Total No. of Questions : 5]	SE

SEAT No.:

[Total No. of Pages: 2

PD2897 [6433]-1001

### F.Y. M.B.A. (IT)

# FIT-501-MJ-101 GC-01: FUNDAMENTALS OF INFORMATION TECHNOLOGY

(2024 Credit Pattern) (Semester - I)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All Questions are compulsory.
- 2) Each Question having 10 marks.
- 3) Figures to the right indicate marks for individual questions.
- Q1) Give the answers in short (Solve any 5)

 $[5 \times 2 = 10]$ 

- a) List the types of networks.
- b) Define the Internet.
- c) Explain EPROM.
- d) What is virtual memory?
- e) How many bits are in 1 byte?
- f) What is an SD card?
- g) List the types of operating systems (OS).
- h) What are the types of computers?
- **Q2**) Explain in brief (Solve any 2)

 $[2 \times 5 = 10]$ 

- a) Define software and explain its types.
- b) What are secondary storage devices? Explain their types.
- c) Explain ASCII coding.
- *Q3*) Convert the following.

 $[2 \times 5 = 10]$ 

- a) i)  $(52)_{10} = (?)_2$ 
  - ii)  $(101)_8 = (?)_{16}$

OR

- b) i)  $(110111)_2 = (?)_8$ 
  - ii)  $(F2A)_{16} = (?)_{8}$

**Q4**) Solve and do analysis (Solve any 1)

 $[1 \times 10 = 10]$ 

a) Draw a block diagram of the basic organization of a computer system and explain the function of each unit.

OR

b) Define an Operating System (OS). Explain its common functions.

**Q5**) Application oriented questions (Solve any 1)

 $[1 \times 10 = 10]$ 

a) If you are an IT expert, what hardware (H/W) and software (S/W) would you recommend for a medical shop owner to manage their operations effectively?

OR

b) What is software? What are the different categories of software commonly used for daily operations?

 $\bigcirc$   $\bigcirc$   $\bigcirc$   $\bigcirc$ 

Total 1	No.	of	Questions	:	5]

SEAT No.:			
[Total	No. of Pages	:	2

**PD2898** 

#### [6433]-1002

#### **F.Y. M.B.A. (IT)**

### GC - 02 : OBJECT ORIENTED SOFTWARE ENGINEERING

(2024 Credit Pattern) (Semester - I) (OOS 502 MJ)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Draw neat and labelled diagram wherever necessary.
- **Q1**) Solve any five (2 marks each).

[10]

- a) List two key roles in the SDLC.
- b) Define "Class" in OOAD.
- c) Name two features of modern Graphical User Interfaces (GUI).
- d) What is a software process?
- e) Define black box testing.
- f) Define functional Requirements in software development.
- g) Explain Encapsulation in OOAD.
- h) Define Agile methodology in software development.
- Q2) Write short note (any two 5 marks each).

[10]

- a) UML Use case diagram
- b) Inheritance and polymorphism in OOAD.
- c) Elements of good design.
- *Q3*) Answer any one.

- a) Draw a use catse diagram for an online MSEB electricity bill payment system. Identifying key actors and use cases.
- b) Explain the phases of the system development life cycle (SDLC) and discuss the role of different users involved in each phase.

#### **Q4**) Answer any one:

[10]

- a) What is the unified modeling language (UML)? Describe the importance of UML in OOAD and explain any three UML diagrams commonly used in software development.
- b) How would you create a GUI layout for a library management system? Describe the main screens and navigation flow.

#### Q5) Answer subquestion a & b or c.

[10]

- a) What is unit testing? Describe it's role in the software development process. [5]
- b) Describe the concept of debugging. What are the key techniques used for debugging software. [5]

OR

c) What is the software process in software engineering. Explain its significance in software development. [10]



<b>Total No.</b>	of Questions	:	5]
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#### [6433]-1003

