CODE: A1HS401a	R23	H.T.No:									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations Dec 2025

Subject Name: Managerial Economics and Financial Analysis

Branch: CSE & ECE

Time: 3 Hours **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	Explain the demand function?	2M	CO1	BTL2
	b	Identify 4 factors that influence demand forecasting.	2M	CO1	BTL1
	c	Calculate the break-even point if fixed costs are Rs. 50,000, variable cost per unit is Rs. 20, and selling price per unit is Rs. 50.	2M	CO2	BTL1
	d	Explain the concept of least cost combination?	2M	CO2	BTL2
	e	Explain two key differences between a sole proprietorship and a partnership firm.	2M	CO3	BTL2
	f	Explain the features of sole-proprietary business?	2M	CO3	BTL2
	g	What is the significance of capital budgeting in financial decision-making?	2M	CO4	BTL1
	h	List and explain the components of working capital?	2M	CO4	BTL1
	i	What is the significance of liquidity ratios?	2M	CO5	BTL1
	j	Explain about liquidity ratio?	2M	CO5	BTL2
PART-B					
UNIT-I					
2	a	Define Managerial Economics. Explain how managerial economics is linked with other disciplines.	5M	CO1	BTL1
	b	What is the Law of Demand? What are their assumptions and exceptions?	5M	CO1	BTL1
OR					
3	a	What is demand forecasting? Discuss briefly various methods of forecasting.	5M	CO1	BTL1
	b	What is the role of managerial economist in modern business?	5M	CO1	BTL1
UNIT-II					
4	a	Solve the following problem, Fixed cost Rs 7500/-, sales Rs 40000/-, variable cost Rs 17500/-. Calculate contribution, profit, BEP, Margin of safety.	5M	CO2	BTL6
	b	Explain the cost-out put relationship both in short run and long run?	5M	CO2	BTL2
OR					
5	a	From the following data, you are required to calculate: (i) P/V ratio. (ii) Break-even sales with the help of P/V ratio. (iii) Sales required earning a profit of Rs. 4, 50,000. Fixed expenses = Rs 90,000 Variable cost per unit: Direct material = Rs 5 Direct labour= Rs 2 Direct Overheads = 100% of direct labour Selling Price per unit = Rs. 12.	10M	CO2	BTL4

<table>
<tr><td colspan="6">UNIT-III</td></tr>
<tr><td rowspan="2">6</td><td>a</td><td>Explain different forms of business organizations</td><td>5M</td><td>CO3</td><td>BTL2</td></tr>
<tr><td>b</td><td>Define partnership? Explain its characteristics?</td><td>5M</td><td>CO3</td><td>BTL1</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">7</td><td>a</td><td>Explain the pricing methods?</td><td>5M</td><td>CO3</td><td>BTL2</td></tr>
<tr><td>b</td><td>What are the features of monopolistic competition? How can a firm attain equilibrium position?</td><td>5M</td><td>CO3</td><td>BTL1</td></tr>
<tr><td colspan="6">UNIT-IV</td></tr>
<tr><td>8</td><td>a</td><td>Evaluate the role of working capital management in ensuring financial stability for a business.</td><td>10M</td><td>CO4</td><td>BTL2</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">9</td><td>a</td><td>Solve the following problem. A project required an investment of Rs 50k, which is generating the cash flows Rs 18k, 22K, 24K, 15K and 12k over its life time. Cost of the capital is 12%. Compute NPV of the project?</td><td>5M</td><td>CO4</td><td>BTL3</td></tr>
<tr><td>b</td><td>What are the factors influencing working capital of a firm?</td><td>5M</td><td>CO4</td><td>BTL1</td></tr>
<tr><td colspan="6">UNIT-V</td></tr>
<tr><td>10</td><td>a</td><td>Analyse the role and importance of financial statements in decision-making.</td><td>10M</td><td>CO5</td><td>BTL2</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td>11</td><td>a</td><td>The following trial balance has been extracted from the books of Mr. Rao on 31.03.2003. Trial balance
<table>
<tr><th>Particulars</th><th>Debit (Rs.)</th><th>Credit (Rs)</th></tr>
<tr><td>Machinery</td><td>40,000</td><td></td></tr>
<tr><td>Cash at bank</td><td>10,000</td><td></td></tr>
<tr><td>Cash in hand</td><td>5,000</td><td></td></tr>
<tr><td>Wages</td><td>10,000</td><td></td></tr>
<tr><td>Purchases</td><td>80,000</td><td></td></tr>
<tr><td>Stock (01.04.2002)</td><td>60,000</td><td></td></tr>
<tr><td>Sundry debtors</td><td>40,000</td><td></td></tr>
<tr><td>Bills debtors</td><td>29,000</td><td></td></tr>
<tr><td>Rent</td><td>4,000</td><td></td></tr>
<tr><td>Interest on bank loan</td><td>500</td><td></td></tr>
<tr><td>Commission received</td><td></td><td>3,000</td></tr>
<tr><td>General expenses</td><td>12,000</td><td></td></tr>
<tr><td>Salaries</td><td>7,500</td><td></td></tr>
<tr><td>Discount received</td><td></td><td>4,000</td></tr>
<tr><td>Capital</td><td></td><td>90,000</td></tr>
<tr><td>Sales</td><td></td><td>1,20,000</td></tr>
<tr><td>Bank loan</td><td></td><td>40,000</td></tr>
<tr><td>Sundry creditors</td><td></td><td>40,000</td></tr>
<tr><td>Purchase return</td><td></td><td>5,000</td></tr>
<tr><td>sales return</td><td></td><td>4,000</td></tr>
</table>
Adjustments:
(i) Closing stock = Rs. 80,000.
(ii) Interest on bank loan not yet paid = Rs. 400.
(iii) Commission received in advance = Rs. 1,000.
Prepare final account for the year ended 31.03.2003</td><td>10M</td><td>CO5</td><td>BTL4</td></tr>
</table>

