

KAKARAPARTI BHAVANRAYANA COLLEGE (Autonomous)
(Sponsored by S.K.P.V.V. Hindu High Schools Committee)

PG III SEMESTER REGULAR EXAMINATIONS TIME TABLE - NOV/DEC - 2025

Date	Time	II MBA	II MCA	II M.SC(OCH)	II M.SC(ACH)	II M.Sc (DS)
24-11-2025	9:00 A.M TO 12:00 PM	Strategic Management R22MBA301	Data Science R22MCA301A	Organic Reactions & Mechanism R22OCH301A	Separation Methods R22ACH301A	Data Science Using Python R23DS301
26-11-2025	9:00 A.M TO 12:00 PM	Product and Brand Management R22MBA302	Artificial Intelligence R22MCA302A	Chemistry of Natural Products R22OCH304A	Applied Analysis R22ACH302A	Mongo DB R23DS302
28-11-2025	9:00 A.M TO 12:00 PM	Digital Marketing R22MBA303A	Information Security R22MCA303A	Organic Photochemistry & Pericyclic Reactions R22OCH305B	Quality Control Standard Methods of Analysis R22ACH304A	React JS R23DS303
01-12-2025	9:00 A.M TO 12:00 PM	Human Resources Planning and Development R22MBA304(H) Behavioural Finance R22MBA304(F)	NoSQL DataBase R22MCA304A	Green Chemistry R22OCH306A	Green Chemistry R22ACH306A	Web Designing R23DS304
03-12-2025	9:00 A.M TO 12:00 PM	Performance & Reward Management R22MBA305(H) Security Analysis and Portfolio Management R22MBA305(F)	R- Programming R22MCA305A	Python Programming R22OCHOE310A	Python Programming R22ACHOE310A	Crypto Graphy and Network security R23DS305
05-12-2025	9:00 A.M TO 12:00 PM	Managerial Competencies and Employee Development R22MBA306(H) Management of Banks and Financial Institutions R22MBA306(F)	***	***	***	***
08-12-2025	9:00 A.M TO 12:00 PM	Stress Management R22MBA308	***	***	***	***
		***	***	***	***	***

[Signature]
12/11/25

CONTROLLER OF EXAMINATIONS

[Signature]
PRINCIPAL 12/11/25

KAKARAPARTI BHAVANRAYANA COLLEGE (Autonomous)

PG III SEMESTER END EXAMINATIONS(SUPPLEMENTARY) TIME TABLE NOV/ DEC - 2025

Date	Time	II MBA	II MCA	II M.SC(OCH)	II M.SC(ACH)	II M.SC(DS)
24-11-2025	9:00 A.M TO 12:00 PM	Strategic Management R22MBA301	R22MCA301 Data Science R22MCA301A	R22OCH301 Organic Reactions & Mechanism R22OCH301A R22OCH304 Chemistry of Natural Products R22OCH304A	R22ACH301 Separation Methods R22ACH301A	Data Science Using Python R23DS301
26-11-2025	9:00 A.M TO 12:00 PM	Product & Brand Management R22MBA302	R22MCA302 Artificial Intelligence R22MCA302A	R22OCH305 Organic Photo chemistry and Perycyclic Reactions R22OCH305A	R22ACH302 Applied Analysis R22ACH302A	Mongo DB R23DS302
28-11-2025	9:00 A.M TO 12:00 PM	Digital Marketing R22MBA303	R22MCA303 Information Security R22MCA303A	R22OCH306 Green Chemistry R22OCH306A	R22ACH304 Quality Control & standard Methods of Analysis R22ACH304A	React JS R23DS303
01-12-2025	9:00 A.M TO 12:00 PM	Human Resources Planning R22MBA304(H) Behavioural Finance R22MBA304(F)	R22MCA304 No SQL Data Base R22MCA304A	R22MCAE05 Python Programming R22MCAE05A	R22ACH306 Green chemistry R22ACH306A	Web Designing R23DS304
03-12-2025	9:00 A.M TO 12:00 PM	Performance & Reward Management R22MBA305(H) SAPM R22MBA305(F)	R22MCA305 R Programming R22MCA305A	***	R22MCAE05 Python Programming R22MCAE05A	Crypto Graphy and Network security R23DS305
05-12-2025	9:00 A.M TO 12:00 PM	Managerial competencies & Employee Development R22MBA306(H) Management of Banks& Financial Institutions R22MBA306(F)	***	***	***	***
08-12-2025	9:00 A.M TO 12:00 PM	Stress Management R22MBA307	***	***	***	***

12/11/2025
CONTROLLER OF EXAMINATIONS

G. B. Srinivas
PRINCIPAL 12/11/25

Room No: _____

Regd No: _____

**KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS**

Class : II MBA

Max Marks : 70

Subject : Management

Pass Mark : 28

Title of Paper : **Managerial Competencies & Employee Development**

Duration : 3 Hrs

Paper Code : R22MBA306(H)

Time

: 9am to 12pm

W.E.F : 2022-23

Date

: 05/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) Significance of Managerial Competencies
- b) Career Planning
- c) Competency Building
- d) Career Anchors
- e) Competency Mapping Model
- f) Training Needs for Competency
- g) Special Issues in Career development
- h) Competency Mapping Model

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Explain the managerial competency and career development in a dynamic business environment.
(OR)
3. Explain the Person-Job fit theory and Person- Environment fit theory in detail.
4. Discuss the techniques for competency mapping in detail.
(OR)
5. Describe the Traditional career development vs. Protean career development theory?
6. Explain the Performance dimensions for competency building.
(OR)
7. Explain the concept of mentoring for career development, Succession planning, fast tracking and dual laddering.
8. Describe the importance of Drawing career paths for self and the employees of the organization
(OR)
9. Discuss the need for implementing and managing training programmers consistently in Organizations.
10. How is Career Development related to the Business strategy?
(OR)
11. Narrate the special issues in Career Development.

