

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch – COMPUTER SCIENCE

HUMAN COMPUTER INTERACTION

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Question No.	Question	K Level	CO
1	The users are assumed to know little of the tasks is a) Novice user b) Knowledgeable user c) Expert user d) Macro user	K1	CO1
2	The creation of a guidelines document engages the design community in a lively discussion of a) software devices b) Input format c) graphics design d) summary format	K2	CO1
3	The design process is neither strictly bottom-up nor strictly top-down as a) hierarchical b) non-hierarchical c) vertical d) non-vertical	K1	CO1
4	The example of input device is a) Monitor b) Speaker c) Pointing device d) Printer	K2	CO1
5	The most word processors have labeled icons for frequent action in a) Tool bar b) Menu bar c) Status bar d) Work bar	K1	CO1
6	CAM Stands for a) Computer Aided Manufacturing b) Computer Admin Maintenance c) Computer Access Marketing d) Computer Align Mainframe	K2	CO1
7	LEDs to signal the status of the key is a) Tab b) Num lock c) Enter d) Backspace	K1	CO1
8	The direction may simply rotate a symbol on the screen, indicate a direction of motion for a spaceship is a) Select b) Position c) Orient d) Path	K2	CO1
9	The unmatched parenthesis error is a) Syntax b) Illegal Entry c) Invalid data d) Bad File name	K1	CO1
10	Number of filled character spaces as a percentage of total space available in a) Overall density b) Local density c) Global density d) Average density	K2	CO1

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Explain the usability goals and measures in human factors.	K2	CO1
	(OR)		
11.b.	Illustrate about universal usability.	K3	CO2
12.a.	Apply the four pillars of design in managing process.		
	(OR)		
12.b.	Utilize and explain the various usability testing and laboratories in interface design.	K3	CO2
13.a.	Make use of 3D interfaces to Virtual environments.		
	(OR)		
13.b.	Identify the combination of multiple menus and explain with example.	K4	CO3
14.a.	Distinguish between Keyboards and keypads.		
	(OR)		
14.b.	Categorize the pros and cons of face to face interfaces.	K4	CO3
15.a.	Examine the various error message.		
	(OR)		
15.b.	Categorize the different types of colors.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Question No.	Question	K Level	CO
16	Analyze the role of the following principles Recognize diversity, Golden rules, and Prevent errors.	K4	CO3
17	Classify the importance of Active use.	K4	CO3
18	Explain the form fill-in and dialog boxes.	K5	CO4
19	Interpret about the asynchronous distributed interfaces.	K5	CO4
20	Create a web page for e-quiz.	K6	CO5

Z-Z-Z

END

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch – COMPUTER SCIENCE

PYTHON AND R PROGRAMMING FOR DATA SCIENCE

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What are the four Vs of big data? a) Validity, Valiant, Vast, Vitality b) Volume, Velocity, Variety, Vercacity c) Valorous, Velocity, Valuable, Volume d) Velocity, Validity, Vast, Valiant	K1	CO1
	2	How many windows the Rstudio environment has a) 5 b) 4 c) 6 d) 2	K1	CO1
2	3	When the value of a variable can be measured, what is it called? a) Categorical Variable b) Continuous Variable c) Unstructured data d) Structured data	K1	CO1
	4	What type of plot can be drawn to clearly identify outliers? a) Histogram b) Bar plot c) Box plot d) line plot	K1	CO1
3	5	In _____, each bar is divided into the number of parts based on the categorical variable on the x-axis. a) Group bar chart b) Blended bar chart c) Stacked bar chart d) Piled bar chart	K2	CO2
	6	Each Pie in the Pie chart depicts _____ of each category. a) Average b) Minimum c) Maximum d) Proportion	K2	CO2
4	7	Which variable is influenced by the independent variable? a) Dependent Variable b) Numeric Variable c) String Variable d) list Variable	K2	CO2
	8	Which of the following is a collection of documents in a software – readable format? a) Document frequency matrix b) Corpus c) Text cloud d) Document term matrix	K2	CO2
5	9	_____ is a subset of AI. a) Human Intelligence b) Deep Intelligence c) Deep learning d) Reinforcement learning	K2	CO2
	10	A _____ layer carries out the down sampling to speed up computation. a) Convolutional b) Pooling c) Fully Connected d) Partially connected	K2	CO2

