class. (CO2, K2)

(a) Extends (b) Implements

(c) Inherits (d) Superclass

5. Which of the following is the purpose of the paint() method in an applet? (CO3, K1)

(a) To handle mouse events

(b) To handle keyboard events

(c) To draw graphics and text

(d) To play audio

6. ———————— interface is used to handle mouse events in a Java Applet. (CO3, K1)

(a) ActionListener (b) MouseListener

(c) KeyListener (d) WindowListener

7. Result of throwing a checked exception using the "throw" statement without handling is called ————————. (CO4, K4)

(a) Compilation error (b) Runtime error

(c) Warning message (d) No effect

8. Custom exception class typically extend ————————. (CO4, K4)

(a) String (b) Object

(c) Exception (d) Throwable

9. Which of the following methods is used to read a single byte from an Input Stream? (CO5, K5)

(a) readLine() (b) readBytes()

(c) read() (d) readAll()

10. ———————— interface is used to represent a SQL statement in JDBC. (CO5, K5)

(a) Connection (b) Statement

(c) ResultSet (d) Prepared Statement

Part B (5 × 5 = 25)

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

11. (a) Discuss about features of Java in detail. (CO1, K2)

Or

(b) Write short notes on Datatypes and their types. (CO1, K2)

12. (a) Elaborate about Static Members with example. (CO2, K2)

Or

(b) Discuss the overriding Method with example. (CO2, K2)

13. (a) Write a note on Applet class. (CO3, K4)

Or

(b) Write a Java program using Events and Listeners of AWT in Applet class. (CO3, K4)

14. (a) Discuss about Errors and their types in detail. (CO4, K4)

Or

(b) How to create and run Thread Class in Java? Explain. (CO4, K4)

15. (a) How to work with Input Stream? Explain. (CO5, K5)

Or

(b) Differentiate Data Output Stream and Data Input Stream class. (CO5, K5)

Part C (5 × 8 = 40)

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

16. (a) Explain about concept of OOPs in detail. (CO1, K2)

Or

(b) Discuss in detail about Operators and their types. (CO1, K2)

17. (a) Write a Java program to display student details using class and object. (CO2, K2)

Or

(b) Describe about Constructor with suitable program. (CO2, K2)

18. (a) Illustrate the Life Cycle of an Applet. (CO3, K4)

Or

(b) Explain about Listeners and their types in detail. (CO3, K4)

19. (a) Write a detailed note on Exception Handling and their types. (CO4, K4)

Or

(b) Illustrate the Life Cycle of Thread in detail. (CO4, K4)

20. (a) Write the step by procedure to connect the JDBC-ODBC database with Java application in detail. (CO5, K5)

Or

(b) Discuss about components of JDBC and ODBC in detail. (CO5, K5)

———————

R1871	Sub. Code
	2BS5E1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2024

Fifth Semester

Software Development

Elective : OPTIMIZATION TECHNIQUES

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A $(10 \times 1 = 10)$

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

1. In the optimal simplex table, $c_j - z_j = 0$ value indicates _____. (CO1, K3)

   (a) unbounded solution

   (b) cycling

   (c) alternative solution

   (d) infeasible solution

2. Which variables are added to a linear programming problem to aid in the finding of optimal solution? (CO1, K3)

   (a) Artificial (b) Real

   (c) Both (a) and (b) (d) none of the above

3. Hungarian method for solving an assignment problem can also be used to solve ————————. (CO2, K2)

(a) a transportation problem

(b) a travelling salesman problem

(c) both (a) and (b)

(d) only (b)

4. The northwest corner rule provides a mechanism for obtaining an ———————— solution to the transportation problem. (CO2, K2)