[P.T.O]

SECTION-C

1X15=15M

III. Case Study (Compulsory)

12. US Federal Reserve Board

KESDEE developed a branded /customized e-learning portal on Risk Management for US Federal Reserve Board (FRS). The e-Learning portal includes prepared modules, case study, exercises, selected readings and quizzes. In addition, the e-Learning portal includes a knowledge assessment exam to be taken by participants. KESDEE developed a separate exam section for Federal Reserve Portal. The questions will be randomly generated from the database each time the student/candidate takes the exam. This initiative was completed a few months ago. In addition to existing 600 e-learning courses, KESDEE developed following new 8 e-learning courses as a part of this project:

1. Commodity Markets
2. Energy Markets
3. Commodity Derivatives
4. Trade Life Cycle
5. Front Office Controls
6. Middle Office Controls
7. Back Office Controls
8. CS01

- a) What is the importance of developing a customized e-learning portal on Risk Management for US-FRS?
- b) What might be the main motto behind conducting the examinations for all the identified eight e-learning courses?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : Management of Banks & Financial Institutions
Paper Code : R22MBA306(F)
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 05/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) Recommendations of Narasimham Committee
- b) Basel Norms in Capital Adequacy
- c) Credit Management
- d) Financial Instruments
- e) CAMELS Rating System
- f) NBFCs
- g) NEFT & RTGS
- h) Functions of Asset Liability Management

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Overview of Banking System in India.

(OR)

3. Explain the modern Trends in Banking System?

4. What is Liquidity? Explain Different theories of Liquidity?

(OR)

5. Discuss Capital Adequacy in Banks and Norms in Indian Commercial Banks?

6. What is Investment management ? Explain Fundamental Principles of Security & Investment by Commercial Bank?

(OR)

7. What is Non-Performing Assets? Give reasons and suggestions of NPAs in Indian Commercial Banks?

8. Explain about Indian Financial System?

(OR)

9. Explain the factors affecting Financial Markets?

10. What is Universal Banking? Give RBI Guidelines For Core Banking Solutions?

(OR)

11. What are the Regulatory Institutions in India and explain the role of Commercial Bank?

[P.T.O]

III. CASE STUDY COMPULSORY

12. Arun and Varun were twin brothers. Both were MBA students in a renowned institute.

They got selection in a multinational company in the last year. Both of them are interested in social activities also. They decided to set up a job in such a way to give employment opportunities to the villagers and they left the job in the MNC. Arun set up a factory in which he produced flour, oil and cotton and could give employment to 80 people. On the other hand, Varun opened a show room in nearby town. He engaged himself in trading the goods produced by Arun. The salient features of the business were that he used to sell 100 % pure products at minimum possible price. Efforts of both the brothers were resulted in full support to the development of their area.

Questions:

1. Identify the two factors affecting the fixed capital have been concerning Arun business.
2. Identify any two values being provided to the society.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Stress Management**
Paper Code : R22MBA308
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : *7am to 12pm*
Date : *08/12/2025*

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) Explain the Stress Management and its Nature of Stress.
- b) Explain the Behavioural aspects of stress.
- c) Explain the Worklife balance.
- d) Explain the role of communication in managing stress and work performance.
- e) Explain Time Management.
- f) What is Locus of control.
- g) Explain Eustress vs Distress.
- h) Explain about Emotional intelligence.

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Explain the Different Models of Stress and symptoms of Stress.
(OR)
3. Explain the Strategies for Coping Stress (Individual & Organizational Strategies)
4. Explain Stressful Environmental Conditions on Performance.
(OR)
5. Elaborate the College Stress and Occupational Stress.
6. Explain types of personalities
(OR)
7. Define the Emotional intelligence? Explain the impact of Emotional Intelligence on Business Environment
8. Elaborate Stress and Work Performance
(OR)
9. Discuss the Stress Intervention in Detail
10. Explain the Stress Management Techniques in Modern Organization.
(OR)
11. Explain Assertiveness Training and its Skills & Techniques, Stress & Social Support.

SECTION-C

III. Case Study (Compulsory)

1X15=15M

12. Define Yoga? Explain the Relaxation & Exercise Techniques, Nutrition & Life Style

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II MBA

Max Marks : 70

Subject : Management

Pass Mark : 28

Title of Paper : **Security Analysis And Portfolio Management**

Duration : 3 Hrs

Paper Code : R22MBA305(F)

Time : 9am to 12pm

W.E.F : 2023-24

Date : 03/12/2025

SECTION-A

I. Answer any FIVE of the following Questions.

5X3=15M

1. a) Investment Vs Speculation

b) Utility analysis

c) Concept of present value

d) Portfolio selection

e) Security market line

f) Risk free assets

g) Portfolio revision

h) Regression analysis

SECTION-B

II. Answer the following Questions.

5X8=40M

2. What do you mean by unsystematic risk? What are its sources? How can it be managed?

(OR)

3. Differentiate Investment Vs. Speculation and Gambling

4. Explain the constant growth model with suitable illustration.

(OR)

5. Discuss the bond pricing theorems.

6. Describe the key economic variables that an investor must monitor as part of his fundamental analysis.

(OR)

7. Explain basic principles and hypothesis of Dow Theory.

8. Explain the strong form of efficient market hypothesis.

(OR)

9. Describe the selection of optimal portfolio using Markowitz model.

10. Explain the arbitrage pricing theory. What are its limitations?

(OR)

11. Explain in brief Sharpe's and Treynor's performance evaluation models?

[P.T.O]

SECTION-C

III. Case Study Compulsory

1X15=15M

Investment in equity shares	Initial price	Dividend/ Interest	Market price (End of the year)	Beta risk factor
Power ltd	25	2	50	0.5
Coal ltd	35	2	60	0.6
Government bonds	100	140	1005	0.66
Steel ltd	45	2	135	0.4

Risk free return may be taken at 14%, you are required to calculate

- a. Expected rate of return of portfolio using CAPM Model
- b. Average return of portfolio

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**KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS**

Class : II MBA

Max Marks : 70

Subject : Management

Pass Mark : 23

Title of Paper : **Performance and Reward Management**

Duration : 1.5 hrs

Paper Code : R22MBA305(H)

Time : 9 am to 12 pm

W.E.F : 2022-23

Date : 03/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) Objectives of Performance Management
- b) Dimensions of Performance Management
- c) Diagnosing the causes of poor performance
- d) HR Score card
- e) Benefits of mentoring
- f) Objectives of reward management
- g) Performance linked remuneration system
- h) Performance pay

SECTION-B

II. Answer the following Questions

5X8=40M

2. Define Performance Management, explain the Performance Management Process
(OR)
3. Write about components, steps & benefits of strategic planning in Performance Management.
4. Explain the process & types of Performance Measurement.
(OR)
5. Write about methods, determinants of Performance Appraisal
6. What is performance development plan? Explain components & Process of PDP.
(OR)
7. Explain process and importance of Performance review.
8. What are the objectives and components of reward system.
(OR)
9. What are the key factors affecting compensation management?
10. Define fringe benefits, explain objectives & types of fringe benefits
(OR)
11. Explain about compensation of special groups.