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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the types of Analytics.	K3	CO1
	(OR)			
	11.b.	Write a Python program that accepts a word from the user and reverse it.		
2	12.a.	Develop R code to implement various from of Visualization.	K3	CO1
	(OR)			
	12.b.	Explain the concept of outliers with a example.		
3	13.a.	Explain the application of Contour plot.	K2	CO2
	(OR)			
	13.b.	Demonstrate the use of seaborn library for joint, pair plots.		
4	14.a.	Analyze the use web analytics.	K4	CO3
	(OR)			
	14.b.	Examine the concept of sentiment analysis.		
5	15.a.	Analyze the usage of applications in AI.	K5	CO5
	(OR)			
	15.b.	Categorize the difference between deep learning and ML.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the Python operators and library functions with suitable examples.	K4	CO5
2	17	Analyze the basic steps in data preprocessing.	K4	CO5
3	18	Discuss about the simple data visualization using R.	K5	CO5
4	19	Elaborate the concept of unstructured data in text analytics with example.	K6	CO5
5	20	Discuss about CNN in AI with suitable real time examples.	K6	CO5

Z-Z-Z

END

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - **COMPUTER SCIENCE**
DATA MINING AND ANALYTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following can be considered as the correct process of Data Mining? a. Infrastructure, Exploration, Analysis, Interpretation, Exploitation b. Exploration, Infrastructure, Analysis, Interpretation, Exploitation c. Exploration, Infrastructure, Interpretation, Analysis, Exploitation d. Exploration, Infrastructure, Analysis, Exploitation, Interpretation	K1	CO1
	2	The primary use of data cleaning is: a. Removing the noisy data b. Correction of the data inconsistencies c. Transformations for correcting the wrong data d. All of the above	K2	CO1
2	3	Total fact table the star schema is composed of ____? a. 4 b. 3 c. 2 d. 1	K1	CO2
	4	What does OLTP stand for? a. Offline transaction processing b. Online transaction processing c. Outline traffic processing d. None	K2	CO2
3	5	A collection of one or more items is called as ____ a. Itemset b. Support c. Confidence d. Support Count	K1	CO3
	6	An itemset whose support is greater than or equal to a minimum support threshold is ____ a. Itemset b. Frequent Itemset c. Infrequent items d. Threshold values	K2	CO3
4	7	Which clustering algorithm does not require specifying the number of clusters in advance? a. K-Means b. DBSCAN c. Agglomerative d. Mean-Shift	K1	CO4
	8	Which clustering algorithm is sensitive to the order of the data points? a. K-Means b. DBSCAN c. Agglomerative d. Mean-Shift	K2	CO4
5	9	Data Analytics uses ____ to get insights from data. a. Statistical figures b. Numerical aspects c. Statistical methods d. None of the mentioned above	K1	CO5

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	10	_____ predict and recommend how best to achieve those results by analyzing data from previous event. a.Diagnostic analytics b. Descriptive analytics c. Predictive analytics d.Prescriptive analytics	K2	CO5
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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Compare and contrast characterization and discrimination of data mining task primitives.	K2	CO1
		(OR)		
	11.b.	Identify various tasks of data cube aggregation in data reduction.		
2	12.a.	Inspect how will you convert tables and spreadsheets to a data cube.	K4	CO2
		(OR)		
	12.b.	Differentiate Star, Snowflakes and Fact constellation schemas.		
3	13.a.	Discuss in detail the apriori algorithm with an example.	K2	CO3
		(OR)		
	13.b.	Compare and contrast classification and prediction method.		
4	14.a.	List and discuss the requirements of clustering in data mining.	K4	CO4
		(OR)		
	14.b.	List and discuss the parameters required for DBSCAN?		
5	15.a.	Differentiate descriptive and diagnostic data analytics with suitable examples.	K4	CO5
		(OR)		
	15.b.	Distinguish Predictive and Prescriptive data analytics with suitable examples.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Develop and design the steps in the process of Knowledge Discovery and explain the architecture of data mining.	K6	CO1
2	17	Explain the data warehouse architecture with suitable diagram.	K5	CO2
3	18	How to improve the efficiency of the Apriori Algorithm? Explain in detail.	K5	CO3
4	19	Explain in detail the CLARANS clustering algorithm.	K5	CO4
5	20	Elaborate the purpose and use of data analytics in the field of agriculture and telecommunication industry.	K6	CO5