#### First Year M.B.A. (Information Technology)

GC - 03 (UL): PRINCIPLE PRACTICE MANAGEMENT (2024 Credit Pattern) (Semester - I) (PPM 503 MJ) *Time* : 2½ *Hours*] [Max. Marks: 50 Instructions to the candidates: 1) All questions are compulsory. 2) Draw neat diagrams whenever necessary. 3) Every Question carries 10 marks. **Q1**) Answer any five out of Eight (2 marks each). [10] Define Motivation. Define Co-Ordination. b) Define Managerial skills. c) Define Virtual network. d) Define line and staff authority. e) Define open and closed system. f) What is Contingency? g) Define Staffing. h) **Q2**) Answer any two out of three (5 marks each). [10] Explain the benefits of planning in brief. Explain types of recruitment in brief. b) Explain role of middle level management in brief. c) **03**) a) "Management is an art". Explain the statement. [10]OR "Decision making is dynamic process". Explain with example. [10] b) Explain comparative points of Fayol and Taylor theory of management.[10] **Q4**) a) OR Explain the centralization & decentralization in brief. [10] b) **Q5**) a) Explain decision making types with appropriate example. [10] Explain the concept of product matrix with appropriate example. [10] b)



Total No.	of Questions	:	5]
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PD2900

SEAT No.:		
[Total	No. of Pages : 2	2

#### [6433]-1004

#### First Year M.B.A. (IT)

#### 104 - GC - 04 : PROGRAMMING IN C

(2024 Credit Pattern) (Semester - I) (PRC 504 MJ)

Time: 2½ Hours]
Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Each Question having 10 marks.
- 3) Figures to the right indicate marks for individual questions.
- Q1) Answer the following Questions (any FIVE).

 $[5 \times 2 = 10]$ 

[Max. Marks: 50

- a) What is union in 'C'?
- b) What are storage classes in C?
- c) Write syntax and example of getch()
- d) Characteristics of static variables
- e) Structure in C Program.
- f) What is the purpose of goto statement?
- g) What is bitwise operator?
- h) Explain pre-processor directives.
- **Q2**) Answer any TWO.

 $[2 \times 5 = 10]$ 

- a) Explain the use of break and continue statement in loops with suitable example?
- b) Explain call by value & call by Reference
- c) Explain local static variables in C

#### **Q3**) Solve the Following.

[10]

a) Write a C program to find the largest element in an Array of Integers

OR

b) Write a Program to print all Integer Prime Numbers of given Number (User Input)

#### **Q4**) Solve the Following.

[10]

a) Write a 'C' program to accept 60 students record in an array of structure with fields Roll No., Name, Marks. Print student name who is having highest marks.

OR

b) Write a C Program to Print Triangles as shown:-

1

3 5

7 9 11

13 15 17 19

#### **Q5**) Solve the Following.

[10]

a) Write a program in C to count a number of words and characters in a file.

OR

b) Write a C program that accepts a sentence from the user and counts the number of vowels in it using pointers.



<b>Total No. of Questions: 5</b>	[]
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SEAT No.:			
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#### [6433]-1005

#### **F.Y. M.B.A. (I.T.)**

### ADB 505 MJ, 105 - GC - 05 : ADVANCED DATA BASE MANAGEMENT SYSTEM

(2024 Pattern) (Semester - I)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions carry equal marks.
- 2) Figures to the right indicates full marks.
- **Q1**) Answer the following Questions (any FIVE).

 $[5 \times 2 = 10]$ 

- a) What is crash recovery in DBMS
- b) List out Database users
- c) Define Data Independance
- d) Define Generalization
- e) Explain 2 advantages of DBMS
- f) Explain Methods of distributed database management
- g) What is NoSQL
- h) Define Load Balancing
- **Q2**) Answer any TWO.

 $[2 \times 5 = 10]$ 

- a) Discuss concept of transaction? Explain ACID Properties?
- b) Explain Lock based protocol
- c) What is the significance of Codd's Rule on 'Data Integrity'.
- Q3) a) Explain the role of logs in database recovery, Compare and contrast deferred and immediate database modification techniques in log-based recovery.
   [10]

OR

b) Differentiate between public key and private key encryption. How do these encryption methods ensure data security in a database system?[10]

Q4) a) Discuss the methods used for distributed data storage in DDBMS, focusing on fragmentation, replication, and transparency. [10]

OR

- b) Explain the different types of Parallel Database Architectures. [10]
- Q5) a) The railway reservation system facilitates the passengers to enquire about the trains available on the basis of source and destination, booking and cancellation of tickets, enquire about the status of the booked ticket, etc. Develop a database maintaining the records of different trains, train status, and passengers. The record of train includes its number, name, source, destination, and days on which it is available, whereas record of train status includes dates for which tickets can be booked, total number of seats available, and number of seats already booked. Normalize the following case upto 3NF.