[P.T.O]

III. Case Study (Compulsory)

12. Mr. Murthy, the General Manager (Personnel) of Caromandel Cements Ltd., Mumbai, is going to retire within two weeks after rendering his services to the company for 18 years in various capacities. He is assisted by the Personnel Manager in all personnel functions. He directly reports to the managing director of the company. The General manager (production) was elevated to the position of managing Director just two months ago. Mr. Murthy has been performing various personnel functions since 1976 as chief personnel manager. He has been given complete freedom and authority regarding all personnel functions including wage fixation, adjustment, revisions, bargaining etc. The employees several times reported their dissatisfaction about the wage level to the managing director. But the managing director used to convince them about the systems and techniques followed by Mr. Murthy in fixing wages.

The employees got a doubt the information supplied by Mr. Murthy about the wage levels in comparable industries and the living cost index. Consequently, they approached Mr. Murthy for classification. Mr. Murthy did not classify their doubt immediately and asked them to meet him after 10 days so that he will collect and provide all the facts, data and information. Accordingly, they met him after 10 days. Then he simply said that "information provided in the latest collective bargaining meeting is correct but the information supplied in the earlier meetings was not completely correct. He further added that he was forced by the top management to supply such incorrect information". This situation resulted in industrial unrest in the company for 14 days and the new managing director solved the issue by enhancing the wages by 100 percent.

Questions.

- a) What is the peculiar situation in this case?
- b) What are systems and techniques followed by Mr. Murthy in fixing wages?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Behavioural Finance**
Paper Code : R22MBA304(F)
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 01/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. a) Investment Decision Cycle
- b) Decision Making under risk and uncertainty
- c) Market Predictability
- d) Capital Structure
- e) Dividend Policy
- f) Measuring risk
- g) Hyperbolic discounting
- h) Asset management

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Discuss the nature, scope, objectives and application of Behavioral Finance.
(OR)
3. Explain the concept of Cognitive Information perception.
4. Write about the Expected Utility Theory (EUT) and Rational Thought decision making.
(OR)
5. Describe the Investor rationality and market efficiency.
6. What information is available for Market Participants and Market Efficiency in financial markets?
(OR)
7. Discuss the mechanisms of the external factor influence on risk perception and attitudes.
8. Explain the dependence of Capital Structure on Market Timing.
(OR)
9. Describe the systematic approach to using Behavioral factors in corporate decision-making.
10. What are the emotional mechanisms in modulating risk-taking attitude?
(OR)
11. Describe the concept of Neurophysiology of risk-taking.

[P.T.O]

SECTION-C

Case Study (Compulsory)

12. Overview:

Mark has been a disciplined investor with a diversified portfolio for years. However, when faced with a sudden market downturn, he experiences the emotional roller coaster common in behavioral finance. Fear and anxiety prompt him to consider selling his investments to avoid potential losses, despite having a well-thought-out long-term strategy.

Behavioral Biases: Mark's contemplation to sell is influenced by the behavioral bias of loss aversion, as the fear of losing money outweighs the potential gains. Additionally, he exhibits recency bias, giving more weight to recent market events rather than considering the historical performance of his investments.

Impact on Decision-Making: Understanding the impact of these biases is crucial for investors and financial professionals alike. Mark's potential decision to sell during a market downturn illustrates how emotions can override rational decision-making, potentially leading to suboptimal outcomes in the long run.

Questions:

- a) How can investors proactively manage behavioral biases like loss aversion to make more informed and rational decisions during market fluctuations?
- b) What role can financial education and awareness play in mitigating the impact of recency bias, helping investors make decisions based on a more comprehensive understanding of market dynamics?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Human Resources Planning and Development**
Paper Code : R22MBA304(H)
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 01/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) Nature of HRP
- b) Types of HR Plans
- c) Components of Career Planning
- d) Quality of Work-Life
- e) HR Outsourcing
- f) HR Evaluation
- g) Problems to HRP
- h) Task Analysis

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Explain the approaches to Human Resource Planning?
(OR)
3. What are the stages of HRP process?
4. Explain the objectives and Stages of Career Planning.
(OR)
5. Distinguish between Career Planning & Succession planning.
6. Explain HR System Design -Key Performance Areas and the Critical Attributes.
(OR)
7. Explain HRD as a system, HRD in changing scenarios.
8. Explain the difference between HRD and Training.
(OR)
9. Discuss the process of creating HRD Environment.
10. Explain HRD Practices in the Manufacturing and Services Sector.
(OR)
11. Explain the HRD Challenges in 21st Century.

[P.T.O]

SECTION-C

1X15=15M

II. Case Study (Compulsory)

12. Adapting to change through Career Mobility

To cope with the rapid changes triggered by digitalization and globalization, a global financial institution with over 75,000 employees had to hire candidates to fill technical positions while also needing to eliminate some current positions. Aware of its existing internal talent, the company leadership committed to provide career mobility support to all of its impacted employees. Right Management delivered group workshops, webinars and one-on-one coaching on personal change, resume development, interviewing, personal branding and networking. The team also provided support coaching related to retirement decision-making. A technology portal provided for supplementary expert resources, including a virtual interviewing tool, resume builder and career assessments.

Once employees have been through the program, employees got support to navigate the internal job search process. If new opportunities could not be found internally, Right Management provided outplacement services to support their external job search. The program has been successfully received within the company, with a 91% satisfaction rate for the services reported.

Questions:

- A. Why Career Management Services essential in Organizations?
- B. What are various Career Management Services?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : Digital Marketing
Paper Code : R22MBA303
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9 am to 12 pm
Date : 28/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. Write short notes on:
- Digital Vs Real Marketing
 - Relationship to the purchase funnel
 - Target group analysis
 - Privacy issues in digital marketing
 - Types of publications in face book
 - IOT
 - Google+ marketing
 - Social media advertising

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. Explain the concept of digital marketing channels and classification.