(a) initial (b) ending

(c) optimal (d) non-optimal

5. While solving a LPP model graphically, the area bounded by the constraints is called ————————. (CO3, K4)

(a) feasible region

(b) infeasible region

(c) unbounded solution

(d) none of the above

6. While solving a LPP problem, infeasibility may be removed by ————————. (CO3, K4)

(a) adding another constraint

(b) adding another variable

(c) removing a constraint

(d) removing a variable

7. Which phase allocates resources to work packages? (CO4, K1)

(a) Project Planning (b) Scheduling

(c) Project control (d) Both (a) and (b)

8. The critical path satisfy the condition that ————————. (CO4, K1)

(a) $E_i = L_i$ and $E_j = L_i$

(b) $L_j - E_i = L_i - L_j$

(c) $L_j - E_i = L_i - E_j = d$ (constant)

(d) all of the above

9. Which of the following is not a key operating characteristic for a queuing system? (CO5, K3)

(a) utilization factor

(b) percent idle time

(c) average time spent waiting in the system and queue

(d) none of the above

10. Which symbol describes the interarrival time distribution? (CO5, K3)

(a) D (b) M

(c) G (d) all of the above

Part B (5 × 5 = 25)

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

11. (a) Enumerate the limitations of Optimization Techniques. (CO1, K3)

Or

(b) A manufacturer has two products P_1 and P_2 both or which are produced in two steps by machines M_1 and M_2. The process times per hundred for the products on the machines are: (CO1, K3)

Products	M_1	M_2	Contribution (per 100 units)
P_1	4	5	Rs. 10
P_2	5	2	Rs. 5
Available hrs	100	80	

The manufacturer is in a market upswing and can sell as much as he can produce of both products. Formulate the mathematical model and determine optimum product mix using simplex method.

12. (a) Indicate the algorithm to solve Tic-Tac-Toe Problem. (CO2, K2)

Or

(b) Explain in brief about North West Corner rule with example. (CO2, K2)

13. (a) Explain the following terms relating to linear programming problem: (CO3, K4)

(i) Feasible Solution

(ii) Optimal Solution

Or

(b) Draw graph and solve (CO3, K4)

Maximize $Z = 3x + 7y$

Subject to

$x + 4y \leq 20$

$2x + y \leq 30$

$x + y \leq 8$

and $x, y \geq 0$

14. (a) Differentiate PERT and CPM. (CO4, K3)

Or

(b) What are the rules to be followed while constructing AOA Network? Explain. (CO4, K3)

15. (a) We have 5 jobs and each of which has to go through the machines A, B and C in the order A B C. Processing times are given below: (CO5, K5)

Job	Processing time (mts)		
	A	B	C
1	40	50	80
2	90	60	100
3	80	20	60
4	60	30	70
5	50	40	110

Determine a sequence for the five jobs that will minimize the elapsed time T.

Or

(b) Find an optimal sequence for the following sequencing problem of four jobs and five machines when passing is not allowed, of which the processing time (in hrs) is given below. (CO5, K5)

Machines

Job	A	B	C	D	E
1	7	5	2	3	9
2	6	6	4	5	10
3	5	4	5	6	8
4	8	3	3	2	6

Part C (5 × 8 = 40)

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

16. (a) Use the simplex method to solve the following LPP problem. (CO1, K3)

Maximize $Z = 3x_1 + 5x_2 + 4x_3$

Subject to the constraints

(i) $2x_1 + 3x_2 \leq 8$

(ii) $2x_2 + 5x_3 \leq 10$

(iii) $3x_1 + 2x_2 + 4x_3 \leq 15$

and $x_1, x_2, x_3 \geq 0$

Or

(b) Use penalty (Big-M) method to solve the following LPP problem. (CO1, K3)

Minimize $Z = 5x_1 + 3x_2$

Subject to the constraints

(i) $2x_1 + 4x_2 \leq 12$

(ii) $2x_1 + 2x_2 = 10$

(iii) $5x_1 + 2x_2 \geq 10$

and $x_1, x_2 \geq 0$

17. (a) Ram enterprise has 3 factories located at A, B and C and supplies to three warehouses located at D, E and F. Monthly factory capacities are 10, 80 and 15 units respectively. Monthly warehouse requirements are 45, 20 and 40 units respectively. Unit transportation costs in rupees are given below: (CO2, K2)

	Warehouse		
Factory	D	E	F
A	5	1	7
B	6	4	6
C	3	2	5

Starting with NWC rule, find the optimal allotment.