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - COMPUTER SCIENCE

METaverse – NEAR FUTURE TECHNOLOGIES

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Question No.	Question	K Level	CO
1	The future of the internet is a) Metaverse b) Malware c) Malicious d) cyber space	K1	CO1
2	The example of VR Application is a) Food Labeling b) Home decoration c) Financial assistants d) Real estate tour	K2	CO1
3	If a digital concert ticket can be programmed with unique id and stored in a) Android b) block chain c) AI Framework d) open sea	K1	CO1
4	In block chain node refers to a) Computer Network b) Cyber Network c) Centralized Network d) Decentralized Network	K2	CO1
5	The first NFT Quantum was created by a) Satoshi Nakamoto b) Anil Dash and Kevin McCoy c) Neal Stephenson d) Stylianos Mystakidis	K1	CO1
6	NFT stands for a) Non-Forensic Tokens b) Non-Flexible Tokens c) Non-Futuristic Tokens d) Non-Fungible Tokens	K2	CO1
7	Immersive gaming environments with realistic as a) Graphics b) Ball motion c) Multimedia d) AI rotate	K1	CO1
8	The virtual property tours with in Real Estate visualization for high-end experience for a) 1D b) 2D c) 3D d) Panoramic view	K2	CO1
9	The need of Generative AI is a) Creativity b) Flexible c) Scalable d) Truthful	K1	CO1
10	The Google bard is said to be better for a) Learning b) e-port c) Research d) Chat	K2	CO1

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 × 7 = 35)

Question No.	Question	K Level	CO
11.a.	Summarize the seven layers of metaverse value chain technology.	K2	CO1
	(OR)		
11.b.	Explain about working principles of Mixed Reality.		
12.a.	Construct the overview of blockchain.	K3	CO2
	(OR)		
12.b.	Apply the concept of crypto currency in MV.		
13.a.	Identify the benefits of NFTs.	K3	CO2
	(OR)		
13.b.	Build to buy and sell an NFT in opensea.		
14.a.	Analyze the role of virtual learning in Metaverse.	K4	CO3
	(OR)		
14.b.	Classify the digital identity in Metaverse.		
15.a.	Categorize the tasks and goals of ChatGPT.	K4	CO3
	(OR)		
15.b.	Examine the methods for integrating ChatGPT.		

SECTION - C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Distinguish between AR and VR.	K4	CO3
17	Analyze the various NFT tokens standards.	K4	CO3
18	Evaluate twitter and NFT.	K5	CO4
19	Justify different types e-commerce in Metaverse.	K5	CO4
20	Discuss ethical uses of AI Technologies.	K6	CO5

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
MSc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch - COMPUTER SCIENCE