(OR)

3. Explain fundamental ideas underlying digital marketing.

4. What is Content Marketing? How consumers are targeted through online marketing tools. Explain in details.

(OR)

5. Explain of a full digital marketing plan and budget with an example.

6. Ragini wants to create first Google ad campaign of her beauty blog. Explain the process of creating first Google ad Campaign to her.

(OR)

7. Explain social medial marketing goals and strategies

8. How to create and visual identity of a facebook page marketing with an example.

(OR)

9. How to integrate instagram with a web site and other social networks

10. Explain problems and challenges in social media marketing.

(OR)

11. Explain role of AI and ChatGPT in digital marketing.

[P.T.O]

SECTION-C

1X15=15M

III. Case Study (Compulsory)

12. Since 1838, Knorr has made easy cooking easy. Its readymade sauces and stock pots are sold in approximately 90 countries around the world and it is parent firm Unilever's most profitable brand, with annual sales exceeding \$3 billion. Knorr cup-soup-Manchow veg is Knorr's most well-known product in India. Even well-known brands can't compete in the hyper-competitive FMCG industry, especially since busy lifestyles mean that fewer and fewer Indians in metropolitan cities cook at home. Knorr's new television ad created to improve awareness around women aged 25 to 49, but the company also sought to reach out to a younger demographic in order to increase sales.

Questions:

- a. Knorr approached you to prepare a suitable and multi-channel digital marketing plan to attract the younger audience to its products. So create a multichannel digital marketing plan to them.
- b. Prepare a digital ad to promote Knorr's product and services in social media of your choice. Justify your choice of social media.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Digital Marketing**
Paper Code : R22MBA303A
W.E.F : 2025-26

Max Marks : 70

Pass Mark : 28

Duration : 3 Hrs

Time :

Date :

9 am to 12 pm
28/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X3=15M

1. a) History of Digital Marketing.
- b) IOT
- c) SWOT
- d) Role of Social Media in Marketing.
- e) Integrated brand communication.
- f) Brand loyalty
- g) Email Marketing.
- h) Ethics in social media marketing.

SECTION-B

II. Answer ALL the following Questions

5X8=40M

2. What is digital marketing? Discuss best practices of digital marketing.
(OR)
3. Explain about different channels and classifications of digital marketing.
4. Explain about content production and video based marketing.
(OR)
5. What are the various privacy issues in digital marketing?
6. What is social media marketing? Explain different types of social media channels.
(OR)
7. What are the social media marketing goals and strategies? Explain.
8. What are the techniques in brand positioning subjected to digital marketing?
(OR)
9. What is digital branding and new product branding? Explain.
10. What are the problems and challenges in social media marketing?
(OR)
11. What is the role of AI and ChatGPT in digital marketing?

SECTION-C

II. Case Study (Compulsory)

1X15=15M

12. To optimize your business through digital marketing,
 - i) Create a Face book business account and promote.
 - ii) Use Instagram and integrate it with other social networks.
 - iii) Do Youtube marketing.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Product And Brand Management**
Paper Code : R22MBA302
W.E.F : 2023-24

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9 am to 12 pm
Date : 26/11/2025

SECTION-A

I. Answer any FIVE of the following Questions.

5X3=15M

1. a) What is Product Classification
- b) Next Generation product
- c) Concept of Product Positioning
- d) Explain the concept of role of a Brand
- e) Describe the concept of Brand Value Chain
- f) Explain Brand Audit
- g) Brand Licensing.
- h) What is Brand failure

SECTION-B

II. Answer the following Questions.

5X8=40M

2. Explain Product Life Cycle in detail
(OR)
3. Describe New Product planning and Development Strategies.
4. Explain the concept of Product-Mix decisions.
(OR)
5. Describe product positioning methods in detail.
6. Define Brand and explain the stages of Brand life Cycle.
(OR)
7. Explain the process of Strategic Brand Management.
8. Describe the concept of Brand Extension Strategies.
(OR)
9. Explain the methods of measuring Brand Equity.
10. Describe Brand Rejuvenation and Re-launch.
(OR)
11. Explain the concept of Brand Loyalty programmes.

[P.T.O]

12. Case Study (Compulsory)

BRAND LAUNCHES

The Launch of a brand is a festive occasion. Usually, a brand is launched by holding a brand conference. Formerly, brand launches were a laid-back affair. These days, the launches have become spectacular and memorable occasions. A soap with fresh time in it is launched with limes all over the venue. There were lime garlands too. Even the welcome drink was 'nimboo-paani'. The approach is to use all these activities in a synergistic manner. Some launches are called fire cracker launches. Here, the product is launched by cracking fire crackers to open up the pack with the accompanying music, lights etc. Yes there is a thin line that divides an innovative launch and gimmicky. The litmus test is the relevance of the launch time activity. Launches have become professional with the Event Management companies offering their services.

Questions:

1. Analyse the above Case study critically.
2. Suppose a non cola beverage is to be launched. How would you go about it?

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MBA
Subject : Management
Title of Paper : **Strategic Management**
Paper Code : R22MBA301
W.E.F : 2023-24

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 24/11/2025

SECTION-A

I. Answer any FIVE of the following Questions.

5X3=15M

1. a) Guidelines for crafting strategies
- b) ETOP
- c) Value chain approach
- d) Leadership style
- e) Turnaround Management Strategy
- f) Balanced Score Card
- g) Expansion strategies
- h) Strategic Audit

SECTION-B

II. Answer the following Questions.

5X8=40M

2. Define strategic management and explain need, scope, objectives and importance of strategic management.
(OR)
3. Explain the various stages of strategic formulation with an illustration.
4. Discuss briefly on BCG AND GE nice cell matrix.
(OR)
5. Explain Porter's 5 forces model in detail.
6. Explain various corporate level grand strategies.
(OR)
7. "Matching Strategy and structure is very important in strategic management". Discuss.
8. What is diversification? Explain various diversification strategies.
(OR)
9. Discuss Motives of mergers and acquisitions. What are its advantages?
10. Discuss triple bottom line approach in detail.
(OR)
11. Explain the steps involved in strategy evaluation and control process.

