

Unit - 26/11



ARKA JAIN
University
Jharkhand



END SEM EXAMINATION
School of Engineering & IT

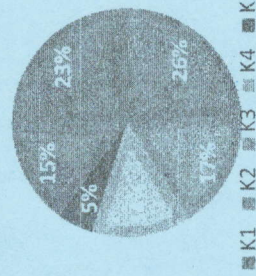
Program	Bachelor of Computer Application	
Subject Name	Enterprise Java	
	Semester	V
	Year	Nov/Dec 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phone</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussion with Co-Student</u> will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 	
Knowledge Level (KL)	K1 : Remembering	K3 : Applying
	K2 : Understanding	K4 : Analysing
		K5 : Evaluating
		K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q. N1	QUESTIONS	Marks	COs
i	Name two class under javax.servlet.http.*;	02	CO1
ii	What is JMS?	02	CO1
iii	Give an advantage of JDBC?	02	CO1
iv	List out 6 parameters used in Cookie?	02	CO2
v	Write the syntax for deleting the Cookie?	02	CO2
vi	List out the session tracking methods?	02	CO2
vii	Write the syntax for the include directive in XML and JSP page?	02	CO3
viii	Give one disadvantage of JSTL?	02	CO3
ix	List out the different types of operator used in an expression?	02	CO4
x	What is ORM?	02	CO4

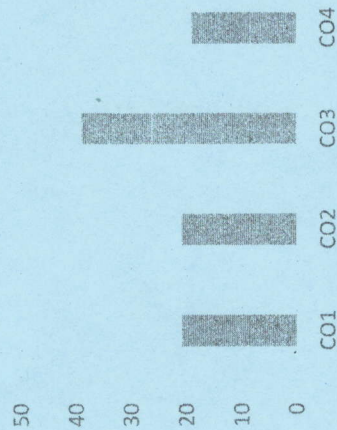
CO1	Identify advance concepts of java programming with database connectivity.
CO2	Design and develop platform independent applications using a variety of component-based frameworks.
CO3	Able to implement the concepts of JSP, JPA, JNDI, Hibernate, XML & EJB for building enterprise applications.
CO4	To learn how to use Java APIs.

GRAPHICAL REPRESENTATION

Bloom's level wise marks distribution



Course Outcome Wise Marks Distribution



Section B (Answer any FOUR out of SIX) - 20 Marks

(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What are the different types of JDBC Drivers?	05	CO1	K1
3	With the Help of the neat diagram explain servlet API?	05	CO4	K2
4	Explain the Lifecycle of HTTP Session?	05	CO2	K3
5	What are the benefits of the EJB?	05	CO3	K2
6	Write the Syntax with an example of how to include other files in JSP using action element?	05	CO3	K6
7	How Does JPA work?	05	CO3	K5

Section C (Answer any THREE out of FIVE) - 30 Marks

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Design a persistence architecture for a simple E-Commerce Application?	10	CO4	K6
9	What are the different types of EJB? With the help of a neat diagram, explain the lifecycle of each type of EJB?	10	CO3	K3
10	List out all the methods used under the following implicit object available in a JSP Page a. Request b. Response c. Out d. Session e. Application f. Config g. page context h. page i. Exception j. Scope	10	CO3	K4
11	HTTP is a stateless protocol. A stateless protocol means that the protocol cannot remember prior connection and thus cannot distinguish one visitor from the another a. Name a protocol that is not stateless b. What are the advantage of the stateless protocol c. What are the disadvantage of the stateless protocol	10	CO2	K2
12	What is Servlet? What Servlets can do?	10	CO1	K1

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Program: Bachelor of Computer Application

Subject Name: Mobile Application Development

Semester: V
Year: Nov/Dec 2024

- Start writing from 2nd page onwards; don't write on the 1st Page Backside
- Answer all Questions of Section A (Compulsory)
- Answer Any Four out of Six of Section B
- Answer Any Three out of Five of Section C

Time: 3 Hour
Max. Marks : 70

- Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will Result in the Cancellation of the Paper(s).

