R5852	Sub. Code
	9MS1C1

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

First Semester

Software Development

PROGRAMMING WITH JAVA

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. Write the Program Structure of Java.

2. List the Primitive data types in java.

3. Define Exception.

4. Discuss about Interfaces.

5. Write brief note on Multithreading.

6. What is Resuming?

7. Define Applet.

8. What is AWT Classes?

9. List out some Java script functions.

10. What is the advantages of servlet?

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

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

11. (a)   Describe in detail about Control Statements in Java.

                         Or

    (b)   Briefly explain the feature of Java.

12. (a)   Write a program to important interface Concept in Java.

                         Or

    (b)   Write about the types of exception with example.

13. (a)   Discuss about the thread models with neat sketch.

                         Or

    (b)   Write short notes on

          (i)   Suspending

          (ii) Resuming

14. (a)   Describe Applet Life cycle with neat diagram.

                         Or

    (b)   Write a detailed note on Event Handling.

15. (a)   Write note on basic Concepts of JSP Socket Programming.

                         Or

    (b)   Briefly explain how to insert record in database.

R5852

Part C   (3 × 10 = 30)

Answer any **three** questions.

16. Write a program to implement the Fibonacci Series using looping structure.

17. What are the different types of Inheritance explain?

18. Describe about synchronization in Thread.

19. Write an Applet Program to demonstrate various shapes.

20. Discuss about the architecture of JDBC.

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R5852

R5853	Sub. Code
	9MS1C2

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

First Semester

Software Development

SOFTWARE ENGINEERING

(CBCS – 2019 onwards)

Time : Three Hours   Maximum : 75 Marks

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

Answer **all** the questions.

1. What is Software?

2. What are the drawbacks of Spiral Model?

3. Define Project Planning.

4. List any two Project Estimation Techniques.

5. What is coupling?

6. Define UML.

7. What is the purpose of Testing?

8. Define Software Reliability.

9. What is the use of CASE?

10. What is Maintenance Cost?

Part B (5 × 5 = 25)

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

11. (a) Write short notes on software development projects.

    Or

    (b) Describe the prototyping model.

12. (a) List and explain the responsibilities of a software project manager.

    Or

    (b) Elaborate on the empirical estimation techniques.

13. (a) Discuss about DFD.

    Or

    (b) What are the characteristics of a Good User Interface? Explain.

14. (a) Give a brief note on Software Documentation.

    Or

    (b) Explain the concept a System Testing.

15. (a) What are the characteristics of CASE tools? Explain.

    Or

    (b) Explain the process of Software Reverse Engineering.

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R5853

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Elaborate on the Iterative Waterfall Model.

17. Describe the COCOMO model.

18. Discuss the various UML diagrams.

19. Explain in detail the White Box Testing.

20. Give a brief account on the characteristics of a software maintenance.

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R5853

R5854	Sub. Code
	9MS1G1

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

First Semester

Software Development

DIGITAL ELECTRONICS AND COMPUTER SYSTEM ARCHITECTURE

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** questions.

1. What is decimal number?

2. What are the universal gates?

3. Define: Quad in K-map.

4. Define: Multiplexer.

5. What is Shift Register?

6. What is a parallel counter?

7. Define Program control.

8. What are the types of CPU organizations in computer?

9. List of any two arithmetic micro operations.

10. What is logic microoperations?

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

11. (a) Convert $1076B_{16}$ into Binary and Decimal.

Or

(b) Explain the conversion from binary to Gray and Gray to binary with an example.

12. (a) Simplify using K-map:

$Z = f(A,B,C) = \overline{A}\,\overline{B}\,\overline{C} + \overline{A}B + AB\overline{C} + AC$

Or

(b) Explain the truth table of universal gates.

13. (a) Draw and explain the working of 4-bit down counter.

Or

(b) Explain the RS Flip flop.

14. (a) Write a note on general register organization.

Or

(b) Write a note on Types of interrupts.

15. (a) Explain the details on Logic micro organization.

Or

(b) Write a note on Timing and control unit of basic computer.

R5854

Part C $(3 \times 10 = 30)$

Answer any **three** questions.

16. Briefly explain the details on logic gates with given truth table and draw the diagram.

17. Simplify using K-Map: $F = \sum (0,2,5,7,8, 10, 13, 15)$.

18. Elucidate the concept of Synchronous Counters in detail with diagrams.

19. Give a detailed account on the various Addressing modes.

20. Explain the functionalities of a common bus system with a neat diagram.

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M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

First Semester

Software Development

MATHEMATICAL LOGICS FOR SOFTWARE DEVELOPMENT

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1.   What do you mean by compound statement?