[P.T.O]

SECTION-C

1X15=15M

CASE STUDY :

12. Do a SWOT Analysis for Reliance Jio 5G Services in Indian Market and analyze the strategic approach of reliance communication in this regard.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MCA
Subject : Computers
Title of Paper : **R-Programming**
Paper Code : R22MCA305A
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9 am to 12 pm
Date : 03/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write about Data types in 'R'.
2. Explain Functions in R with example.
3. Explain Arithmetic and Boolean Operators.
4. Define Recursion. Write an example for Recursion.
5. Write a short note on Minima and Maxima.
7. write about plot() function.
8. Explain probability distribution.

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain about Data frames and Lists in R with examples.
(OR)
10. Explain Arrays and Vectors with example.
11. Explain R programming Structure with example.
(OR)
12. Explain Looping Over Non Vector Sets.
13. Explain about Math and Simulation in R.
(OR)
14. Explain Functions for Statistical Distributions.
15. Explain about Customizing graphs and saving graphs to files.
(OR)
16. Explain about creating graphs in R with example.
17. Explain Normal Distribution and Binomial Distributions.
(OR)
18. Explain T-Test and ANOVA.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MCA
Subject : Computers
Title of Paper : **NO SQL Database**
Paper Code : R22MCA304A
W.E.F : 2022-23

Max Marks : 70

Pass Mark : 28

Duration : 3 Hrs.

Time :

Date :

9am to 12pm
01/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What is NoSQL Database?
2. Differences between DBMS & MongoDB?
3. How to create Collection Commands in MongoDB?
4. Discuss about Datatypes in MongoDB?
5. Explain ObjectId in MongoDB?
6. Describe about \$set & \$push in MongoDB?
7. Briefly discuss about Replication?
8. Explain Inserting documents from JSON?

SECTION-B

II. Answer ALL the following Questions

10X5=50M

9. Define MongoDB Database? Explain different types of NoSQL Databases?

(OR)

10. Explain about Document Database and MongoDB Shell Commands?

11. Discuss about CRUD Operations in MongoDB?

(OR)

12. Discuss about JSON & BSON Datatypes with an examples?

13. Explain about Logical Query Operators in MongoDB?

(OR)

14. Briefly discuss about Query Operators in MongoDB?

15. Describe about Array Update Operators with an example?

(OR)

16. Explain any 5 Update Operators in MongoDB?

17. Discuss about Aggregation Operators?

(OR)

18. Explain the Replica sets and Sharding in MongoDB with a suitable example?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II MCA
Subject : Computers
Title of Paper : Information Security
Paper Code : R22MCA303
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 28/11/2025

SECTION-A

I. Answer ALL the following Questions

14X5=70M

1. Explain about SDLC and its stages. Explain the components of information system
(OR)
2. What is information security and explain its characteristics. Explain NSTISSC security model.
3. What are several threats to the information systems? Explain about the types of attacks done on information systems
(OR)
4. What is need for security of information. Discuss about various professional ethical and Legal issues in Information security
5. What is Risk Management in Security Analysis?
(OR)
6. Explain about several approaches for risk analysis
7. Explain about design of security architecture
(OR)
8. Explain about the VISA international Security model
9. Briefly explain about Cryptography
(OR)
10. Explain about various technologies providing information security

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class	: II MCA	Max Marks	: 70
Subject	: Computers	Pass Mark	: 28
Title of Paper	: Information Security	Duration	: 3 Hrs
Paper Code	: R22MCA303A	Time	: 9 am to 12 pm
W.E.F	: 2022-23	Date	: 28/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Define Information Security.
2. Write a short note on Security SDLC.
3. What is the need for security in information systems?
4. Write a short note on legal and ethical issues in information security.
5. List the approaches of risk analysis.
6. Define security policy.
7. Write a short note on planning for continuity.
8. Mention any two physical security measures.

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain the phases of the Security Systems Development Life Cycle (SSDLC).
(OR)
10. Discuss the NSTISSC Security Model and its components in detail.
11. Discuss the business needs that drive the implementation of information security.
(OR)
12. Describe the ethical and professional issues related to information security management
13. Discuss the steps involved in a comprehensive risk management plan..
(OR)
14. Explain the process of identifying and assessing risk in an organization.
15. Explain the logical design process and its importance in information security.
(OR)
16. Explain the VISA and NIST security models in detail.
17. Describe various access control mechanisms and security tools.
(OR)
18. Discuss Intrusion Detection Systems (IDS) and their working principles.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III – SEMESTER END EXAMINATIONS

Class : II MCA

Subject : Computers

Title of Paper : **Artificial Intelligence**

Paper Code : R22MCA302A

W.E.F : 2022-23

Max Marks : 70

Pass Mark : 28

Duration : 3 Hrs

Time : 9am to 12pm

Date : 26/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Define Artificial Intelligence. What are its major areas of application?
2. Differentiate between agent and environment.
3. Define informed and uninformed search strategies.
4. What is a heuristic function?
5. What is a search algorithm?
6. Mention any two issues in knowledge representation.
7. Define Minimax algorithm.
8. Write short notes on knowledge-based agents

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain Tic-Tac-Toe game with example.

(OR)

10. Discuss the foundations and history of Artificial Intelligence
11. Explain heuristic search and discuss its advantages over uninformed search.

(OR)

12. Discuss local search algorithms and their applications.
13. Discuss the properties of good search algorithms.

(OR)

14. Explain BFS, DFS, and Iterative Deepening Search with suitable examples.

15. Explain the Minimax algorithm with an example.

(OR)

16. Describe Alpha-Beta pruning and show how it improves Minimax efficiency.

17. Explain propositional logic and its role in AI knowledge representation

(OR)

18. Explain ontological engineering with examples.

ROOM NO:

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**KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS**

Class : II MCA
Subject : Computers
Title of Paper : **Data Science**
Paper Code : R22MCA301A
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 24/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Explain Numpy?
2. List out different data types in Python.
3. What is Binning.
4. Write the advantages of Numpy arrays?
5. Can Numpy be used with other libraries?
6. Define Machine Learning?
7. Scikit Learning? *Explain*
8. Explain Python pandas

SECTION-B

II. Answer the following Questions

5X10=50M

9. What are the features of Numpy Library.
(OR)
10. Explain about Boolean logic and Fancy indexing?
11. Explain about Aggregation and Grouping
(OR)
12. Explain string operations in Pandas with examples.
13. Explain about Simple Line Plots with Simple Scatter Plots?
(OR)
14. Explain the steps to create Histograms with Matplotlib.
15. Explain about Three-Dimensional plotting in Matplotlib.
(OR)
16. Explain about visualization with Seaborn?
17. Explain about Categories of Machine Learning.
(OR)
18. Explain about Naïve Bayes Classification.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [DS]
Subject : Computers
Title of Paper : **Cryptography and Network Security**
Paper Code : R23DS305▲
W.E.F : 2023-24

Max Marks : 70

Pass Mark : 28

Duration : Hrs

Time

Date

9am to 12pm
03/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What are the main types of security attacks?
2. What is steganography?
3. Define key management and its importance.
4. Explain the concept of message authentication.
5. What is a digital signature?
6. Write a short note on X.509 authentication service.
7. Write a short note on Authentication Header (AH).
8. What is SSL and how does it work?

