

**Nav-Sahyadri Charitable Trusts**  
**Institute of Business Management & Research, Chakan**  
**Tal-Khed. Dist-Pune**  
**304– BA Advanced Statistical Methods using R**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

**Instructions to the candidates:**

- 1. All questions are compulsory. (Solve Any 5)**
- 2. Each question carries 10 marks.**
- 3. Answers to the questions should specific and to the point.**

**305– BA Advanced Statistical Methods using R**

**Q. 1 Define (Any 2)**

**NULL and Alternate hypothesis.?**

**Explain Unlist ( ) function**

**Explain aov ( ) function.**

**Define Predictive analytics.**

**Q.2 Describe test procedure for testing significance of Correlation coefficient**

**Q.3 Explain Z test of hypothesis testing. Write the syntax and explain in detail.**

**Q.4 Explain multiple regression with its two application**

**Q.5 Explain dimension reduction techniques with example**

**Q.6 Discuss techniques of performance evaluation of logistic regression model.**

**Q.7. Describe linear Discriminant analysis (LDA). Write a brief outline of R code for the same.**

**Q.8 Explain the concept of Time Series Discuss how time series is used in business forecasting.**

**Q.9 Consider the employee salary database and perform all types of descriptive analysis the data with the help of R programming code**

**Q.10. Consider the employee salary database and perform all types of descriptive analysis the data with the help of R programming code**

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**305– BA MACHINE LEARNING & COGNITIVE INTELLIGENCE USING PYTHON**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

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**305– BA MACHINE LEARNING & COGNITIVE INTELLIGENCE USING PYTHON**

**Q. 1 Define (Any 2)**

**State how to define variable in python**

**List various loops in python.**

**Identify the steps of CRISP - DM Methodology**

**What do you mean by data visualization?**

**Q.2 Distinguish between clustering and classification in machine learning.**

**Q.3 Explain the concept of simple and multiple regression.**

**Q.4 Explain the decision tree algorithm in machine learning with example**

**Q.5 Discuss how the clustering is useful in marketing domain?**

**Q.6 Analyze K - Nearest Neighbors algorithm for machine learning.**

**Q.7. Design a code in python to print the following pattern. [10]**

```
*  
* *  
* * *  
* * * *  
* * * * *
```

**Q.8 "Machine learning will make companies more efficient and allow them to streamline business processes of an organization". Justify the statement.**

**Q.9. Identify the steps of KDD framework of machine Learning.**

**Q.10 Consider the employee salary database and perform all types of descriptive analysis the data with the help of R programming code**

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**304– MARKETING Services Marketing**

**Internal paper (Oct/Nov 2023) (Semester 3)**

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**304– MARKETING Services Marketing**

**Q. 1 Define Services Marketing with two examples.**

**Q.2 (Any 3)**

**a. Successful service Companies focus their attention on both their customers and their employees. They understand \_\_\_\_\_, which links service firm profits with employee and customer satisfaction.**

**i) Internal Marketing ii) Service - Profit Chains iii) Interactive Marketing iv) Service Differentiation**

**b. Draw & Labelled Goods and Service Continuum.**

**c. Enlist Five Gaps of GAP Model.**

**d. Enlist bases of segmentation of services.**

**Q. 3 Define zone of tolerance**

**Q.4 Compare Goods & Services with table of differentiation.**

**Q. 5 Illustrate & explain Service Marketing triangle**

**Q. 6 Exemplify extended marketing mix for services**

**Q. 7 Demonstrate any five service touchpoints in the hospitality industry**

**Q. 8 Identify and explain service encounters in service marketing with the help of example.**

**Q. 9 Discuss opportunities developed in the service sector with the emergence of work from home Concept in Current Market**

**Q. 10 The travel & tourism industry has experienced a major impact on its demand during the pandemic. With such conditions, they need to adopt a Strategy that would help this industry to manage the supply and demand in this industry. Develop a strategy to manage the supply and demand.**