CODE: A15402T	R23	H.T.No:									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations December 2025

Subject Name: **OBJECT-ORIENTED PROGRAMMING THROUGH JAVA**

Time: 3 Hours Branch: CSE **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	Write the syntax of for loop with example.	2M	CO1	L2
	b	Write about switch statement.	2M	CO1	L1
	c	What is the purpose of this keyword in java?	2M	CO2	L1
	d	Write about method overriding.	2M	CO2	L2
	e	What is an array in Java? How do you declare it in Java?	2M	CO3	L1
	f	How does the super keyword work in Java? Illustrate with an example.	2M	CO3	L2
	g	What is package in java? Which is the default package in java?	2M	CO6	L1
	h	Write the difference between checked and unchecked exceptions in Java?	2M	CO4	L2
	i	How do you create a new thread in Java using the Thread class?	2M	CO6	L1
	j	What are the different ways to declare and initialize strings in java?	2M	CO6	L1
PART-B					
UNIT-I					
2	a	Explain in detail about while loop, do-while, for loop and Nested loop in java with suitable examples.	10M	CO1	L2
OR					
3	a	List and explain various types of operators in java.	10M	CO1	L2
UNIT-II					
4	a	Demonstrate the concept of method overloading in Java by designing a program that includes multiple overloaded methods?	5M	CO2	L3
	b	Differentiate between constructors and instance methods in Java?	5M	CO2	L4
OR					
5	a	Demonstrate method overloading in Java with a class 'Calculator' that provides overloaded methods to add two, three, or four integers.	5M	CO2	L3
	b	Write a Java program with private members and demonstrate how to use getter and setter methods to access and modify these members.	5M	CO2	L2
UNIT-III					
6	a	What is array? How to declare, Initialize and access the elements of an array with a suitable example?	10M	CO3	L3
OR					
7	a	Compare and contrast between method overriding and method overloading.	5M	CO3	L4
	b	Write a java program to check the equivalence of two objects.	5M	CO3	L2
UNIT-IV					
8	a	Write a java program to add sub package into a package.	5M	CO6	2
	b	Write a Java program to read input from the console using the 'Scanner' class.	5M	CO5	L3
OR					
9	a	Create a File? Implementation of File management in java.	10M	CO4	L4
UNIT-V					
10	a	Explain deadlock with an example.	5M	CO6	L3
	b	What is the primary purpose of using multiple threads in a Java application? Explain with an example program?	5M	CO5	L2
OR					
11	a	What are the main differences between Stack and Vector in Java?	5M	CO6	L4
	b	Explain any five important methods of the String class.	5M	CO5	2

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CODE: A15401T	R23	H.T.No:									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations December 2025