FULL STACK WEB DEVELOPMENT

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What is the primary purpose of the Internet? A) To connect different types of media B) To provide a global network for data exchange C) To manage domain names D) To create web pages	K1	CO1
	2	_____ is the purpose of the POST HTTP method. A) Retrieve data from the server B) Submit data to be processed by the server C) Update a resource on the server D) Delete a resource from the server	K2	CO1
2	3	What is the primary purpose of HTML? A) To provide a programming language for web applications B) To define the structure and content of web pages C) To create server-side applications D) To manage network protocols	K1	CO2
	4	Show the correct function of JavaScript from the following. A) Functions cannot return values B) Functions are used to perform actions and can return values C) Functions must always have parameters D) Functions in JavaScript are only used for mathematical operations	K2	CO4
3	5	How do you execute a Perl program locally from the command line? A) perl run program.pl B) run program.pl C) execute program.pl D) perl program.pl	K1	CO5
	6	Outline how to read user input from the standard input in Perl. A) input() B) read() C) scanf() D) <>	K2	CO5
4	7	What is the primary purpose of a relational database? A) To store data in a hierarchical structure B) To allow data to be organized in tables and establish relationships between them C) To manage user interfaces D) To perform statistical analysis on data	K1	CO4
4	8	Explain the method to create a Data Source Name (DSN) for MS Access in Windows. A) Use the ODBC Data Source Administrator to configure a new DSN with MS Access driver B) Edit the registry directly to create a DSN C) Create a new DSN in the MS Access application interface D) Write a Perl script to generate a DSN	K2	CO4
5	9	Which PHP tag is used to start a PHP script? A) <!--PHP B) <php> C) <?php D) <!php>	K1	CO4

Cont...

5	10	_____ is the main purpose of a Document Type Definition (DTD) in XML. A) To format XML data B) To validate the structure and rules of XML documents C) To style XML content D) To transform XML data into HTML	K2	CO5
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SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the primary function of the Domain Name System (DNS).	K5	CO1
		(OR)		
	11.b.	Explain Uniform Resource Locator (URL) and its key components.		
2	12.a.	Determine the Markup and its important in web development.	K5	CO2
		(OR)		
	12.b.	Explain JavaScript Conditional Statements, and its uses.		
3	13.a.	List Scalar variables in Perl, and discover how they are used.	K4	CO5
		(OR)		
	13.b.	List some useful built-in functions in Perl.		
4	14.a.	Examine tables and relational data and analyze how they form the foundation of databases.	K4	CO4
		(OR)		
	14.b.	Classify DDL Queries with example.		
5	15.a.	Discuss about PHP and elaborate how it is used in web development.	K6	CO5
		(OR)		
	15.b.	Discuss about ASP and elaborate how it differs from PHP.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain the basic structure of the internet and how it facilitates global communication. Discuss the role of key components such as servers, clients, IP addresses, DNS, and ISPs in enabling data transmission over the internet.	K5	CO1
2	17	Discuss the fundamentals of JavaScript and Provide examples of each concept and explain their importance in the context of web development.	K6	CO2
3	18	Examine the process of creating a Perl script, running it from the command line, and handling common issues that may arise. Provide an example of a simple Perl program that uses scalar variables, performs basic operations, and demonstrates numeric and string contexts.	K4	CO5
4	19	Discover the three-tier architecture in web applications. Analyze your explanation with a use case scenario of an e-commerce application and how data flows between these layers.	K4	CO4
5	20	Explain the fundamentals of PHP as a server-side scripting language. How does PHP handle form data, and what are the essential functions used for file handling, session management, and error handling in PHP? Provide examples for each concept, and discuss how PHP is used to interact with databases.	K5	CO4

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Second Semester)