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**305– MARKETING Sales & Distribution Management**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

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**305– MARKETING Sales & Distribution Management**

**Q. 1 Explain the role of Distribution channel in completing the cycle of marketing function.**

**OR**

**Discuss the role of 'Physical Distribution Mix' in the success or failure of a product Launch**

**Q. 2 Assume you are the sales manager of a premium chocolate manufacturing company, what will be the methods of Physical Distribution that you will adapt. in order to train & motivate your sales force?**

**OR**

**Discuss in detail the recruitment, selection & training session / process of sales force with proper examples**

**Q.3 Discuss the significance of "Reporting" in "Sales Control" with proper example.**

**OR**

**Discuss the role of "Sales Audit" in sales management with proper examples.**

**Q. 4 Elaborate the concept of "Vertical Management System" (VMS) & "Horizontal Management System" (HMS).**

**OR**

**Explain the concept of "Franchising as a model of distribution" with suitable examples**

**Q. 5 Discuss the "E-tailing structure" along with its advantages & disadvantages.**

**OR**

**Explain in brief the concept of "Supply Chain Management" and Components of supply chain management**

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313– BA - Industrial Internet of Things**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

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**313– BA - Industrial Internet of Things**

**Q. 1 Define the concepts Business Analytics and Big Data Driving Organizational Change**

**OR**

**State various Issues and Challenges Data Science for Modern Manufacturing –  
Blending analytic skills and domain expertise**

**Q.2 Define NLP in detail with example.**

**OR**

**Explain Augmented Reality, and More: Simulation, Additive Manufacturing**

**Q.3 Explain Industry 4.0: Cyber Physical Systems,**

**OR**

**Explain Collaborative Platform and Product Lifecycle Management.**

**Q.4 Explain role of IoT in Healthcare and Inventory Management**

**Q.5 Explain in brief Applications of UAVs in Industries,**

**OR**

**Explain role of IoT in chemical and pharmaceutical industry,**

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**314– BA Supply Chain Analytics**

**Internal paper (Oct/Nov 2023) (Semester 3)**

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**314– BA Supply Chain Analytics**

**Q. 1 Explain Significance of Analytics in a supply**

**OR**

**Q.2 Explain The importance of supply chain analytics in the flows involving material**

**Q.3 Define any 2**

**Linear Programming, Rating method, Ranking method, Borda Count, Clustering,**

**OR**

**Explain in brief Goal Programming and related multi-criterion decision making (MCDM) techniques**

**Q.4 Explain problems related with warehouse**

**Non-linear optimization for warehouse space allocation**

**MILP formulation**

**OR**

**Explain the term with suitable example Non-linear optimization for warehouse space allocation**

**Q. 5 Explain with suitable example Stochastic Frontier Analysis.**

**OR**

**Data Envelopment Analysis for competitive comparisons among multiple warehouses and service units and formulation of strategic action plans for improving the efficiencies of non-performing DMUs**

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**317– BA E- Commerce Analytics -I**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

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- 3. Answers to the questions should specific and to the point.**

**317– BA E- Commerce Analytics -I**

**Q. 1 Explain in brief Role of Ecommerce Analytics in Creating Business Value and Driving Business Growth**

**OR**

**Explain Preparing and Wrangling Data, Analyzing, Predicting, Optimizing, and Automating with Data, Socializing Analytics, Communicating the Economic Impact of Analytics.**

**Q.2 Explain Tukey's Exploratory Data Analysis**

**OR**

**KPI Derivative Metrics from Bounce Rate, Percentage of Orders with Promotions or Discounts, Inventory Turnover, Return on Investment, Loyalty—Time Since Last Visit (Recency), Retention—Time between Visits (Frequency)**