Subject Name: **OPERATING SYSTEMS**

Time: 3 Hours Branch: CSE **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	Define operating system	2M	CO1	L1
	b	List services provided by an operating system	2M	CO1	L1
	c	What is a thread?	2M	CO2	L1
	d	Why use a thread over a process?	2M	CO2	L1
	e	List any two uses of semaphore	2M	CO3	L1
	f	Define critical section.	2M	CO3	L1
	g	What is contiguous memory allocation	2M	CO4	L1
	h	What are the basic functions of operating systems?	2M	CO4	L2
	i	What are the methods for accessing the file?	2M	CO5	L1
	j	Outline the principles of file protection	2M	CO5	L2
PART-B					
UNIT-I					
2	a	Elaborate the operating system operations with examples	5M	CO1	L6
	b	With a neat sketch explain the structure of OS.	5M	CO1	L5
OR					
3	a	Classify and explain different types of system calls.	5M	CO1	L2
	b	Interpret about user and operating-system interface	5M	CO1	L2
UNIT-II					
4	a	Summarize the concept of inter-process communication	5M	CO2	L2
	b	Analyze in detail about thread libraries	5M	CO2	L2
OR					
5	a	Describe about various multithreading models	5M	CO2	L2
	b	What is the importance of multiple processor scheduling	5M	CO2	L1
UNIT-III					
6	a	How readers-writers proLem can be considered as synchronization proLem? Explain its solution with mutex locks	5M	CO2	L1
	b	What are the conditions necessary for a deadlock?	5M	CO2	L1
OR					
7	a	How can you handle deadlocks? Explain with an example	5M	CO3	L1
	b	List any one classical proLems of synchronization and explain in detail	5M	CO3	L1
UNIT-IV					
8	a	Explain demand paging with neat diagrams	5M	CO4	L5
	b	What is the need for HDD scheduling	5M	CO4	L2
OR					
9	a	Discuss the overview of mass storage structure with a neat sketch	5M	CO4	L5
	b	Analyze about virtual memory management	5M	CO4	L4
UNIT-V					
10	a	Compare and contrast the different file allocation methods.	5M	CO5	L2
	b	Interpret about file-system operations with an example	5M	CO5	L5
OR					
11	a	Demonstrate about file concept and directory structure	5M	CO5	L2
	b	Illustrate about file sharing and protection	5M	CO5	L2

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CODE: A14401	R23	H.T.No:									

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech II Year II Semester Regular Examinations May 2025

Subject Name: **PROBABILITY & STATISTICS**

Branch: CSE

Time: 3 Hours **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A

1	a	State the properties of correlation coefficient.	2M	CO1	L1
	b	Define Measures of Dispersion	2M	CO1	L2
	c	A coin is tossed three times. What is the probability that it lands on Heads *exactly* one time?	2M	CO2	L3
	d	If P(A)= 1/3, P(B)= ¾ and P(A∪B)= 11/12 then find P(B/A) and P(A/B).	2M	CO2	L5
	e	If mean and variance of binomial distribution are 4 and 4/3 respectively, then find P[X≥1].	2M	CO3	L4
	f	If X is a Poisson variate such that 2P[X=0]+P[X=2]=2P[x=1],then find its mean.	2M	CO3	L4
	g	What is the test statistic used to test the significance of the difference between sample mean and population mean.	2M	CO4	L1
	h	Define Type I and Type II errors.	2M	CO4	L1
	i	What is use of χ^2- distribution and state the important properties of the χ^2-distribution.	2M	CO5	L2
	j	Give 95% confidence interval of the population mean in terms of the mean and standard deviation of small size sample.	2M	CO5	L1

PART-B

UNIT-I

2	a	Find the correlation coefficient for the following distribution. X: 17 18 19 20 21 22 23 24 25 26 Y: 38 37 38 33 32 33 34 29 26 23	5M	CO 1	L5
	b	Find the regression line of Y on X for the following data. X: 28 33 30 28 12 14 33 Y: 46 52 50 42 45 54 42	5 M	CO 1	L5

OR

3	a	Find the correlation coefficient for the following distribution. X: 78 36 98 25 75 82 90 62 65 39 Y: 84 51 91 60 68 62 86 58 53 47	5M	CO 1	L5
	b	Find the regression line of Y on X for the following data. X: 46 52 56 43 45 43 48 Y: 51 48 49 54 47 48 51	5 M	CO	L5