Branch - COMPUTER SCIENCE

DIGITAL MARKETING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	_____ consists of preselected visitors arriving at a website who have already expressed an interest in the site's subject. A. Targeted Traffic B. Digital marketing targeting C. Content Marketing D. Email Marketing	K1	CO1
	2	Which of the following is a type of digital marketing activity? A. Email marketing B. Social web marketing C. Viral marketing D. All of the above	K2	CO2
2	3	Search engine optimization (SEO) is an effective method for _____ the ranking of websites in search engine results. A. Increasing B. Decreasing C. Lowering D. None	K1	CO3
	4	_____ provides access to information available on the internet by serving as private locations on the internet. A. Search Engines B. Portals C. Algorithms D. Domain name	K2	CO2
3	5	Which of the following is valuable in increasing a page rank? A. Paying for placement B. Static content C. Quantity of links from other highly ranked pages to your site D. None of the above	K1	CO3
	6	What are the three important terms of AdWords? A. Quality Score, Maximum Bid, and Budget B. Quality Score, Impression Rate, and Budget C. Cost Per Click, Cost Per Impression, or Cost Per Conversion. D. Maximum Bid, Impression Rate, and Cost Per Conversion	K2	CO4
4	7	What are organic search results? A. Results based on content and keyword relevancy, free of commercial investment B. Results organized by how often the search term is used outside the internet C. Results free of intentional keyword optimization D. Results based on originality of content	K1	CO5
	8	In the email campaign, _____ delivers the advertisements into the group of targeted customers. A. Spoofing B. Indirect email marketing C. Direct email marketing D. Spamming	K2	CO5
5	9	What is an ad group? A. An ad group is a collection of related keywords and ads B. An ad group is a collection of related ads. C. An ad group is a collection of related campaign settings and ads D. An ad group is a library of your ads grouped by category	K1	CO4

Cont...

5	10	Which of the following tools allows you to track page views, unique visitors and conversion statistics? A. Google AdWords B. Alexa C. Google Analytics D. WordPress	K2	CO3
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SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	How can you categorize Digital marketing?	K3	CO1
	(OR)			
	11.b.	Discuss the role of social media in digital marketing.		
2	12.a.	Choose the most effective ways to increase traffic to your website.	K3	CO2
	(OR)			
	12.b.	Compare on-page and off-page optimization.		
3	13.a.	Define Search Engine Optimization in detail.	K3	CO3
	(OR)			
	13.b.	Discuss about different advertising formats.		
4	14.a.	Explain Content marketing.	K4	CO4
	(OR)			
	14.b.	Examine the advantages and disadvantages of Facebook marketing.		
5	15.a.	What are Google Ads? Explain the importance of Google Ads in digital marketing.	K4	CO5
	(OR)			
	15.b.	Explain Affiliate marketing.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Discuss various emerging trends in digital marketing in Indian context.	K3	CO1
2	17	What do you understand about Search Engine Optimization (SEO)? Explain important features of SEO.	K4	CO2
3	18	Discuss in detail about Instagram Marketing. Write the strategy to promote business on Instagram.	K6	CO5
4	19	Explain display advertising techniques. Discuss different types of display advertising techniques.	K4	CO3
5	20	Explain Google AdWords Remarketing.	K6	CO4

Z-Z-Z END

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch - COMPUTER SCIENCE

DESIGN THINKING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What is persona in Design thinking? a) A fictional character representing a user group b) A project timeline c) The final project design d) A team leader	K1	CO1
	2	Which design thinking phase involves selecting the most promising ideas and further? a) Define b) Ideation c) Prototype d) Test	K2	CO2
2	3	What is the purpose of 'Brainstorming' in the Ideation phase? a) To solve specific problems b) To develop a deep understanding of users c) To generate as many ideas as possible without judgment d) To evaluate the feasibility of solutions	K1	CO1
	4	Which tool is commonly used during the "Define" phase of Design Thinking? a) Mind Maps b) Customer Journey Maps c) Brainstorming d) SWOT Analysis	K2	CO2
3	5	Being an experimental phase, continuous iterations can take place here, which phase it refers to? a) Define b) Empathize c) Prototype d) Test	K1	CO1
	6	What is a key benefit of using Agile in a virtual collaboration environment? a) Rigid deadlines b) Flexibility in responding to changes c) Reduced interaction between team members d) Increased bureaucracy	K2	CO2
4	7	What is DT in strategic innovation primarily refer to? a) Decision Trees b) Decision Theory c) Development Timeline d) Disruptive Technology	K1	CO1
	8	During the "Ideation" phase, which technique is often used to generate innovative ideas? a) Mind mapping b) SWOT analysis c) Brainstorming d) Competitive analysis	K2	CO2
5	9	Which of the following best describes the mindset encouraged in a Design Thinking workshop? a) Linear and structured b) Customer-centric and iterative c) Profit-focused and hierarchical d) Risk-averse and data-driven	K1	CO1
	10	Which of the following is the correct sequence of stages in the Design Thinking process? a) Empathize, Define, Ideate, Prototype, Test b) Define, Prototype, Empathize, Test, Ideate c) Ideate, Define, Empathize, Prototype, Test d) Prototype, Test, Ideate, Define, Empathize	K2	CO2