OR

b) Discuss the evolution of NoSQL databases and explain their significance in handling modern data needs. [10]



**Total No. of Questions: 5**]

PD2902

SEAT No.:	
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#### [6433]-1006

# F.Y. M.B.A. (Information Technology) BBA-506-MJ-GC-06: BASICS BUSINESS ANALYTICS (2024 Credit Pattern) (Semester - I)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- Q1) Write answers in short (any 5 out of 8 questions).

 $[5 \times 2 = 10]$ 

- a) What is the difference between Business Intelligence and Data Science?
- b) What is prescriptive analytics?
- c) Define concept of EDA.
- d) Write the steps involved in Analytical Decision Making Process.
- e) Write skills required for good business analyst?
- f) Write names of any 4 tools used for data exploration and visualization.
- g) Define Employee Engagement.
- h) Define Credit Scoring
- **Q2**) Answer any 2 out of 3 questions.

 $[2 \times 5 = 10]$ 

- a) Differentiate between Data, Information & Knowledge
- b) Explain the types of analytics with suitable example
- c) Discuss the characteristics of good questions in analytical decision-making.

#### **Q3**) Answer any 1 question.

[10]

- a) Discuss the importance of risk management in financial analytics with an example.
- b) Explain the role of data-driven strategies in enhancing marketing campaign effectiveness.

#### **Q4**) Answer any 1 question.

[10]

- a) How can HR analytics improve employee performance measurement?
- b) Explain how supply chain analytics enhances logistics management with examples.

#### **Q5**) Answer any 1 question.

- a) How can predictive analytics improve health care outcomes?
- b) Discuss the role of analytics in optimizing crop yield in agriculture with examples.



Total No. of Questions : 5]	SEAT No. :
PD2903	[Total No. of Pages : 2

#### [6433]-1007 F.Y. M.B.A. (IT) GC-07 : E-COMMERCE

(2024 Credit Pattern) (Semester - I) (S-I) (ECO507MJ)

Time: 2 Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Each question having 10 marks.
- 3) Figures to the right indicate full marks.
- **Q1)** Give the answers in short (Solve any 5):

 $[5 \times 2 = 10]$ 

- a) Define e-Business.
- b) Explain the term URL.
- c) What is NEFT?
- d) Define protocol in networking.
- e) Explain cookies in websites.
- f) List any four commonly used educational online websites.
- g) List two examples of C2C websites.
- h) What are the technological disadvantages of e-commerce?
- **Q2)** Explain in brief (Solve any 2):

 $[2 \times 5 = 10]$ 

- a) Explain the functions of e-commerce.
- b) List five types of business models in e-commerce.
- c) Explain social media commerce.
- *Q3)* Solve in details (Solve any 1)

 $[1 \times 10 = 10]$ 

a) Explain the differences between the payment methods of NEFT, RTGS, and IMPS.

OR

b) What are the prerequisites for the successful development of an e-commerce website?

#### **Q4)** Solve and do analysis (Solve any 1)

 $[1 \times 10 = 10]$ 

a) Explain the concept of a shopping cart and suggest any improvements to the existing method.

OR

b) List and explain the benefits of m-commerce for both customers and companies.

#### **Q5)** Application oriented questions (Solve any 1)

 $[1 \times 10 = 10]$ 

a) What measures are required to ensure better optimization, scalability, and performance when developing an e-commerce website for your business?

OR

b) When analyzing www.ebay.com, why do you think eBay is not performing as well compared to other e-commerce websites? What could be the reasons for its underperformance?