**Q.3 Explain RASTA Approach to Reporting, Understanding**

**OR**

**Explain Data Visualization in brief with example.**

**Q.4 Explain with suitable diagram Ecommerce Analytics Data Model- Facts and Dimensions**

**OR**

**Explain the Product Fact, Understanding the Order Fact.**

**Q.5 Explain the Shared Goals of Marketing and Advertising Analysis, Reviewing the Marketing Lifecycle**

**OR**

**Explain Key Performance Indicators for Behavioral Analysis with suitable example**

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**312– Marketing Business to Business Marketing**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

**Instructions to the candidates:**

- 1. All questions are compulsory. (Solve Any 5)**
- 2. Each question carries 10 marks.**
- 3. Answers to the questions should specific and to the point.**

**312– Marketing Business to Business Marketing**

**Q. 1 Explain Concept of the Business-to-Business (B2B) Marketing with suitable related example in day to day life**

**Q.2 Models of B2B Marketing – Webster & Wind Model, Sheth Model, Impact of Macro/Micro Environmental factors on decision making**

**Q.3 Explain the difference between Macro and Micro variables with suitable example**

**Q.4 Enlist difference between Concentrated Marketing, Differentiated Marketing with suitable example.**

**Q.5 Difference between Industrial Product Lifecycle & Strategies across the PLC**

**Q.6 Explain with suitable example in brief Methods used to Influence Industrial Customers**

**Q.8 Explain ABC Analysis of Industrial Customers**

**Q.9 Explain in brief Distinctive Nature of B To B Distribution Channels**

**Q.10 Explain with suitable example in brief Current Trends for B to B markets: Use of Social Media, Use of technology in branding, Use of digital platforms by B to B organizations, Virtual Marts**



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313– Marketing International Marketing**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

**Instructions to the candidates:**

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- 3. Answers to the questions should specific and to the point.**

**313– Marketing International Marketing**

**Q. 1 Explain Scope and Importance of International Marketing**

**Q.2 Explain with suitable example International Marketing Environment and Its Effect on International Marketing–Economic Environment**

**Q.3 Explain with suitable example International Market Segmentation**

**Q.4 Explain International Market Entry Strategies; International Positioning Strategies.**

**Q.5 Explain any 2 terms Product Features and Quality, Product Design, Branding, Packaging, Labeling, and Product Support Services**

**Q.6 Explain Managing Product Mix and Product Line.**

**Q.7. Discuss about Standardization vs. Adaptation issue**

**Q.8 International Promotion Mix Decisions Advertising, Sales Promotion, Public Relations and Publicity, Personal Selling**

**Q.9 Explain various patterns of International Marketing Organization**

**Q. 10 Explain CSR and Social Responsiveness in Globalization Era.**

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**317– Marketing Marketing of High Technology Products**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

**Instructions to the candidates:**

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- 3. Answers to the questions should specific and to the point.**

**317– Marketing Marketing of High Technology Products**

- Q. 1 Explain Any 2 concepts Continuum of Innovations - Radical/Breakthrough Innovations -Incremental Innovations - Implications of Different Types of Innovations**
- Q.2 Explain with suitable diagram Contingency Model for High-Tech Marketing**
- Q.3 Explain any 3 terms High-Tech Marketing Research Tools - Concept Testing - Conjoint Analysis - Customer Visit Programs - Empathic Design - Lead Users - Quality Function Deployment - Prototype Testing - Beta Version Testing with suitable example.**
- Q.4 Explain branding Managing Intellectual Property, Importance of Branding in High-Tech Markets, Developing a Strong Brand - Ingredient Branding.**
- Q.5 Explain 3Cs of pricing cots**
- Q.6 Explain The Effect of the Internet on Pricing Decisions, Additional Pricing Considerations**
- Q.7. Explain in brief High-Tech Markets**
- Q.8 Explain the term in brief –Greening of Supply chain and its need.**
- Q.9 Explain various Direct Marketing and other promotion tools;**
- Q. 10 What do understand by the term Objectives of Pre-announcements, Advantages and Disadvantages of Preannouncements.**

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308– Project Management**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

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- 2. Each question carries 10 marks.**
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**308– Project Management**