Or

(b) Given the following matrix, find the optimal assignment. (CO2, K2)

	1	2	3	4	5
1	5	0	3	2	6
2	0	0	5	4	7
3	0	3	0	4	0
4	0	1	0	3	0
5	6	5	0	0	0

18. (a) Anita Electric Company produces two products P_1 and P_2. Products are produced and sold on a weekly basis. The weekly production cannot exceed 25 for product P_1 and 35 for product P_2 because of limited available facilities. The company employs total of 60 workers. Product P_1 requires 2 man-weeks of labour, while P_2 requires one man-week of labour. Profit margin on P_1 is Rs. 60 and on P_2 is Rs. 40. Formulate this problem as an LPP problem and solve that using graphical method. (CO3, K4)

Or

(b) Discuss the basic assumptions for linear programming in detail. (CO3, K4)

19. (a) The following table lists the jobs of a network with their time estimates. (CO4, K3)

Job i-j	Duration (days)		
	Optimistic	Most likely	Pessimistic
1-2	3	6	15
1-6	2	5	14
2-3	6	12	30
2-4	2	5	8
3-5	5	11	17
4-5	3	6	15
6-7	3	9	27
5-8	1	4	7
7-8	4	19	28

(a) Draw the project network.

(b) Calculate the length and variance of the critical path.

(c) What is the approximate probability that the jobs on the critical path will be completed by the due date of 42 days?

(d) What due date has about 90% chance of being met?

Or

(b) A research and development department is developing a new power supply for a console television set. It has broken the job down into the following: (CO4, K3)

Job	Description	Immediate Predecessors	Time (days)
A	Determine output voltages	–	5
B	Determine whether to use solid state rectifiers	A	7
C	Choose rectifiers	B	2
D	Choose filters	B	3
E	Choose transformer	C	1
F	Choose chassis	D	2
G	Choose rectifier mounting	C	1
H	Layout chassis	E, F	3
I	Build and test	G, H	10

(i) Draw the network diagram of activities involved in the project and indicate the critical path.

(ii) What is the minimum completion time for the project?

20. (a) Two jobs are to be processed through four machines A, B, C, D with the following technological ordering. (CO5, K5)

Job 1 : A B C D

Job 2 : D B A C

Processing times are given in the following table :

	Machine			
	A	B	C	D
Job 1	20	40	50	10
Job 2	20	50	30	60

Find the minimum elapsed time for both jobs and also the idle time for both jobs.

Or

(b) There are 5 jobs, reach of which must go through the two machines A and B in the order A B. Processing times in hours are given in the table below : (CO5, K5)

Job	Processing Time	
	Machine A	Machine B
1	10	4
2	2	12
3	18	14
4	6	16
5	20	8

Determine a sequence for the five jobs that will minimize elapsed time.

———————

R1866

Sub. Code
2BV5G3

B.Voc. DEGREE EXAMINATION, NOVEMBER – 2024

Fifth Semester

Fashion Technology/Software Development

FUNDAMENTALS OF DIGITAL PRIVACY

(CBCS – 2022 onwards)

(Common for B.Voc (FT/SD))

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 the most basic cyber safety rule? (CO1, K1)