2.   What is the cardinality of the power set of the set {0, 1, 2}?

3.   Write down various ways for representation of Graph.

4.   What do you mean by spanning Tree?

5.   What are the different ways used for representing Linear Programming?

6.   What do you mean by constraints in LPP?

7.   Write down various methods for solving Transportation problem.

8.   How assignment problem differs from Transportation problem?

9. Why should we test hypothesis?

10. What are the different tests used for testing hypothesis?

<div align="center">

Part B   (5 × 5 = 25)

</div>

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

11. (a) Discuss about Tautology with suitable example truth table.

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

(b) Discuss about Cartesian product of two sets.

12. (a) Discuss about various terminologies used in Graph.

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

(b) Discuss about binary tree and its various properties.

13. (a) Discuss about common terminologies used in LPP.

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

(b) Discuss about the mathematical formulation of linear programming.

14. (a) Solve the following Transportation problem:

<div align="center">

Problem				Supply
2	2	2	1	30
10	8	5	4	70
7	6	6	8	50

Demand   40   30   40   40

</div>

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

(b) Discuss about special cases in assignment problem.

<div align="center">

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15. (a) Discuss about the need and benefits of Hypothesis.

Or

(b) Discuss about mean, variance and correlation with example.

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain about various connectives used in propositional logic.

17. Explain different ways for the representation of Graph.

18. Solve the following LPP using simplex method :

Max $z = x_1 + 2x_2$

Subject to $x_1 + 3x_2 \leq 8$

$x_1 + x_2 \leq 4$

where $x_1, x_2 \geq 0$.

19. Explain about assignment method with suitable example.

20. Explain about various distribution used in statistics.

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R5855

R5856		Sub. Code
		9MS1E1

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

First Semester

Software Development

FUNDAMENTALS OF PROGRAMMING AND C

(CBCS – 2019 onwards)

Time : Three Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1. Define Algorithm.

2. What are the rules for naming identifiers?

3. List out the Selection statements in C and Give its syntax

4. Write the syntax for switch statement.

5. Define Array. List out its types.

6. Write the difference between strcat( ) and strncat( )

7. What is array of pointers?

8. Distinguish structure from union.

9. What are the different modes of opening a file?

10. Define command line arguments.

Part B   (5 × 5 = 25)

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

11. (a) Write an algorithm for multiplication of two numbers.

Or

(b) Describe arithmetic and logical operators in C.

12. (a) Write a C program to find factorial of n numbers.

Or

(b) Differentiate entry controlled and exit controlled loop.

13. (a) Write a program to calculate the length of the given array.

Or

(b) Explain String taxonomy in C.

14. (a) Differentiate arrays and pointers.

Or

(b) Illustrate the pointer to pointer concept in C with suitable example?

15. (a) Explain the basic file operations in C.

Or

(b) Write a C program to display your name and college name using command line arguments.

R5856

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Discuss the various Data types available in C.

17. Describe storage classes in C.

18. Write a program in C to sort the elements in ascending and descending order.

19. Explain Array of structures with suitable example.

20. Write a C program to prepare student mark list using File concept.

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R5856

R5857	Sub. Code
	9MS3C1

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

Third Semester

Software Development

PROGRAMMING IN PHP

(CBCS – 2019 onwards)

Time : Three Hours — Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is the main job of Apache?

2. Write any four features of MySQL.

3. List any two basic rules of PHP in writing programs.

4. Define constants.

5. What is the difference between *char* and *varchar*?

6. What is a ternary operator?

7. Write the regular expression that is to be used for date validation.

8. What is the use of having *ErrorDocument*?

9. Differentiate cookie and session.

10. What do you mean by multipart messages?

Part B   (5 × 5 = 25)

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

11. (a) How will you set up users and privileges in MySQL?

Or

(b) What are the steps to be followed to point Apache to the new directory?

12. (a) Write a PHP program to initialize an array with the names of your friends and display the names using *foreach*.

Or

(b) Write the alternates to the <?*php* and ?> tags with suitable examples.

13. (a) Write a MySQL command to create a table for storing students marks and write a query to display the students roll number who scored above 90 in English subject.

Or

(b) Write note on joining two tables in MySQL.

14. (a) List out the steps to convert an image file to another type.

Or

(b) Write a PHP program to validate whether the user's input has a number or not.

15. (a) Write short note on coding for reusability.

Or

(b) Describe how to setup PHP to use Email.

R5857

Part C (3 × 10 = 30)

Answer any **three** questions.

16. Explain the various steps involved in configuring the PHP installation.

17. Write a detailed note on sessions and how to pass variable with sessions.

18. Explain the following elements of HTML with suitable examples:

    (a) FORM element

    (b) INPUT element

    (c) Radio button

    (d) Checkbox

19. Elaborate how users are allowed to upload images.

20. Create a simple dynamic website using PHP, HTML and MySQL for managing students' details. Students can do the following activities: Login to the site, Change their address and view their marks.