Knowledge Level (KL)

- K1 : Remembering
- K2 : Understanding
- K3 : Applying
- K4 : Analysing
- K5 : Evaluating
- K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x – 20 Marks)

Q. N	QUESTIONS	Marks	COs	KL
1				
i	What is android?	02	CO1	KL1
ii	Define Action Bar.	02	CO3	KL3
iii	Give the full form of SDK.	02	CO2	KL2
iv	What is notification?	02	CO1	KL2
v	Define Implicit Intent.	02	CO1	KL3
vi	What is the use of Toast?	02	CO1	KL2
vii	When to use Popup menu.	02	CO2	KL4
viii	Define android.widget and android.view package.	02	CO1	KL3
ix	Why we use bindService() method?	02	CO1	KL2
x	Why to use SSLSocketClass to implement authentication.	02	CO2	KL5

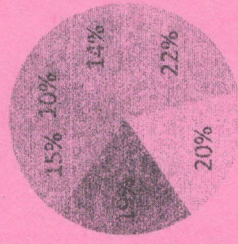
Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	What is android? With neat diagram, explain the components of android stack.	05	CO3	KL2
3	Define layout and types of layout with a proper diagram.	05	CO1	KL3

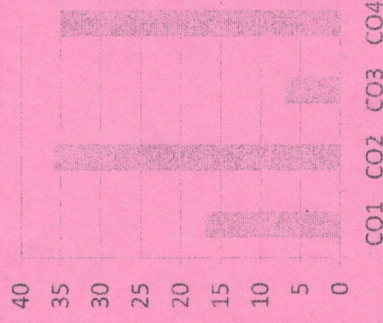
CO1	Understand and demonstrate Android activities life cycle.
CO2	Build their own Android applications.
CO3	Explain the differences between Android and other mobile development environments.
CO4	Secure, tune, package and deploy Applications.
Course Outcomes	

GRAPHICAL REPRESENTATION

Bloom level wise marks distribution



Course Outcome wise marks distribution



4	Explain radio buttons designing along with onRadioButtonClicked() method.	05	CO2	KL5 KL6
5	Differentiate between shared performance and saved instance state.	05	CO2	KL5, KL6
6	What is the Broadcast Intent? Explain two types of Broadcast Intent.	05	CO4	KL3
7	Explain the designing of checkboxes? Along with onsubmit() method implementation.	05	CO2	KL6, KL1

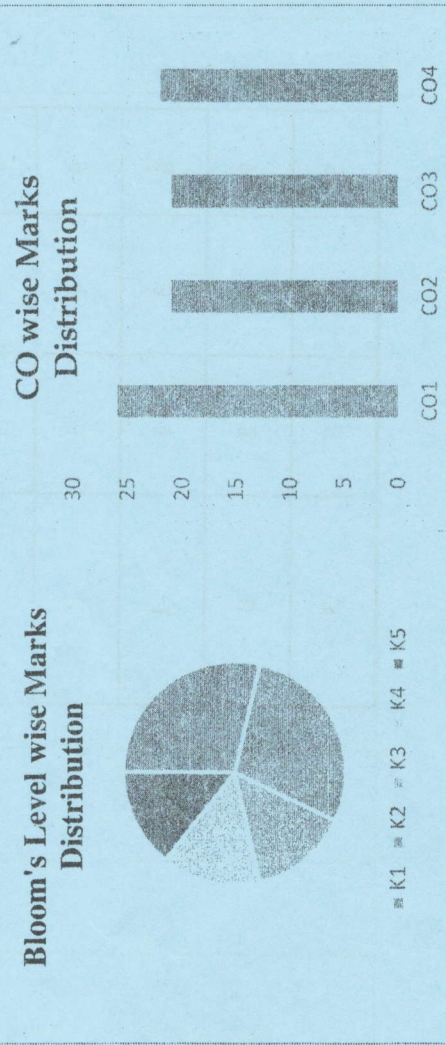
Section C (Answer any THREE out of FIVE) - 30 Marks
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	What is Android Input Control? List and define its types with neat diagram.	10	CO4	KL3, KL2
9	Define Permissions. Explain how to request permission. How do you grant and revoke permissions?	10	CO2	KL4, KL1
10	What is AsyncTask? With a neat diagram, explain the steps for execution of AsyncTask. List out the limitation of AsyncTask.	10	CO4	KL4, KL3
11	What is Service? How do you implement started service and bound services? Explain the types of services.	10	CO4	KL5, KL6
12	What do you mean by focus? Differentiate between clickable and focusable attributes. Explain the algorithm used for focus movement.	10	CO2	KL4, KL5