Total No. of Questions : 5]	SEAT No. :
PD2904	[Total No. of Pages : 2

#### [6433]-1008 F.Y. M.B.A. (IT)

# GC-08: INDIAN KNOWLEDGE SYSTEMS (2024 Credit Pattern) (Semester - I) (Theory) (IKS508MJ)

Time: 2 Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Each question carries equal marks.
- 3) Figures to the right indicate full marks.
- **Q1)** Answer any 5 (Each question for 2 marks)

[10]

- a) Define Spirituality in Leadership'.
- b) Explain 'Ethical Dilemma'
- c) Explain Dharma, Raj Dharma, and Artha
- d) Explain the Cultural values in Shivaji Maharaj's leadership.
- e) Define with example 'Leadership in Adversity'.
- f) Define the core principles of Jugaad?
- g) What is 'Collectivism'?
- h) Explain 'Cultural values and business ethics'.
- Q2) Answer any 2 out of three (5 marks each)

- a) Explain Bhagvad Gita-based decision-making frameworks?
- b) Which Innovative strategies implemented by Shivaji Maharaj in warfare and governance?
- c) What are the advantages & disadvantages of 'Intuition and gut feelings' in decision Making?

Q3) a) What is 'Frugal Innovation' & what distinguishes it from conventional innovation models? [10]

OR

- b) 'The cultural context, religion and philosophy of India have shaped the approach to management and leadership' Explain? [10]
- **Q4)** a) What is Jugaad? How does it emphasize resourcefulness, creativity, and efficiency in problem-solving? [10]

OR

- b) 'Succession planning and leadership transition are often challenging in family businesses' Explain with example. [10]
- Q5) a) 'There is need of integrating Indian Knowledge System and Western Management Theories to create a more balanced and sustainable management practice', discuss.
   [10]

OR

b) Explain the role of joint family systems and community networks in shaping traditional business practices.? [10]



Total No. of Questions : 5]	SEAT No. :
PD2905	[Total No. of Pages : 2

#### [6433]-2001 First Year M.B.A. (IT) 201 GC-09: BUSINESS PROCESS DOMAIN (2024 Credit Pattern) (Semester - II) (BPD 551 MJ)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All Questions are compulsory.
- 2) Each questions having 10 marks.
- 3) Figures to the right indicate marks for individual questions.
- Q1) Answer any five of the following.

 $[5 \times 2 = 10]$ 

- a) Define employee appraisal.
- b) Define accounting.
- c) Types of customers.
- d) What is sales analysis?
- e) Explain in short Retail Marketing.
- f) Demand forecasting in Manufacturing.
- g) Gratuity.
- Q2) Solve any two out of three.

 $[2 \times 5 = 10]$ 

- a) Explain the types of Accounts in accounting.
- b) Define recruitment? Explain the different recruitment methods.
- c) What is BOM? Draw layout of BOM.
- Q3) Descriptive question Solve any one.

 $[1 \times 10 = 10]$ 

- a) What is Journal? Explain different types of journals with example?
- b) What is Payroll? Draw the layout, explain all Income & Deduction heads in payment slip.
- **Q4**) Solve any one of the following.

 $[1 \times 10 = 10]$ 

- a) Why Market Segments are important? Explain Market Segments.
- b) What is MPS? What is its importance in production planning?

**Q5**) Solve any one:

 $[1 \times 10 = 10]$ 

- a) Product Life Cycle is applicable to every product? Comment.
- b) Role of Supply chain management in service industry.

OR

McDonald's mission statements depict McDonald's passion for differentiation, uniqueness, and class. McDonald's CRM case study hinges on its passion for differentiation, which is evident in the architectural designs of its restaurants, food recipes and taste, service delivery, and mode of operation. How CRM help to grow internationally, explain.

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Total	l No.	of Questions : 5] SEA	T No.:
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		[6433]-2002	
		<b>M.B.A.</b> ( <b>IT</b> )	
	$\mathbf{D}$	MA 552 - MJ - GC-10 : DIGITAL MA	RKETING
		(2024 Pattern) (Semester - II	)
Time	: 21/2	(2 Hours]	/ [Max. Marks : 50
		ons to the candidates:	-
	<i>1</i> )	All questions are compulsory.	
	<i>2</i> )	Each questions having 10 marks.	
	<i>3</i> )	Figures to the right indicate marks for individual qu	estions.
<b>Q</b> 1)	Ans	swer the following Questions (any FIVE):	$[5\times2=10]$
	a)	What is M-Commerce?	
	b)	What is Google Analytics?	
	c)	What is email marketing?	
	d)	What is Offers?	
	e)	What is Segment?	
	f)	What is market?	
	g)	What is function & Application of LinkedIn's?	
	h)	State any two features of digital marketing?	
Q2)	Ans	swer any Two:	$[2 \times 5 = 10]$
	a)	Explain the concept of Search Engine Optimization important for businesses in the digital world?	ion (SEO). Why is it
	b)	What is the significance of B2C online marketing?	
	c)	Explain in details Digital Marketing and its type?	