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R5857

M.VOC. DEGREE EXAMINATION, NOVEMBER – 2021

Third Semester

Software Development

DATA MINING AND DATA WAREHOUSING

(CBCS – 2019 onwards)

Time : 3 Hours   Maximum : 75 Marks

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

Answer **all** questions.

1. What are the applications of data mining?

2. Define transactional data.

3. What is meant by support and confidence of association rule mining?

4. Define partitioning.

5. What is meant by supervised learning?

6. What are Bayesian classifiers?

7. What is web data mining?

8. Define sequential pattern mining.

9. Define information privacy.

10. List out the advantages of data mining.

Part B (5 × 5 = 25)

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

11. (a) What is data mining? Briefly explain the KDD process steps, with neat sketch.

Or

(b) Write short notes on data cube operations.

12. (a) Write the steps of generate association rules form frequent itemsets.

Or

(b) Summarize dynamic itemset counting with case study application.

13. (a) Bring out the significance of tree induction algorithm with neat sketch.

Or

(b) Write short notes on Naïve Bayes classification algorithm.

14. (a) Discuss about web data mining characteristics and data hierarchy.

Or

(b) Write short notes on web content mining.

15. (a) What are the advantages and misuses of information in data mining?

Or

(b) What is the primary objective data mining?

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R5858

Answer any **three** questions.

16. Explain OLAP tools for interactive analysis of multidimensional data in detail, with neat architecture.

17. Describe in detail about Apriori Algorithm for frequent itemset count and discuss the methods to improve efficiency of algorithm.

18. Describe in detail on "K-Nearest Neighbour Classifier" algorithm with suitable example.

19. Explain the various techniques available for web structure mining.

20. Discuss in detail on, various threats to information privacy in data mining.

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R5858

R5859	Sub. Code
	9MS3C3

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

Third Semester

Software Development

FUNDAMENTALS OF AI & VIRTUAL REALITY

(CBCS – 2019 onwards)

Time : Three Hours   Maximum : 75 Marks

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

Answer **all** the questions.

1. What is an agent?

2. Define blind search.

3. What is meant by datalog?

4. What are the two principal sources of parallelism?

5. Define smoothing.

6. What is unigram?

7. What is the use of simulators?

8. When and by whom the first logic machine was invented?

9. Define yaw.

10. What is FOV?

Part B   (5 × 5 = 25)

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

11. (a) Write a brief note on Breadth-first search.

Or

(b) Differentiate the various uninformed search strategies

12. (a) Write short note on unification.

Or

(b) Write a simple forward-chaining algorithm.

13. (a) Explain PageRank algorithm.

Or

(b) Write short notes on the robot hardware.

14. (a) Explain the flight simulation.

Or

(b) Write the various scientific landmarks of VR.

15. (a) Explain the binocular depth cues of human vision.

Or

(b) Write short notes on XYZ Euler angles.

Part C   (3 × 10 = 30)

Answer any **three** questions.

16. Describe the memory–bounded heuristic search Algorithm.

17. Explain Mental Events and Mental Objects.

R5859

18. Discuss on the various aspects of speech recognition.

19. Discuss the various aspects of virtual environments.

20. Elaborate on the concepts of 3D clipping with an example.

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R5859

R5860	Sub. Code
	9MS3E3

M.Voc. DEGREE EXAMINATION, NOVEMBER – 2021

Third Semester

Software Development

CLOUD COMPUTING

(CBCS – 2019 onwards)

Time : Three Hours   Maximum : 75 Marks

Part A   (10 × 2 = 20)

Answer **all** the questions.

1.   Mention the necessary components of Cloud Computing.

2.   What are the essential things that must be followed before going to the cloud computing platform?

3.   What is provisioning in cloud computing?

4.   Define Iaas.

5.   Differentiate public and private clouds.

6.   How does a workflow engine used in cloud computing?

7.   What are the types of SLA?

8.   Give the importance of HPC.

9.   Define the AWS cloud.

10. Write a note on Content Delivery Networks.

Part B (5 × 5 = 25)

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

11. (a) What are the different layers in Cloud Computing? Explain the working of them.

Or

(b) Discuss the challenges and risks in a cloud environment.

12. (a) Explain RVWS design with a neat diagram.

Or

(b) Explain briefly about the life cycle of the virtual machine.

13. (a) Explain in detail about hybrid Cloud.

Or

(b) Write short notes on SAGA.

14. (a) Explain the architecture for Federated Cloud Computing.

Or

(b) Differentiate Grid and Cloud computing.

15. (a) Explain online game hosting on cloud resources.

Or

(b) Write a note on Cloud mashups.

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R5860

Answer any **three** questions.

16. Discuss the challenges and approaches of SaaS provider.

17. Illustrate enhancing cloud computing environment using a cluster as a service.

18. Explain the concept of Map Reduce implementations for the cloud.

19. Explain the concept of automated policy-based management.

20. Illustrate seven best practices to follow while designing a Cloud architecture.

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