UNIT-II

4	a	In a bolt factory machines A, B, C manufacture 25%, 35%, and 40% of the total of their output and 5%, 4% and 2% are defective. A bolt is drawn at random and found to be defective. Determine the probabilities that it is manufactured from Machine B.	5M	CO 2	L4
	b	A random variable X has the following probability function x: 1 2 3 4 5 6 7 8 P(x): 1/36 2/36 3/36 4/36 5/36 6/36 7/36 8/36 Find the value of P(x≤2), $P(2 \le x \le 6)$ and $P(x \ge 3)$	5 M	CO 2	L4

OR

5	a	A random variable X has the following probability function X: 0 1 2 3 4 5 6 7 P(x): 0 K 2K 2K 3K K^2 $2K^2$ $7K^2+K$ Determine (i) K (ii) Evaluate P(X≥6) and P(0<X<5) (iii) if P(X≤K)>1/2, find the minimum value of K	5M	CO 2	L4
	b	In a certain college 25% of boys and 10% of girls are studying mathematics. The girls	5M	CO	L3

<table>
<tr><td></td><td></td><td>Constitute 60% of the student body. (a) What is the probability that mathematics is being studied? (b) If a student is selected at random and is found to be studying mathematics, find the probability that the student is a girl?</td><td></td><td>2</td><td></td></tr>
<tr><td colspan="6">UNIT-III</td></tr>
<tr><td rowspan="2">6</td><td>a</td><td>An insurance agent policies of 5 men all of identical age and good in health. The probability that a man of this age will be alive30 years is 2/3. Find the probability that in 30 years.(i) At least one man (ii) Almost three will be alive.</td><td>5M</td><td>CO 3</td><td>L3</td></tr>
<tr><td>b</td><td>In a sample of 1000 cases, the mean of certain test is 14 and standard deviation is 2.5.Assuming the distribution to be normal find (i) how many students score between 12 and 15. (ii) How many students score above 18? (iii) How many students score below 18?</td><td>5M</td><td>CO 3</td><td>L4</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">7</td><td>a</td><td>The number of arrivals of customers during any day follows Poisson distribution with a mean of 5. What is the probability that the total number of customers on two days selected at random is less than 2?</td><td>5M</td><td>CO 3</td><td>L4</td></tr>
<tr><td>b</td><td>If the masses of 300 students are normally distributed with mean 68kgs and standard deviation 3kgs,determine how many students have masses (i) Greater than 72 kg (ii) Less than or equal to 64 kgs (iii) Between 65 and 71kg inclusive</td><td>5 M</td><td>CO 3</td><td>L4</td></tr>
<tr><td colspan="6">UNIT-IV</td></tr>
<tr><td rowspan="2">8</td><td>a</td><td>The mean and standard deviation of a population are 11,795 and 14,054 respectively. Construct 95% confidence about the maximum error if $\overline{x} = 11,75$ and n=50 and also construct a 95% confidence interval for the true mean.</td><td>5M</td><td>CO 4</td><td>L3</td></tr>
<tr><td>b</td><td>A manufacturer of light bulbs claims that on the average 3% of the bulbs manufactured by his firm are defective. A random sample of 400 bulbs contained 15 defective bulbs. On the basis of this sample can you support the manufacturer's claim at 1% level of significance?</td><td>5 M</td><td>CO 4</td><td>L3</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">9</td><td>a</td><td>The mean lifetime of a sample of 150 fluorescent light bulbs produced by a company is computed to be 1580 hours with a standard deviation of 125 hours. If μ is the mean lifetime of all bulbs produced by the company, test the hypothesis μ = 1620 hours against the alternative hypothesis μ < 1620 hours, using a level of significance of 0.05.</td><td>5M</td><td>CO 4</td><td>L4</td></tr>
<tr><td>b</td><td>In a big city 325 men out of 600 men were found to be smokers. Does this information support the conclusion that the majority of men in this city are smokers?</td><td>5 M</td><td>CO 4</td><td>L2</td></tr>
<tr><td colspan="6">UNIT-V</td></tr>
<tr><td rowspan="2">10</td><td>a</td><td>To examine the hypothesis that the husbands are more intelligent than the wives, an investigator took a sample of 10 couples and administered them a test which measures the I.Q. The results are as follows:
<table>
<tr><td>Husbands</td><td>117</td><td>105</td><td>97</td><td>105</td><td>123</td><td>109</td><td>86</td><td>78</td><td>103</td><td>107</td></tr>
<tr><td>Wives</td><td>106</td><td>98</td><td>87</td><td>104</td><td>116</td><td>95</td><td>90</td><td>69</td><td>108</td><td>85</td></tr>
</table>
Test the hypothesis with a reasonable test at the level of significant of 0.05 and also calculate F-test</td><td>5M</td><td>CO 5</td><td>L4</td></tr>
<tr><td>b</td><td>Blood pressure of 5 women before and after intake of a certain drug are given below
<table>
<tr><td>Before</td><td>110</td><td>120</td><td>125</td><td>132</td><td>125</td></tr>
<tr><td>After</td><td>120</td><td>118</td><td>125</td><td>136</td><td>121</td></tr>
</table>
Test whether the significant change in blood pressure at 1% level of significance.
Would you say that the dice are fair on the basis of the chi-square test at 0.05 level of significant?</td><td>5 M</td><td>CO 5</td><td>L4</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td rowspan="2">11</td><td>a</td><td>A sample of 400 items is taken from a population whose standard deviation is 10. The mean of the sample is 40. Test whether the sample has come from a population mean 38.</td><td>5M</td><td>CO 5</td><td>L4</td></tr>
<tr><td>b</td><td>A pair of dice are thrown 360 times and the frequency of each sum is indicated below:
<table>
<tr><td>Sum</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr>
<tr><td>Frequency</td><td>8</td><td>24</td><td>35</td><td>37</td><td>44</td><td>65</td><td>51</td><td>42</td><td>26</td><td>14</td><td>14</td></tr>
</table>
Would you say that the dice are fair on the basis of the chi-square test at 0.05 level of significant?</td><td>5 M</td><td>CO 5</td><td>L4</td></tr>
</table>