Program	Bachelor of Computer Application	
Subject Name	Design and analysis of experiments	Semester Year V Nov/Dec 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u> 	
Knowledge Level (KL)	K1: Remembering K2: Understanding	K3: Applying K4: Analysing K5: Evaluating K6: Creating

Q.N	QUESTIONS	Marks	COs	KL
1				
i	What is the main goal of randomization in experimental design?	2	CO2	K1
ii	What is the function of a control group in an experiment?	2	CO1	K2
iii	How many factors are examined in a two-way ANOVA?	2	CO3	K2
iv	What is ANOVA used for in experiments?	2	CO4	K1
v	Why is replication important in an experiment?	2	CO1	K1
vi	What is the purpose of blocking in experimental design?	2	CO2	K2
vii	What does a p-value represent in hypothesis testing?	2	CO3	K3
viii	What is a confounding variable in an experiment?	2	CO1	K1
ix	What is the purpose of using a factorial design?	2	CO2	K2
x	What is the key assumption of a completely randomized design?	2	CO3	K1

CO- Course Outcomes,	KL- Knowledge Level,	PO - Program Outcome
CO1	Describe how to design experiments, carry them out, and analyze the data they yield.	
CO2	Understand the process of designing an experiment including factorial and fractional factorial designs.	
CO3	Examine factorial design to allow cost reduction, increases efficiency of experimentation, and reveals the essential nature of a process.	
CO4	Investigate the logic of hypothesis testing, including analysis of variance and the detailed analysis of experimental data.	



Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	How does analysis of variance (ANOVA) extend the comparison of means from two groups to multiple groups?	5	CO1	K1
3	Outline the key steps involved in designing and conducting a scientific experiment.	5	CO2	K1
4	How do you use the S/N ratios to assess the effect of control and noise factors on the response variable?	5	CO3	K2
5	Discuss the assumptions underlying the analysis of variance (ANOVA) technique.	5	CO4	K2
6	Explain the main effects in factorial designs. How do main effects help in understanding the individual influence of each factor on the response variable?	5	CO1	K1
7	What is Response Surface Methodology (RSM) and what role does it play in experimental design and optimization?	5	CO4	K2

Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL																				
8	Outline the steps involved in analyzing experimental data obtained from factorial designs or orthogonal arrays. How are analysis of variance (ANOVA) and graphical tools used to interpret results and draw conclusions?	10	CO2	K2																				
9	Fill in the missing entries of the partially completed one-way ANOVA table.	10	CO3	K5																				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Source</th> <th>df</th> <th>SS</th> <th>MS=S S/df</th> <th>F statistic</th> </tr> </thead> <tbody> <tr> <td>Treatments</td> <td>?</td> <td>3.12</td> <td>0.908</td> <td>.75</td> </tr> <tr> <td>Error</td> <td>25</td> <td>?</td> <td>?</td> <td></td> </tr> <tr> <td>Total</td> <td>?</td> <td>?</td> <td></td> <td></td> </tr> </tbody> </table>	Source	df	SS	MS=S S/df	F statistic	Treatments	?	3.12	0.908	.75	Error	25	?	?		Total	?	?					
Source	df	SS	MS=S S/df	F statistic																				
Treatments	?	3.12	0.908	.75																				
Error	25	?	?																					
Total	?	?																						
10	Write a short note on: 1. Taguchi's methodology. 2. Response Surface Methodology (RSM)	10	CO1	K1																				
11	What advantages does a fractional design offer in terms of reducing the number of experimental runs?	10	CO4	K3																				

12. A trial was run to check the effects of different diets. Positive numbers indicate weight loss and negative numbers indicate weight gain. Check if there is an average difference in the weight of people following different diets using an ANOVA Table.