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Explain the Research stage in the design process.	K6	CO5
	(OR)			
	11.b.	Explore presentation signers across the globe.		
2	12.a.	What is refinement thinking in images? Explain about the presentation ideas, brainstorming in idea generation.	K6	CO5
	(OR)			
	12.b.	Discuss on the Empathy for Design in brief.		
3	13.a.	Describe on Vocabulary Implementation Format.	K6	CO3
	(OR)			
	13.b.	Discuss on the Design Thinking to Business process modelling.		
4	14.a.	Correlate the sense making and extreme competition in design thinking for innovation growth.	K6	CO3
	(OR)			
	14.b.	What business challenges can be addressed using Design Thinking?		
5	15.a.	How do you create an Ideation workshop?	K4	CO1
	(OR)			
	15.b.	What is Ideation? Explain how to Prepare for Ideation session in workshop?		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	What is Minimum Viable Product? Explain the design thinking approach in MVP.	K4	CO1
2	17	Explain about the tools used for design thinking.	K6	CO4
3	18	Explain about “Agile” in virtual thinking Environment.	K6	CO3
4	19	Elaborate on Business Model Design.	K3	CO2
5	20	How to structure and run a successful design thing workshop?	K6	CO5

Z-Z-Z

END

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)

Branch - COMPUTER SCIENCE

ENTERPRISE RESOURCE PLANNING AND ARCHITECTURE

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	A ----- is a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer. a) Business Model b) Business Process c) Information Management d) Data Model	K1	CO1
	2	The ----- process includes functions such as recruiting, hiring, training, and benefits Management. a) Information Management b) Materials Management c) System Management d) Human Resource Management	K2	CO1
2	3	Identify the systems that find the closest past analogs of the present situation and choose the solution that was the right one in those past situations. a) Genetic Algorithms b) Neural Computation c) Case Based Reasoning d) Data Warehousing	K1	CO2
	4	_____ uses a multidimensional view of aggregate data to provide quick access to strategic information for further analysis. a) OLAP b) Data Warehouse c) Data Mining d) Business Intelligence	K2	CO2
3	5	The _____ approach implements one functional module at a time, in sequential Order. a) Parallel b) Phased c) Prototype d) Spiral	K1	CO3
	6	_____ is the degree of difficulty of implementing, operating, and maintaining the ERP system. a) Risk b) Complexity c) Scope d) Resource	K2	CO3
4	7	Equipment lubrication, component replacement and safety inspection can be planned, scheduled, and monitored in _____. a) Preventive Maintenance Control b) Perfective Maintenance Control c) Equipment Tracking d) Component Tracking	K1	CO4
	8	_____ involves dynamic sample determination on the basis of the quality level history, application of statistical process control techniques using quality scores. a) Quality Inspection b) Quality Prediction c) Quality Maintenance d) Quality Control	K2	CO4
5	9	The _____ process involves extracting data from source systems, transforming into a usable format, and loading it into the BI System. a) Presentation b) ETL c) Meta Data d) Loading	K1	CO5
	10	_____ is a modern, web based UI Paradigm that provides a simple, responsive, and customizable user experience. a) SAP Fiori b) SAP Dispatcher c) SAP GUI d) SAP Scheduler	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Evaluate the statement: "Today an information system is an organized combination of people, hardware, software, communications networks, and data resources that collects, collates, transforms, and disseminates information in an organization".	K5	CO1
		(OR)		
	11.b.	Defend the statement: "There are number of myths that surround the concept, infrastructure, implementation, and practice of ERP".		
2	12.a.	Dissect the architecture of a data warehouse.	K4	CO2
		(OR)		
	12.b.	Compare verification with discovery in the context of data mining.		
3	13.a.	Assess the Phases of ERP Implementation.	K5	CO3
		(OR)		
	13.b.	Criticize the Role of vendors, consultants in an ERP System.		
4	14.a.	Compose the Functional Modules of ERP Software.	K6	CO4
		(OR)		
	14.b.	Test the utility of the Materials Management module.		
5	15.a.	Dissect the Enterprise Portal Architecture of SAP.	K4	CO5
		(OR)		
	15.b.	Inspect the Storage Service Architecture of SAP.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Analyze the advantages of ERP.	K4	CO1
2	17	Compile the different phases of BPR.	K6	CO2
3	18	Inspect the Organization of the ERP Project Team.	K4	CO3
4	19	Appraise the role of the Manufacturing module of an ERP System.	K5	CO4
5	20	Design the SAP Business Information Warehouse Architecture.	K5	CO5