**Q. 1 Answer the Following in brief (Any 3)**

**Define Project Management, stages of Project Management.**

**List the major stakeholders of the project?**

**Define WBS? How WBS will be helpful in project?**

**Write two applications of Responsibility Matrix?**

**Explain the major causes of project failure possible solutions to overcome it.**

**Q. 2 Explain any 2 terms in brief Methods for Estimating Project Times and Costs, Level of detail, Developing Budgets, Types of Costs**

**Q.3 Explain in brief Developing a Project Plan: Developing the Project Network, From Work Package to Network, constructing a Project Network, Activity-on-Node Fundamentals, Network Computation process, Using the Forward and Backward pass information, Level of Detail for activities, Extended Network techniques.**

**Q.4 What is organization culture? How culture has impact on success of project?**

**Q. 5 Blossom public school wants to develop a school management software project to manage its day to day operations of the school through web based software. The IT team of the school and management decided to develop the software in-house. consider you as a consultant and educate them to follow project management life cycle?**

**Q.6 Discuss the role and responsibilities of different stakeholders of the project through responsibility matrix (RACI)**

**Q.7 Define any 2 terms Types of Project Constraints, Classification of Scheduling Problem, Resource Allocation Methods, Splitting, Multitasking, Benefits of scheduling resources**

**Q.8 What do mean by Concept and construction of a Project Cost – Duration Graph, Practical considerations**

**Q.9 Explain in brief Role and Responsibilities of the project Manager,**

**Q.10 Explain in detail Structure of a Project Monitoring Information System**

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**104– Business Research Methods**

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**Time: 2½Hours**

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**104– Business Research Methods**

**Q. 1 List the stages in the Research process.**

**Q. 2 Mention differences between descriptive type of research and Exploratory type of research**

**Q.3 Explain various types of variables any 2 in detail.**

**Q.4 What are the advantages of internet-based questionnaires from personal interviewing**

**Q. 5 What are the scientific differences between nominal, ordinal, interval and ratio scale**

**Q.6 Develop a questionnaire to determine how households plan to buy and use major appliances. This questionnaire is to be used in national wide study.**

**Q.7 What is research hypothesis? What are the good qualities of a hypothesis? Give one example of a hypothesis?**

**Q.8 List and scrutinize any four probability sampling methods with their relative merits and drawbacks**

**Q.9 Prepare a research proposal on Pune based households about their interest in home gardening**

**Q.10 Draw histogram for the following also find mode from the graph.**

<b>Salary '000 in Rs</b>	<b>30-40</b>	<b>40-50</b>	<b>50-60</b>	<b>60-70</b>	<b>70-80</b>	<b>80-90</b>	<b>90-100</b>
<b>No. of Employees</b>	<b>30</b>	<b>45</b>	<b>65</b>	<b>78</b>	<b>114</b>	<b>110</b>	<b>65</b>

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**106– Digital Business**

**Internal paper (Oct/Nov 2023) (Semester 3)**

**Time: 2½Hours**

**Max. Marks: 50**

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- 3. Answers to the questions should specific and to the point.**

**106– Digital Business**

**Q. 1 What are limitations of E-commerce.?**

**Q.2 Identify the importance of social media marketing for country like**

**Q.3 Classify e-business models and discuss with suitable examples.**

**Q.4 Identify the major personal finance services available online and illustrate the factors for growth.**

**Q.5 Illustrate the role of intermediaries in E-market-place. Give suitable examples in relation to ecommerce company.**

**Q.6 Analyze the importance of e-training in IT organization and classify them with suitable examples.**

**Q.7. Analyze the difference between G2B and G2G models with suitable examples**

**Q.8 You have been appointed as Senior Manager in Multi-national company. Design the business model for digital gaming business you want to launch on digital platform.**

**Q.9 Design in detail the structure of Supply Chain Management of e-commerce company starting business in grocery items**

**Q.10 What you understand from Drivers of web 2.0 and its use in various areas of application.**