	Low Fat	Low Calorie	Low Protein	Low Carbo-hydrate
8	2	3	2	2
9	4	5	4	2
6	3	4	3	-1
7	5	2	5	0
3	1	3	1	3

12

10

CO3

K4

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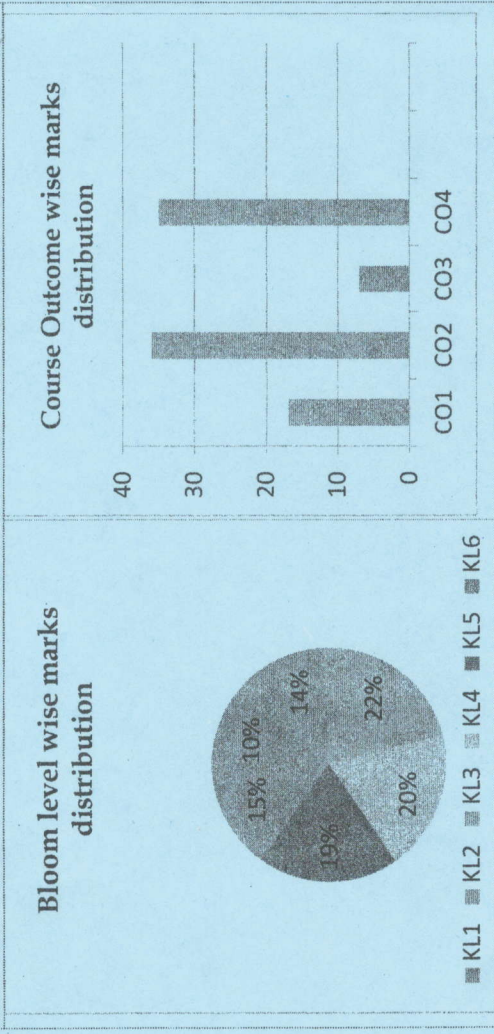
NAAC GRADE A
ACCREDITED UNIVERSITY

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School of Engineering & IT

Program	Bachelor of Computer Application	
Subject Name	Business Intelligence	Semester V
		Year Nov/Dec 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> • Start writing from 2nd page onwards; don't write on the 1st Page Backside • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Three out of Five of Section C • Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Paper(s)</u>. 	
Knowledge Level (KL)	K1 : Remembering	K3 : Applying
	K2 : Understanding	K4 : Analysing
		K5 : Evaluating
		K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q. N1	QUESTIONS	Marks	COs
i	What do you mean by effective and timely decisions in the Business Intelligence system?	2	CO1
ii	What is the role of mathematical models in Business Intelligence?	2	CO4
iii	How many phases are involved in DSS?	2	CO1, CO2
iv	Draw the development process of the model.	2	CO1, CO2
v	What do you mean by Data Mining?	2	CO1
vi	What is classification model	2	CO1
vii	What is Clustering in BI?	2	CO2
viii	What do you mean by Neural networks?	2	CO1
ix	What is relational marketing?	2	CO4
x	What are the key activities involved in Knowledge Management?	2	CO3

CO- Course Outcomes,	KL- Knowledge Level,	PO - Program Outcome
CO1	Explain the foundations, definitions, and capabilities of DSS, data analytics and BI.	
CO2	List the definitions, concepts, and architectures of data warehousing.	
CO3	Demonstrate the impact of business reporting, information visualization, and dashboards.	
CO4	Outline the definitions, concepts, and enabling technologies of Business Intelligence.	



Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 05 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
2	Discuss how BI can be integrated with DEA to identify efficiency gaps in an organization.	05	CO4	KL2
3	Draw and explain the basic components of the DSS model.	05	CO3	KL4
4	What are the key similarities and differences between human intelligence and AI?	05	CO2	KL2
5	Draw and explain the flow diagram of the classification algorithm.	05	CO3	KL4
6	What are the components of Relational Marketing Strategy? Draw & Explain.	05	CO2	KL1
7	What role does Information Technology (IT) play in Knowledge Management?	05	CO1	KL2

Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL
8	Draw and explain the mathematical model for the decision making system. Also write about its importance.	10	CO4	KL2
9	Draw and explain the Lifecycle of the Business Intelligence system.	10	CO2	KL1
10	What are the development phases of a classification model? Explain with the required diagram	10	CO4	KL4,
11	The table below represents the training data set with two columns – Brightness and Saturation. Each row in the table has a class of either Red or Blue.	10	CO4	KL5,

Brightness	Saturation	Class
40	20	Red
50	50	Blue
60	90	Blue
10	25	Red
70	70	Blue
60	10	Red

25	80	Blue
The New Data Set is		
Brightness	Saturation	Class
40	30	?
Find its class using KNN Algorithm.		
12	What do you understand from Data Preparation/Pre-processing? What are the common steps in data pre-processing used? Explain.	
	10	CO2
		KL3



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Program	Bachelor of Computer Application	
Subject Name	Exploratory Data Analysis and Data Visualisation Techniques	Semester V
		Year Nov/Dec 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under <u>Unfair Means</u> and will result in the Cancellation of the Paper(s). 	
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x) - 20 Marks			
Q. N1	QUESTIONS	Marks	COs KL
i	What is the primary goal of Exploratory Data Analysis (EDA)?	2	CO3 K4
ii	Name two types of visualizations commonly used in EDA.	2	CO1 K2
iii	What is the purpose of a box plot in EDA?	2	CO3 K5
iv	What does the term "outlier" refer to in data analysis?	2	CO2 K2
v	What is the significance of using a scatter plot in EDA?	2	CO1 K4
vi	Name one method for detecting multi collinearity in a dataset.	2	CO2 K5
vii	Why is data scaling important in EDA?	2	CO1 K4
viii	Which method is commonly used to reduce the dimensionality of a dataset?	2	CO1 K3
ix	How can you visualize relationships between multiple variables in EDA?	2	CO4 K2
x	What is the difference between Bivariate and Multivariate analysis?	2	CO3 K1

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question Carry 5 Marks)

Q. No	QUESTIONS	Marks	COs	KL												
2	How do you handle missing and inconsistent data during EDA?	5	CO4	K2												
3	How do you visualize time series data in R?	5	CO2	K4												
4	What is Alphabetical Graphical Techniques?	5	CO3	K2												
5	Calculate the coefficient of covariance of the given data. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>2</td> <td>8</td> <td>13</td> <td>20</td> <td>25</td> </tr> <tr> <td>y</td> <td>5</td> <td>15</td> <td>21</td> <td>35</td> <td>41</td> </tr> </table>	x	2	8	13	20	25	y	5	15	21	35	41	5	CO2	K3
x	2	8	13	20	25											
y	5	15	21	35	41											
6	Explain Consequences.	5	CO1	K5												
7	What is a ggplot2 in R? Explain it.	5	CO4	K3												

Section C (Answer any THREE out of FIVE) – 30 Marks
(Each question Carry 10 Marks)

Q. No	QUESTIONS	Marks	COs	KL														
8	Calculate the correlation coefficient of the given data. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>5</td> <td>10</td> <td>15</td> <td>20</td> <td>25</td> <td>30</td> </tr> <tr> <td>y</td> <td>16</td> <td>27</td> <td>45</td> <td>52</td> <td>65</td> <td>70</td> </tr> </table>	x	5	10	15	20	25	30	y	16	27	45	52	65	70	10	CO1	K5, K6
x	5	10	15	20	25	30												
y	16	27	45	52	65	70												
9	Write an R program to calculate correlation coefficient. Describe the different graphical techniques based on problem categories.	10	CO2	K2														
10	What is the purpose of conducting case studies in Exploratory Data Analysis (EDA)? Explain the concept of a random walk and its significance in data analysis.	10	CO3	K1														
11	Explain the 4Plot in Exploratory Data Analysis (EDA). How can 4Plot be used to detect outliers in a dataset?	10	CO4	K5, K6														
12	What is Exploratory Data Analysis (EDA)? How does EDA differ from Classical and Bayesian data analysis methods?	10	CO1	K1														

