F–0727	Sub. Code
	9VSD2C1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023.

Second Semester

Software Development

WEB TECHNOLOGY

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define virtual network.
2. Define repeater.
3. What is network information center?
4. Define mailbox.
5. Define tags.
6. Define header tag.
7. Write syntax of switch structure?
8. Define logical operators.
9. What is event handler?
10. What is DTD?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What are the different methods of assigning physical address to an computer?

Or

(b) What is the purpose of the time to live field of the IP datagram header?

12. (a) Write a short note on E-Commerce.

Or

(b) Write a short note on E-mail.

13. (a) Write a short note on text styling?

Or

(b) Discuss in detail about nested and ordered list.

14. (a) Explain about for structure with example.

Or

(b) Write syntax switch structure with explain.

15. (a) Explain about onclick and onload.

Or

(b) Write a short note on XML namespace.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Describe the three parts of an IP address.

17. Briefly explain about File transfer protocol.

18. Briefly explain about different types of tags in HTML.

19. Discuss in detail about assignment operators with example.

20. Discuss in detail about document type definition.

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F–0728

Sub. Code
9VSD2A1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Second Semester

Software Development

Allied : MATHEMATICS – OPTIMIZATION TECHNIQUES

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define degenerate solution.

2. State the fundamental theorem of duality.

3. What is an assignment problem?

4. How will you convert a maximization assignment problem into minimization one?

5. Define input process.

6. What do you understand by the service channels?

7. What is a critical path?

8. Give an example of a sequencing model.

9. Expansion of CPM and PERT.

10. What is “No passing’ rule in a sequencing algorithm?

Part B $(5 \times 5 = 25)$

Answer **all** questions, choosing either (a) or (b)

11. (a) Obtain the dual of the following L.P.P.

Maximize $Z = 2x_1 + 3x_2 + x_3$

Subject to the constraints

$4x_1 + 3x_2 + x_3 = 6$

$x_1 + 2x_2 + 5x_3 = 4$

$x_1 \geq 0$ and

$x_2 \geq 0$

Or

(b) Explain the Simplex procedure to solve a LP.P.

12. (a) Solve by graphical method :

Maximum $Z = -3x_1 + 4x_2$

Subject to

$x_1 + x_2 \leq 4$

$2x_1 + 3x_2 \geq 18$ and

$x_1, x_2 \geq 0$

Or

(b) Solve the assignment problem.

	A	B	C	D
I	1	4	6	3
II	9	7	10	9
III	4	5	11	7
IV	8	7	8	5

13. (a) A T.V repairman finds that the time spent on his jobs has an exponential distribution with mean 30 minute. If he repair sets in the order in which they came in, and if the arrival of sets is approximately Poisson with an average rate of 10 per 8 hour day, what is repairman's expected idle time each day?. How many jobs are ahead of the average set Just brought in?

Or

(b) In a public Telephone booth the arrivals are on the average 15 per hour. A call on the average takes 3 minutes If there is just one phone,

Find

(i) Expected number of callers in the booth at any time

(ii) The proportion of the time the booth is expected to be idle.

14. (a) Distinguish between PERT and CPM.

Or

(b) The following table gives the activities of a construction project and duration

Activity :	1-2	1-3	2-3	2-4	3-4	4-5
Duration :	20	25	10	12	6	10

(i) Draw the network for the project

(ii) Find the critical path.

15. (a) Write the Johnson's algorithm for n jobs through machines.

Or

(b) In a Factory, there are six jobs to perform, each of which should go through two machines A and B, in the order A, B. The processing timing (in hours) for the jobs is given here. You are required to determine the sequence for performing the jobs that would minimize the total elapsed time, T. What is the value of T?

Job :	J_1	J_2	J_3	J_4	J_5	J_6
Machine A :	1	3	8	5	6	3
Machine B :	5	6	3	2	2	10

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Obtain the dual problem of the following primal problem :

Minimize $Z = x_1 - 3x_2 - 2x_3$

Subject to the constraints

$3x_1 - x_2 + 2x_1 \leq 7$

$2x_1 - 4x_2 \geq 12$

$-4x_1 + 3x_2 + 8x_3 = 10$

$x_1 \geq 0$ and

$x_2 \geq 0, x_3$ is unrestricted

17. A department head has four tasks to be performed and three subordinates, the subordinates differ in efficiency. The estimates of the time, each subordinate would take to perform, is given below in the matrix. How should he allocate the tasks one to each man, so as to minimize the total man-hours?.

	Men		
Task	1	2	3
I	9	26	15
II	13	27	6
III	35	20	15
IV	18	30	20

18. In a railway marshalling yard, goods trains arrive at a rate of 30 trains per day. Assume that the inter-arrival time follows an exponential distribution and the service time distribution is also exponential with an average 36 minutes. Calculate the following:
    (a) The mean queue size (line length) and
    (b) The probability that the queue size exceeds 10.
    If input of trains increases to an average 33 per day, what will be the change in (a) and (b).

19. A project consists of the following activities and time estimates :

Activity	Least time (days)	Greatest time (days)	Most likely (days)
1-2	3	15	6
1-3	2	14	5
1-4	6	30	12
2-5	2	8	5
2-6	5	17	11
3-6	3	15	6
4-7	3	27	9
5-7	1	7	4
6-7	2	8	5

(a) Draw the network.

(b) What is the probability that the project will be completed in 27 days?