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CODE: A1CS405 **R23**

RAVINDRA COLLEGE OF ENGINEERING FOR WOMEN

(AUTONOMOUS)

B.Tech II Year II Semester Supplementary Examinations December 2025

Subject Name: **Software Engineering**

Time: 3 Hours Branch: CSE **Max. Marks: 70**

Instructions:

1. Answer all 10 questions from Part-A. Each question carries two marks
2. Answer one full question from each unit in Part-B. Each full question carries 10 marks

PART-A					
1	a	What is a software life cycle?	2M	CO1	L2
	b	What is the main idea behind the Spiral model?	2M	CO1	L2
	c	Define Software Requirements Specification (SRS).	2M	CO2	L1
	d	Define Software Project Management	2M	CO2	L2
	e	What is a layered arrangement of modules?	2M	CO3	L2
	f	Define user interface.	2M	CO3	L1
	g	Define software documentation.	2M	CO4	L1
	h	What is smoke testing?	2M	CO4	L2
	i	What are CASE tools?	2M	CO5	L2
	j	What are the main goals of software maintenance?	2M	CO5	L2
PART-B					
UNIT-I					
2	a	Compare Waterfall and Agile models.	5M	CO1	L3
	b	Write notes on changes in software practices.	5M	CO1	L3
OR					
3	a	What led to the emergence of software engineering?	5M	CO1	L3
	b	Explain the evolution of software development projects.	5M	CO1	L2
UNIT-II					
4	a	Explain the COCOMO model with its basic types.	5M	CO2	L3
	b	Explain the process of requirements gathering and analysis	5M	CO2	L2
OR					
5	a	Compare and contrast algorithmic and empirical estimation techniques	5M	CO2	L3
	b	Elaborate the steps involved in risk management in software projects.	5M	CO2	L3
UNIT-III					
6	a	Briefly explain the SA/SD methodology and its major components.	5M	CO3	L2
	b	Describe the process of developing a DFD model for a system.	5M	CO3	L3
OR					
7	a	Explain the characteristics of a good user interface.	5M	CO3	L2
	b	Explain the concepts of cohesion and coupling with examples.	5M	CO3	L3
UNIT-IV					
8	a	Explain the importance of coding standards and code review.	5M	CO4	L2
	b	What is Six Sigma? How is it applied in software quality assurance?	5M	CO4	L3
OR					
9	a	Compare black-box testing and white-box testing with examples.	5M	CO4	L3
	b	Discuss the role of a Software Quality Management System (SQMS).	5M	CO4	L2
UNIT-V					
10	a	Discuss the architecture of a CASE environment and its components.	5M	CO5	L3
	b	What is software maintenance cost estimation? How is it performed?	5M	CO5	L3
OR					
11	a	Describe the role of CASE tools in supporting different stages of the software life cycle.	5M	CO5	L2
	b	Discuss the approach to software reuse at the organizational level and its benefits.	5M	CO5	L3

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