Z-Z-Z

END

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**MSc DEGREE EXAMINATION DECEMBER 2024
(Third Semester)**

Branch – **COMPUTER SCIENCE**

INTERNET OF THINGS - IOT

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	What is the primary focus of the Industrial Internet of Things (IIoT)? a) Exclusively human interactions b) Machine-to-machine communication c) Interactions between machines and humans d) Connections via social media	K1	CO1
	2	Interpret the three core principles that defines IoT. a) Identify, Communicate, Connect b) Detect, Analyze, Interact c) Identify, Adapt, Control d) Communicate, Actuate, Integrate	K2	
2	3	Which of the IoT protocols constitutes remote interruptions? a) MQTT b) XMPP c) TCP d) 6LoWPAN	K1	CO2
	4	Relate the application layer protocol developed by IETF for smart devices to connect to the internet. a) MQTT b) CoAP c) HTTP d) XMPP	K2	
3	5	What is the main function of Smart Grids? a) To generate electricity b) To integrate renewable energy sources c) To collect and analyze data for power management d) To distribute electricity without monitoring	K1	CO3
	6	Infer the type of sensors that smart shoes typically use to measure speeds and jumps. a) Heart rate monitors b) Embedded sensors c) Temperature sensors d) GPS sensors	K2	
4	7	Select the condition that causes the system to turn the light "on" in auto mode. a) When the user sets the light to "on" b) When the light level is low c) When the light level is high d) When the manual mode is activated	K1	CO4
	8	Explain how the State service interacts with the status database? a) Only updates the database b) Retrieves the current mode only c) Retrieves and updates the current light state d) No interaction with the database	K2	
5	9	How do you remove the first occurrence of a value from a list? a) delete() b) remove() c) discard() d) pop()	K1	CO5
	10	Illustrate the method you would use to format a datetime object into a string. a) format() b) stringify() c) to_string() d) strftime()	K2	

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Inspect the key characteristics of IoT.	K4	CO1
		(OR)		
	11.b.	Categorize the various applications of IoT.		
2	12.a.	Examine the characteristics and architecture of XMPP.	K4	CO2
		(OR)		
	12.b.	Analyze the architectural properties and constraints of REST API.		
3	13.a.	Explain the contributions of smart lighting, smart appliances, intrusion detection systems, and smoke/gas detectors to effective home automation.	K5	CO3
		(OR)		
	13.b.	Assess the impact of smart payments and smart vending machines on inventory management in the retail sector.		
4	14.a.	Explain the Domain Model Specification with a neat diagram.	K5	CO4
		(OR)		
	14.b.	Interpret the operational View Specification with an example.		
5	15.a.	Build python code to demonstrate the various dictionary operations with an example.	K6	CO5
		(OR)		
	15.b.	Create and import a user defined module in python with an example.		