20. Solve the following sequencing problem when passing out is not allowed :

Items	Machine (Processing time in hours)			
	A	B	C	D
I	15	5	4	15
II	12	2	10	12
III	16	3	5	16
IV	17	3	4	17

F–0729	Sub. Code
	9VSD3C1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

Software Development

OPERATING SYSTEMS

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is an Operating System?
2. What is an batch System?
3. What do you mean by state of the process?
4. What are necessary conditions of deadlocks?
5. Define virtual machines.
6. What is an demand paging?
7. Define GUI.
8. Define threats.
9. Mention about advantages of UNIX.
10. Define file system.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What are the various objectives and functions of Operating System?

Or

(b) Explain about objectives for file systems.

12. (a) What is process? Explain about different process states.

Or

(b) Explain about necessary conditions of deadlock.

13. (a) What is an virtual memory? Mention its advantages.

Or

(b) Explain about contiguous memory allocation.

14. (a) Explain about different principles of protection.

Or

(b) Write a short note on encryption.

15. (a) Discuss in detail about various types of files supported by UNIX.

Or

(b) Explain with an example how test command is used with files.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about Operating System functions and services in detail.

17. Briefly explain about dead lock strategies.

18. Explain about fixed partitioned.

19. Discuss in detail about requirements of windows based GUI.

20. Explain about basic commands in UNIX.

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F–0730	Sub. Code
	9VSD4C1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Fourth Semester

Software Development

COMPUTER NETWORKS ADMINISTRATION

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define routing.
2. What is an Computer Network?
3. Define Protocol.
4. What is Session layer?
5. How to working of wireless LAN?
6. Define LAN.
7. What is an encryption?
8. Define IPV6.
9. Define authentication.
10. What are the needs for network management?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain about routing Concepts.

Or

(b) Discuss in detail about evolution of computer networks.

12. (a) Explain about application layer.

Or

(b) Write a short note on data link layer.

13. (a) Explain about token ring.

Or

(b) What are the components of wireless LAN? Explain.

14. (a) Discuss in detail about message authentication.

Or

(b) Explain about confidentiality with symmetric encryption.

15. (a) Write a short note on authorization.

Or

(b) Write a different types of administration in network management.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Briefly explain about classification of computer networks.

17. Explain about transmission control protocol.

18. Briefly explain about LAN topologies.

19. Describe in detail about IPV4 and IPV6 security.

20. Explain about network management.

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F–0731

Sub. Code
9VSD5G1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

Software Development

MIS AND EDI

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Why are information system esstritical in business today?
2. What is information systems?
3. What is a strategic information system?
4. Define DSS.
5. Define VAN.
6. Define FTP.
7. Define SCM.
8. What is an e-payment?
9. What is an cluster?
10. Define e-commerce.

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What is management information system concepts? How it works in different functions in organization?

Or

(b) Explain about developing information systems solutions.

12. (a) Write a short note on marketing information systems.

Or

(b) Write a different characteristics of information systems.

13. (a) Mention of advantages of EDI.

Or

(b) Write a short note on VAN.

14. (a) Write a different strategies for web auction in e-commerce.

Or

(b) Discuss in detail about prepaid e-payment services.

15. (a) Explain about cluster of servers.

Or

(b) Write a short note on hadoop.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about fundamentals of information system concepts.

17. Discuss in detail about transaction processing system.

18. Explain about internet based EDI.

19. Briefly explain about electronic payment system.

20. Describe in detail about google apps engine.

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F–0732	Sub. Code
	9VSD5C1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

Software Development

PROGRAMMING WITH JAVA

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is constant?
2. Define operator.
3. What is an object?
4. Define array.
5. What is an applet?
6. Define applet stub interface.
7. What is an catch statement?
8. Define throw statement.
9. Define ODBC.
10. What is an input stream?

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Write a benefits of java.

Or

(b) Explain about data types in java with example program.

12. (a) Write a short note on overriding methods.

Or

(b) Explain about abstract classes with example program.

13. (a) Discuss in detail about applet classes with example program.

Or

(b) Write a short note on abstract window tool kit.

14. (a) Explain about custom exceptions.

Or

(b) How to creating and running threads with example?

15. (a) Explain about data output stream.

Or

(b) Write a short note on JDBC connection.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Briefly explain about operators in java with example program.

17. Explain about different types of inheritance in java with example program.

18. Write an applet for each of following graphics method.

    (a) drawoval( )

    (b) drawrect( )

    (c) drawline( )

    (d) filloval( )

19. Explain about exception handling method in java with example program.

20. Discuss in detail about reader and writer classes.

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F–0733	Sub. Code
	9VSD5E1

B.Voc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

Software Development

Elective – SOFTWARE ENGINEERING

(CBCS – 2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is software engineering methods?
2. Define validation.
3. Define requirement analysis.
4. What is functional requirements?
5. What is coupling?
6. Define user interface classes.
7. Define reliability.
8. Define debugging.
9. What is use case?
10. Define reverse engineering,

Part B (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain about classical waterfall model.

Or

(b) Discuss in detail about prototyping model.

12. (a) Explain about empirical estimation techniques.

Or

(b) Describe in detail about risk management.

13. (a) Explain about structured design.

Or

(b) Write a different characteristics of a good user interface.

14. (a) Discuss in detail about software documentation.

Or

(b) Write a short note on system testing.

15. (a) Write a characteristics of a software maintance.

Or

(b) Explain about software reuse.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Briefly explain about software development projects.

17. Explain about responsibilities of a software project manager.

18. Discuss in detail about user interface design.

19. Briefly explain about software quality and management system.

20. Discuss in detail about software reverse engineering.

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