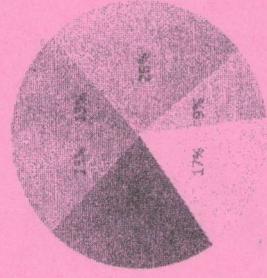
CO- Course Outcomes, **KL-** Knowledge Level, **PO** – Program Outcome

Course Outcomes	CO1	Choose and apply the most suitable techniques for exploratory data analysis
	CO2	Map out the hidden underlying structure of the data
	CO3	Detect anomalies and missing data
	CO4	Demonstrate strong skills in using visualization techniques for analysis and communication

GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution

Course Outcome wise marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5



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END SEM EXAMINATION
School of Engineering & IT

Program	Bachelor of Computer Application	
Subject Name	Digital Image Processing	
	Semester	V
	Year	Nov/Dec 2024
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> • Start writing from 2nd page onwards; don't write on the 1st Page Backside • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Three out of Five of Section C • Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will result in the Cancellation of the Paper(s). 	
Knowledge Level (KL)	K1 : Remembering	K3 : Applying
	K2 : Understanding	K4 : Analysing
	K5 : Evaluating	K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to x - 20 Marks)			
Q. N	QUESTIONS	Marks	KL
1			
i	What do you mean by Image Restoration?	02	CO3 K4
ii	What are order statistics filters?	02	CO1 K2
iii	What are notch filters	02	CO3 K3
iv	What are the benefits of DIP?	02	CO2 K3
v	What are the fundamental steps in DIP?	02	CO1 K1
vi	What is gray level transformation?	02	CO2 K1
vii	What is log transformation in the context of gray level transformations	02	CO1 K2
viii	What is the significance of detecting discontinuities in image segmentation?	02	CO3 K3
ix	What are the importance of the 2D Fourier Transform in analyzing and filtering images?	02	CO4 K3
x	What are the practical applications of Fourier transforms in image noise reduction and restoration?	02	CO1 K2

QUESTIONS		Marks	COs	KL
2	Describe the process of creating a histogram for a grayscale image. What information does the histogram provide?	05	CO1	K2
3	Describe the process of image sensing and acquisition. What are the typical devices used in this process?	05	CO2	K3
4	What do you mean by Image Restoration? How degradation occurs in digital image processing?	05	CO4	K3
5	How do mean filters work in reducing noise in an image? Provide an example of when a mean filter might be used.	05	CO3	K4
6	How does the convolution operation work in image filtering, and what is its significance?	05	CO2	K5
7	Provide an example of a linear integral transform and its application to image manipulation.	05	CO4	K1

Section C (Answer any THREE out of FIVE) - 30 Marks

QUESTIONS		Marks	COs	KL
8	Describe the Wiener filtering technique and band Salt-Pepper Filter in DIP. How does it differ from other noise reduction methods?	10	CO2	K2
9	How does contrast stretching work in gray level transformations? Illustrate with an example.	10	CO4	K3
10	What is morphological processing, and how is it applied in image segmentation?	10	CO1	K3
11	Explain how DCT works and why it is commonly used in JPEG compression.	10	CO4	K4
12	Why is image compression necessary in digital image processing?	10	CO2	K5

CO1	Understand the various concepts, terminologies of digital image processing.
CO2	Understand the application areas of digital image processing
CO3	Realize the revolution of Image Processing in Digital era.
CO4	Use various techniques of image processing.

GRAPHICAL REPRESENTATION