SECTION -C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Examine the different technologies that are considered as the key contributors to the IoT.	K4	CO1
2	17	Explain about AMQP with an example.	K5	CO2
3	18	Analyze how fleet tracking and remote vehicle diagnostics enhance the optimization of route generation and scheduling in logistics operations.	K4	CO3
4	19	Interpret the roles and interactions of the Functional Groups in the Functional View of an IoT system with an example.	K5	CO4
5	20	Develop a Python code to implement various file handling operations with examples.	K6	CO5

Z-Z-Z

END

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2024

(Third Semester)

Branch - COMPUTER SCIENCE

MAJOR ELECTIVE COURSE-II : DEEP LEARNING

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Choose the main challenge in developing intelligent machines. a. Programming traditional algorithms b. Lack of interest in AI c. Abundance of robotic systems d. Solving complex computational problems	K1	CO1
	2	Relate the output of a strong prediction in a softmax layer. a. Many outputs close to 0 b. Single output close to 1 and others close to 0 c. All outputs close to 1 d. All outputs close to 0	K2	CO1
2	3	What does a squared error of zero indicate? a. The model is not learning b. The model is making a perfect prediction on the training example c. The training set is too small d. The weights are not updated	K1	CO2
	4	Interpret the term "epoch" in the context of training a neural network. a. A single iteration over a mini-batch of training data b. A single update of the network's weights and biases c. A single iteration over the entire training set d. A single forward pass through the network	K2	CO2
3	5	Find the primary drawback of the Torch deep learning framework. a. Not open-source b. Uses Lua, which is less common c. Limited community support d. No GPU support	K1	CO3
	6	What method is used to run operations in a TensorFlow session? a. graph.run() b. tf.run() c. sess.execute() d. sess.run()	K2	CO3
4	7	What problem did the Viola-Jones algorithm address? a. Object recognition in images b. Face detection in images c. Image segmentation d. Image classification	K1	CO4
	8	Interpret the two major parameters that define a pooling layer. a. Spatial extent and stride b. Activation function and number of filters c. Learning rate and batch size d. Input size and output size	K2	CO4
5	9	In a LEFT ARC operation, which element becomes the parent node? a. The leftmost element at the front of the stack b. The rightmost element at the front of the stack c. The element that was just shifted d. The first element in the buffer	K1	CO5
	10	How does beam search operate in terms of its two major phases? a. Input and analysis b. Selection and iteration c. Expansion and pruning d. Calculation and output	K2	CO5

Cont...

SECTION - B (35 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Examine the relationship between the biological neuron and the artificial neuron in terms of structure and functions.	K4	CO1
	(OR)			
	11.b.	Analyze the activation functions used in Deep Learning.		
2	12.a.	Interpret about the Delta rule and learning rates.	K5	CO2
	(OR)			
	12.b.	Explain the techniques used to prevent overfitting in deep neural networks.		
3	13.a.	Explain the creation and manipulation of TensorFlow variables in deep learning models.	K5	CO3
	(OR)			
	13.b.	Assess the effectiveness of the logistic regression model implemented in TensorFlow for classifying handwritten digits in the MNIST dataset.		
4	14.a.	Analyze the role of filters in convolutional neural networks and discuss how they mimic the feature detection process observed in the human visual cortex.	K4	CO4
	(OR)			
	14.b.	Examine the role of batch normalization and filter visualization in improving the performance of convolutional networks.		
5	15.a.	Discuss how the seq2seq model works in NLP and how Neural N-Grams can enhance it.	K6	CO5
	(OR)			
	15.b.	Elaborate on the role of recurrent layers in RNNs and how they differ from the layers found in traditional feed-forward networks.		

SECTION - C (30 Marks)Answer **ANY THREE** questions**ALL** questions carry **EQUAL** Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Explain about Feed Forward Neural Networks.	K5	CO1
2	17	Discuss the algorithm which tackles the problem of training multilayer neural networks.	K6	CO2
3	18	Explain the construction of a multilayer model for MNIST dataset in TensorFlow.	K5	CO3
4	19	Analyze the characteristics and hyperparameters of a convolutional layer, and discuss their impact on the model's performance and output volume.	K4	CO4
5	20	Examine the architecture of the Long Short-Term Memory Units.	K4	CO5