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain the OSI security architecture and its components in detail.

(OR)

10. Describe the principles of block cipher and explain the Data Encryption Standard (DES).

11. Explain RSA algorithm with an example.

(OR)

12. Explain how public key cryptosystems ensure data confidentiality and authentication.

13. Explain the Digital Signature Standard (DSS) in detail.

(OR)

14. Describe Kerberos authentication protocol.

15. Explain PGP and S/MIME in detail.

(OR)

16. Discuss encapsulating security payload (ESP) and its functions.

17. Explain the working of Secure Socket Layer (SSL) in detail.

(OR)

18. Discuss various types of firewalls and their design principles.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [DS]

Subject : Computers

Title of Paper : **Web Designing**

Paper Code : R23DS304

W.E.F : 2023-24

Max Marks : 70

Pass Mark : 28

Duration : 3 Hrs

Time : 9 am to 12 pm

Date : 01/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What is HTML? Write the basic Structure of the HTML.
2. What is Internet? Write the World Wide Web.
3. Explain PHP Loops.
4. Write about formatting strings in PHP.
5. Explain open/close a file.
6. Explain control structures in java Script
7. Explain Event Handling.
8. Explain Badge and Label.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Explain about Cascading Style Sheets.

(OR)

10. Explain about Working With Hyperlinks.

11. Explain Identifiers and variables, Data types in PHP.

(OR)

12. Explain about File operation in PHP with an example.

13. Explain about Variables and operations in java Script.

(OR)

14. Explain String math and dates in java Script.

15. What is JQuery ? Explain about JQuery data traversing.

(OR)

16. Explain JQuery effects and Animations.

17. What is Bootstrap? What are the advantages of Bootstrap.

(OR)

18. Explain Connectivity of Bootstrap in page.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc [DS]

Max Marks : 70

Subject : Computers

Pass Mark : 28

Title of Paper : **React JS**

Duration : 3 Hrs

Paper Code : R23DS303A

Time : *9 am to 12 pm*

W.E.F : 2023-24

Date : *28/11/2023*

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Explain about the node.js
2. Explain JSX in React.
3. Explain about props
4. What is a functional component?
5. Write a short note on conditional rendering in React.
6. Explain React Router
7. Define AJAX and Fetch API
8. Explain about API integration

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain about Creating React basic application

(OR)

10. Describe JSX and its features with suitable examples.

11. Compare functional and class components in React with code examples.

(OR)

12. Explain state and lifecycle methods in React with examples.

13. Explain the process of handling forms and form validation in React.

(OR)

14. Describe conditional rendering using if, ternary operator, and logical && with examples.

15. Explain the steps involved in setting up and using React Router with examples.

(OR)

16. Describe React Router and how it helps in navigation between components.

17. Explain API integration in React using Fetch API with examples.

(OR)

18. Discuss error handling and debugging techniques in React applications

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc [DS]
Subject : Computers
Title of Paper : **Mongo DB**
Paper Code : R23DS302
W.E.F : 2023-24

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : *Page 6 12pm*
Date : *26/11/2025*

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What is NoSQL Database? List any 6 characteristics.
2. Explain basic shell commands: use, db, show dbs, show collections.
3. Explain about Datatypes in MongoDB.
4. What is Drop Database command? Explain with example.
5. Explain about UPSERT in MongoDB
6. Explain \$in and \$nin query operators with example.
7. Explain about Sharding in MongoDB
8. Explain about Inserting Documents from JSON File.

SECTION-B

II. Answer the following Questions

5X10=50M

9. Explain the Types of No SQL Databases.

(OR)

10. Explain differences between DBMS and MongoDB with tabular format.

11. Explain CRUD Operations in MongoDB.

(OR)

12. Explain Update and Delete operations with all methods.

13. Explain about any 4 Query Operators in MongoDB

(OR)

14. Explain \$sort, \$slice, \$size, \$elemMatch with examples.

15. Explain about any 4 Update Operators in MongoDB.

(OR)

16. Explain special types of index and _id field properties.

17. Explain about Aggregation in MongoDB.

(OR)

18. Explain Replica Set – architecture, creation, concept in MongoDB.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc [DS]
Subject : Computers
Title of Paper : **Data Science Using Python**
Paper Code : R23DS301A
W.E.F : 2023-24

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 24/11/2023

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What is NumPy? Why is it used in Python?
2. How do you sort arrays in NumPy?
3. What is Pandas? Explain key features?
4. Explain the difference between Series and Data Frame.
5. What are the advantages of data visualization?
6. What is a scatter plot? Explain with an example program.
7. Write a short note on text and annotations in Matplotlib.
8. What is Scikit-learn? Give an example.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Discuss array computations and aggregation operations with examples.