### Q3) Solve the following:

[10]

a) What is LEO? Explain the concept of LEO in detail.

OR

b) Compare video streaming, podcasts, and image-sharing platforms?

#### Q4) Solve the following:

[10]

a) Sanya is planning to run a Google Ads campaign for her online bookstore. What are the essential steps she should follow to make her campaign successful?

OR

b) Discuss the key differences between digital marketing and traditional marketing.

#### Q5) Solve the following:

[10]

a) Describe social media platforms and categorize them into different types, providing examples for each.

OR

b) When creating an advertisement for your product on Google Search, what are the key ad extensions you would utilize to enhance its performance?



Total No. of Questions: 5]	SEAT No.:	

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[6433]-2003

#### **F.Y. M.B.A. (IT)**

# ERP 553 MJ : GC - 11 : ENTERPRISE RESOURCE PLANNING

(2024 Pattern) (Semester - II)

*Time* : 2½ *Hours*]

[Max. Marks : 50]

Instructions to the candidates:

- 1) All Questions are compulsory.
- 2) Each Questions having 10 marks
- 3) Figures to the right indicate full marks.

#### Q1) Define the following term:

[10]

- a) List any two methodologies used in BPR.
- b) Mention any two characteristics of ERP.
- c) What is meant by a Client-Server ERP architecture?
- d) Name two modules of Oracle Fusion.
- e) Define Customer Relationship Management (CRM)
- f) List any two key drivers of Supply Chain Management (SCM).
- g) Name any two SAP modules and their functionalities.
- h) What is Web-based ERP Architecture?

#### Q2) Solve any 2:

[10]

- a) Discuss the methodology used in ERP implementation?
- b) Elaborate on the importance of a common shared enterprise database in ERP.
- c) Explain MRP in detail.

#### Q3) Answer the following (any 1):

- a) Briefly explain the roles and responsibilities of an ERP project implementation team
- b) Compare Client-Server, Web-based, and Service-Oriented Architecture (SOA) ERP architecture in detail?

#### **Q4**) Solve (Any 1):

[10]

- a) How to Choose Right ERP for the business
- b) Describe the evolution and components of CRM systems. How do CRM delivery and support processes improve customer satisfaction and retention?

#### **Q5**) Solve (Any 1):

- a) An organization has chosen Oracle Fusion to replace its outdated legacy ERP system. However, the project is facing delays due to unclear implementation phases and lack of documentation. Elaborate how can the Oracle AIM methodology help streamline the ERP implementation process in this scenario?
- b) Explain the architecture and main components of the SAP R/3 system. How does it support integration across various business functions?



<b>Total No. of Questions:</b>	5]	
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SEAT No.:		
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#### [6433]-2004

#### First Year M.B.A. (IT)

ORA 554 MJ - GC - 12 (204) : ORACLE

(2024 Credit Pattern) (Semester - II)

Time: 2½ Hours] [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Each question has 10 marks.
- 3) Figures to the right indicate full marks.

#### **Q1**) Solve (any 2)

[10]

- a) Explain different data function available in oracle.
- b) What is meant by constraints? Explain types of constraints available in Oracle.
- c) Explain conversion functions in oracle.

### Q2) Consider the following table to solve any five of the following SQL Queries. $[2\times5=10]$

Customer (C-Id, Cname, City)

Item (Item-Id, Item-Name, Price, Brand)

Order (O\_Id, O\_data, quantity, C\_id, Item\_id)

- a) Create the above tables with suitable constraints.
- b) Display all customers who live in 'Mumbai'.
- c) Add new column pin code in customer table.
- d) Display the customers who have ordered more than 10 items in single order.
- e) Delete the record of Orders dated 15th June 2017.
- f) Display the costly item of each brand.
- g) Display the name of the customers who have ordered all the items.

**Q3**) Solve (any 1).

[10]

- a) Create a function that calculates the factorial of a number and handles cases where the input is less than zero (raising a user defined exception)
- b) Explain composite data type with example.