   (a) Click all links quickly

   (b) Trust every online source

   (c) Think before clicking

   (d) Share passwords

2. What is the primary purpose of encryption in digital privacy? (CO1, K1)

   (a) Improve processing speed

   (b) Protect data by encoding it

   (c) Create multiple backups

   (d) Monitor online activities

3. Which of the following is essential for Wi-Fi security? (CO2, K1)

(a) Strong encryption protocols

(b) Keeping it open for guest access

(c) Weak passwords

(d) Leaving default settings unchanged

4. Which tool is used to block unauthorized access to a computer network? (CO2, K1)

(a) Firewall

(b) Word Processor

(c) Presentation Software

(d) Spreadsheet

5. Which of the following best defines identity theft? (CO3, K1)

(a) A type of cybercrime where personal data is stolen for fraudulent use

(b) A form of hacking that targets email servers

(c) A harmless prank involving online accounts

(d) A secure method for protecting user identity

6. What is the primary threat to security on social media? (CO3, K1)

(a) Too many followers

(b) Inability to post pictures

(c) Privacy breaches and identity theft

(d) Connecting with friends

7. What is the most common type of scam when looking for online jobs? (CO4, K1)

(a) Work-at-home scams

(b) Physical office interviews

(c) Real-time job offers

(d) Company background checks

8. What should be a priority when maintaining your digital presence? (CO4, K1)

(a) Always post without reviewing

(b) Post and then think

(c) Clean up and protect your digital presence

(d) Share all personal details online

9. Which of the following is essential for protecting kids online? (CO5, K1)

(a) Giving them full access to the internet

(b) Monitoring and setting parental controls

(c) Encouraging use of weak passwords

(d) Letting them talk to strangers

10. Cyberbullying primarily targets: (CO5, K1)

(a) Personal devices

(b) Online games only

(c) Vulnerable individuals online

(d) Professional networks

Part B (5 × 5 = 25)

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

11. (a) Explain the importance of cyber safety in today's digital world and how privacy is maintained through encryption. (CO1, K2)

Or

(b) Describe the key differences between malware and antivirus software and their roles in protecting digital privacy. (CO1, K2)

12. (a) Analyze the effectiveness of using strong passwords and encryption in securing online communications. (CO2, K4)

Or

(b) How does Wi-Fi security impact overall digital privacy, and what steps can be taken to improve it? (CO2, K4)

13. (a) Apply the methods of identity theft prevention in everyday digital practices. (CO3, K3)

Or

(b) Explain how securing social media accounts can help prevent cybercrimes such as identity theft and social engineering. (CO3, K3)

14. (a) Describe how one can maintain and protect their reputation when applying for jobs online. (CO4, K2)

Or

(b) Define online scams, particularly focusing on work-at-home scams, and discuss how they target digital users. (CO4, K2)

15. (a) Explain the terms Netiquette, anonymity and online chat. (CO5, K3)

Or

(b) Discuss how one should deal with people beyond technology. (CO5, K3)

Part C ($5 \times 8 = 40$)

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

16. (a) Discuss the various types of online threats and how understanding digital safety can help mitigate those threats. (CO1, K2)

Or

(b) How do privacy policies and encryption contribute to protecting individuals' digital information? Provide examples. (CO1, K2)

17. (a) Analyze the role of firewalls, encryption and secure browsing in maintaining digital privacy in today's interconnected world. (CO2, K4)

Or

(b) Assess the strengths and weaknesses of different email security settings in preventing data breaches. (CO2, K4)

18. (a) Apply digital privacy principles to design a strategy for protecting users from social media security breaches. (CO3, K3)

Or

(b) How can one apply knowledge of botnets and rootkits to defend against cyber- attacks on personal and professional accounts? (CO3, K3)

19. (a) Summarize the key steps one should follow when searching for jobs online to avoid fraudulent job postings. (CO4, K2)

Or

(b) Define and explain the steps that should be taken after a security breach to clean up your digital presence. (CO4, K2)

20. (a) Apply strategies to protect kids from cyberbullying and online predators, using case studies to support your answer. (CO5, K3)

Or

(b) How can parents effectively use technology and digital tools to safeguard their children's online activities? (CO5, K3)

———————