(OR)

10. Explain about the structured data?

11. Explain about Hierarchical Indexing? Give an example.

(OR)

12. Discuss various data selection and indexing operations in Pandas.

13. Write a Python program to create line, scatter, and bar plots using Matplotlib.

(OR)

14. Explain density and contour plots with examples.

15. Explain the process of data visualization and reporting in Python.

(OR)

16. Explain how to customize plots in Matplotlib (legends, colorbars, annotations) with examples.

17. Explain different categories of machine learning with suitable examples.

(OR)

18. Discuss decision tree and random forest algorithms with examples.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [ACH]

Max Marks : 70

Subject : Analytical Chemistry

Pass Mark : 28

Title of Paper : Quality Control & Standard Methods of Analysis

Duration : 3 Hrs

Paper Code : R22ACH304A

Time : 9am to 12pm

W.E.F : 2022-23

Date : 25/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write a note on Control Charts.
2. Discuss the elements of QA.
3. Discuss about Nucleation and Crystal growth.
4. Explain about the Adsorption indicators.
5. Explain about DMG.
6. Write the difference between Normal precipitation methods and PFHS method.
7. Discuss about the Fe II in Phosphoric acid
8. Write about oxidizing properties of Ce IV

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Explain the brief outline of ICH guidelines on drug substances and Products.
(OR)
10. Discuss about ISO 9000 requirements
11. Discuss about Co-precipitation and Post precipitation with suitable examples
(OR)
12. Explain the factors effecting on the completeness of Precipitation.
13. Discuss about PFHS method and its Applications
(OR)
14. Write about the organic precipitating agents
15. Mention the complete analytical chemistry of Ascorbic acid and Hydroquinone
(OR)
16. Write the complete analytical chemistry of Sn II and Ti III
17. Explain the Oxidizing properties of Chloramine T
(OR)
18. Write the complete analytical chemistry Iodate and Periodate

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc (ACH)
Subject : Analytical Chemistry
Title of Paper : Quality Control And Standard Methods of Analysis
Paper Code : R22ACH304
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 28/11/2025

SECTION-A

1. Explain about quality management system and process control tools (14M)

(OR)

2. Write an elaborate note on ICH guidelines for drug substances and products (14M)

3. Explain about quality assurance and triple role concept (14M)

(OR)

4. Discuss about statistical process and quality control (14M)

5. Write a note on classification and propagation of errors (14M)

(OR)

6. Explain about Q-test and T-test (14M)

7. Write a note on homogeneous and heterogeneous nucleation (14M)

(OR)

8. Discuss the following (14M)

i) Purity of precipitates ii) Theory of post precipitation

9. Discuss the applications of PFHS methods (14M)

(OR)

10. Explain about gravimetric determination using DMG and benzidine (14M)

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [ACH]

Max Marks : 70

Subject : Analytical Chemistry

Pass Mark : 28

Title of Paper : **Applied Analysis**

Duration : 3 Hrs

Paper Code : R22ACH302A

Time : 9am to 12pm

W.E.F : 2022-23

Date : 26/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write a note on of Al_2O_3 in Manganese Ore
2. What constituents are analysed in bauxite for its alumina content?
3. Describe the method for analysing Si in Ferro Chromium
4. Describe the method for analysing copper in bronze.
5. Write a note on Soil Sampling
6. How is Ammonical nitrogen determined in fertilizers?
7. Analysis of Sodium silicates in Soaps.
8. What are the components analyzed in paints?

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Explain the Analysis of MnO_2 , SiO_2 , MgO in Manganese Ore.
(OR)
10. Describe the steps involved in the analysis of bauxite, focusing on the determination of CaO , Silica, and Iron oxide.
11. Analysing the constituents Mn, C, and S in ferromanganese.
(OR)
12. Discuss the analytical procedures for determining the Constituents of brass, focusing on copper and zinc.
13. How to analyze the fertilizers in Phosphate and Nitrate fertilizers
(OR)
14. Discuss the procedure for the analysis of soils, focusing on the determination of moisture, total nitrogen, and lime.
15. Provide a detailed account of the analysis of total fatty matter, free Caustic alkali and sodium silicate
(OR)
16. Discuss the chemical analysis of cement, focusing on the determination of silica, alumina and lime.
17. Provide a detailed account of the use of Karl-Fisher reagent for moisture content determination in various Samples
(OR)
18. Write a note on Non aqueous titrimetry

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [ACH]
Subject : Analytical Chemistry
Title of Paper : **Separation Methods**
Paper Code : R22ACH301A
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 24/11/2023

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write a note on Importance of separation methods with Examples.
2. Write a note on R_f and R_t
3. Write a note on pollutants.
4. Write a note on detectors used in ion chromatography.
5. Write the applications of capillary electrophoresis.
6. Write the principle of ion exclusion chromatography.
7. Write about long pile method.
8. Write the principle of Solvent Extraction.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Write a note on development and validation of analytical methods.
(OR)
10. Write a note on importance of qualitative and quantitative analysis in research and development.
11. Write the principle and instrumentation of Ion chromatography
(OR)
12. Write a note on Applications of Ion Chromatography in analysis of water pollutants.
13. Write a note on properties of Xerogels and resolution of gel type.
(OR)
14. Write the principle, instrumentation and application of gel Exclusion chromatography.
15. Write a note on sampling of industrial effluents.
(OR)
16. Write a note on Cone and Quaterning method
17. Write about special Extraction systems like crown ethers and super fluids.
(OR)
18. Explain about counter current extraction and Batch Extraction.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc [ACH/OCH]

Max Marks : 70

Subject : Analytical Chemistry/Organic Chemistry

Pass Mark : 28

Title of Paper : **Green Chemistry**

Duration : 3 Hrs

Paper Code : R22ACH306A/R22OCH306A

Time :

9am to 12pm

W.E.F : 2022-23

Date :

01/12/2025.

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write a short note on benign green solvents.
2. Write a short note on Atom Economy.
3. Discuss the green synthesis of Sebacic acid.
4. Write the green synthesis of Methyl Methacrylate.
5. Write a note on N-alkyl reactions.
6. Write the principle of Microwave Radiation Technique.
7. Write a note on heterogeneous solid-liquid reactions.
8. Write a note on Negishi Coupling.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Write the green context of Wurtz reaction & Pinacol Coupling.