**Q4**) Solve (any 1)

[10]

- a) Create a procedure that retrives the name of customer by Id from customer table and handles the No\_Data\_Found exception.
- b) Write a trigger on the item table, when attempting to insert a row on weekends (Saturday & Sunday the trigger should raise an error and prevent the insertion displaying a Message. "No record can be inserted on weekends.

**Q5**) Short note (any 2).

- a) Oracle Architecture
- b) Enterprise Manager
- c) Database alert logs



Total No.	of Questions	:	<b>5</b> ]
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**PD-3936** 

[Total No. of Pages: 2

[6433]-2005

**F.Y. M.B.A.** (**IT**)

# OBE 555 - MJ - GC - 13 : ORGANIZATIONAL BEHAVIOUR (2024 Pattern) (Semester - II)

Time: 2 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Draw neat diagrams wherever needed.
- 3) All questions carry equal marks.

#### Q1) Attempt any five out of eight :

 $[5 \times 2 = 10]$ 

- a) What is Maslow's Need Hierarchy Theory?
- b) What do you mean by emotional Intelligence?
- c) What are Employee Engagement and Empowerment?
- d) Define Attitude.
- e) Define Personality.
- f) What do you mean by conflict?
- g) Nature of Organizational Change.
- f) What do you mean by Organizational Behaviour.

#### Q2) Attempt any two out of three:

 $[2 \times 5 = 10]$ 

- a) Describe organizational resistance to change and suggest strategies to overcome it.
- b) Describe The Big Five personality model.
- c) Explain Evolution of OB.

#### **Q3**) Answer the following:

[10]

a) What are the different types of organizational culture? How do they affect employee behaviour?

OR

b) Describe the Autocratic, Supportive, Collegial types of OB models. How do they affect employee performance?

#### Q4) Answer the following:

[10]

a) Explain any two contemporary theories of leadership and their relevance in today's organizations.

OR

b) What is job attitude? How can a positive job attitude improve employee performance and satisfaction?

#### **Q5**) Answer the following:

[10]

a) Discuss the importance of a positive organizational culture in employee satisfaction and retention.

OR

b) Explain the concept of team effectiveness. Discuss the challenges of managing work teams and how they can be overcome.



Total No. of Questions : 5]	SEAT No. :
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#### [6433]-2006 F.Y.M.B.A. (IT)

### BRM-556-MJ RM-01 206: BUSINESS RESEARCH METHODOLOGY

(2024 Credit Pattern) (Semester - II)

Time: 2 Hours [Max. Marks: 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate marks for question/sub question.

#### Q1) Solve any five:

[10]

- a) Define research.
- b) Why is research essential in Business, give two reasons?
- c) List the stages in the Research process.
- d) Define Copyright.
- e) Define Hypothesis in Research.
- f) What is Stratified Random Sample
- g) What is Correlation Analysis.
- h) Write one example of Graphic Rating Scales.

#### **Q2**) Solve any two:

[10]

- a) Differentiate between descriptive research and exploratory research.
- b) Differentiate between primary and secondary data.
- c) Explain the Levels of measurement Nominal, Ordinal, Interval, Ratio, with example.

#### *Q3*) Solve any one:

- a) List and scrutinize any two probability sampling methods with their relative merits and drawbacks.
- b) Prepare hypothesis (null & alternate) for following situations.
  - i) Researcher wants to understand whether quality of work is associated with qualification.
  - ii) Company wants to understand the impact of non-monetary benefits on employee satisfaction.

#### **Q4**) Solve any one:

[10]

a) The following table gives the number of good and defective items produced by each of the three shifts in a factory:

Shift	Good	Defective
Day	900	130
Evening	700	170
Night	400	200

Test the hypothesis whether there is any association between the shift and quality of the parts produced? Use a 0.05 level of significance.

Given the Calculated chi square = 101.86

Tabulated chi – square =5.991

b) Find the mode of following data, using a histogram:

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50
Frequency	5	12	20	9	4

#### **Q5**) Solve any one:

- a) Draft a research proposal to study the impact of social media advertising on consumer purchasing decision.
- b) Develop a questionnaire for collecting feedback from student who participated for 10 days training program on employability skills.