(OR)

10. Describe the Principles of Green Chemistry.

11. Write the green synthesis of Prednisolone.

(OR)

12. Write the green synthesis of Quinoxalines & 3- Phenylcatechol.

13. Discuss the microwave assisted reactions in organic solvents.

(OR)

14. Write a note on C- alkylation reactions.

15. Write a note on Sonochemical reactions.

(OR)

16. Write a note on Ultrasound assisted organic synthesis.

17. Write a note on Suzuki Coupling & Stille Coupling reaction.

(OR)

18. Write the applications of Ionic liquids in organic synthesis.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [ACH/OCH]
Subject : Computers
Title of Paper : **Python Programming**
Paper Code : R22ACHOE310A/R22OCHOE310A
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 1 Hrs
Time : 9 am to 12 pm
Date : 03/12/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. List the major features of Python that make it popular for programming.
2. Differentiate between append (), extend (), and insert () methods in lists with examples.
3. Write a Python program to check whether a number is even or odd.
4. Explain the role of break, continue, and pass statements in Python loops.
5. Define a Python function to calculate the square of a number.
6. What is the purpose of the return statement in Python functions?
7. Explain the use of string formatting operators with examples.
8. How can strings be concatenated and multiplied in Python? Give examples.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Explain the history and features of Python programming.
(OR)
10. Write a Python program to demonstrate different data types (int, float, string, list, tuple, dict)
11. Explain the loop structures in Python with examples.
(OR)
12. Write a Python program to print the multiplication table of a given number using a loop.
13. What are recursive functions? Write a program to compute factorial using recursion.
(OR)
14. Write a Python program using the math module to calculate the square root and power of a number.
15. Write about string operations such as concatenation, appending, multiplication, and formatting with examples.
(OR)
16. Write a Python program to check whether two strings are equal. Also, explain the use of any two string methods.
17. Define a class in Python with class variables, object variables, and one method.
(OR)
18. Write a Python class Student with attributes name and marks. Include a method to display the result.

Room No: _____

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [OCH]
Subject : Organic Chemistry
Title of Paper : **Organic Reactions And Mechanisms**
Paper Code : R22OCH301A
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 24/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. What is the Nef reaction
2. Explain about Tebbe definition
3. Describe the applications of Olefin Cross Coupling Metathesis (OCM)
4. Explain the SeO_2 oxidation.
5. Write about Oxidation of Alkenes to epoxides
6. Describe the NaBH_4 reduction
7. Explain about different types of Reductions
8. What is the favorskii rearrangements

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Write a note on I) Ritter reaction I (ii) Sakurai reaction
(OR)
10. Discuss the Ullmann Coupling reaction. Explain its mechanism and its Importance in the formation of C-C bonds.
11. Describe the (i) Passerini reaction (ii) mannich section
(OR)
12. Explain Ring Opening Metathesis (ROM) and also Applications.
13. Describe the oxidation of KMnO_4 oxidants.
(OR)
14. Explain about 1) oxidation of Ti(III) nitrate (ii) Baeyer-Villiger
15. Explain the role of Hydride transfer Reagents such as DIBAL in Organic reductions
(OR)
16. Write a note on i) Clemmenson Reduction (ii) Birch Reduction
17. Describe the Wagner-Meerwin rearrangement and its mechanism and importance in organic synthesis
(OR)
18. Discuss the i) Hoffmann reaction ii) Neber rearrangement

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc (OCH)
Subject : Chemistry
Title of Paper : Organic Reactions Mechanisms
Paper Code : R22OCH301
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9 am to 12 PM
Date : 24/11/2025

SECTION-A

1. Discuss the mechanistic details and synthetic applications of the following reactions
a) Ritter reaction b) Ugi reaction (14M)

(OR)
2. Mention the reaction mechanism and applications of the following reactions (14M)
a) Nef reaction b) Heck reaction.
3. Write a detailed note on the following reactions (14M)
a) Biginelli reaction b) Hantzsch reaction

(OR)
4. Discuss the following (14M)
a) Olefin cross coupling metathesis b) Ring opening metathesis
5. Write an elaborate note on oxidations by using NBS and MnO₂ (14M)

(OR)
6. Discuss the following (14M)
a) Baeyer -Viliger oxidation b)Wacker oxidation
7. Write a note on the following (14M)
a) Metal-Acid reductions b) Metal-Ammonia reductions

(OR)
8. Write the synthetic applications of the following reagents (14M)
a) LiAlH₄ b) Trialkyl borohydride
9. a) Explain Wagner- Meerwein rearrangement (6M)
b) Discuss the following (8M)
i) Demjanov rearrangement ii) Neber rearrangement

(OR)
10. a) Mention the synthetic applications of pinacol-pinacolone rearrangement (6M)
b) Explain the following (8M)
i) Beckmann rearrangement ii) Reformatsky rearrangement

Room No: _____

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc [OCH]

Max Marks : 70

Subject : Organic Chemistry

Pass Mark : 28

Title of Paper : **Chemistry of Natural Products**

Duration : 3 Hrs

Paper Code : R22OCH304A

Time : 9 am to 12 pm

W.E.F : 2022-23

Date : 26/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Describe the Isolation of alkaloids.
2. Write a brief note on classification of Terpenoids.
3. What is the isoprene rule?
4. Describe the structural elucidation of cholesterol.
5. Explain the classification of steroids.
6. Write a note on physiological action and isolation of flavanoids.
7. Explain the synthesis of haemin
8. Describe the classification of plant pigments.

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Explain the synthesis of Quinine.

(OR)

10. Analyse the methods for the structural elucidation of Nicotine.
11. Provide a detailed account of synthesis and Structural elucidation of Farnesol
(OR)
12. Analyse the methods for the structural Elucidation and synthesis of zingiberine.
13. Explain the structural elucidation and synthesis of Androsterone
(OR)
14. Analyse the methods for the structural elucidation and Synthesis of progesterone.
15. Explain the structural elucidation and synthesis of Quercetin
(OR)
16. Provide detailed account of the structural elucidation and synthesis of Kaemferol
17. Give the general methods for structural elucidation of plant pigments
(OR)
18. Explain the structure and synthesis of Quinones

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG III – SEMESTER END EXAMINATIONS

Class : II M.Sc (OCH)
Subject : Organic Chemistry
Title of Paper : Chemistry of Natural Products
Paper Code : R22OCH304
W.E.F : 2022-23

Max Marks : 70

Pass Mark : 28

Duration : 3 Hrs

Time :

Date :

Time : *From 10:12 PM*
Date : *26/11/2025*

SECTION-A

1. Discuss the classification, isolation and general methods for the structural elucidation of alkaloids. (2+2+10M)
(OR)
2. Elucidate the structure of Quinine. (14M)
3. Describe the structural elucidation and outline the synthesis of Farnesol. (8+6M)
(OR)
4. Elucidate the structure and explain synthesis of α -terpineol. (8+6M)
5. Discuss the structural elucidation of Testosterone. (14M)
(OR)
6. Describe the following in the structural elucidation of Cholesterol: (6+8M)
(a) Position of the double bond (b) Position and the nature of the side chain.
7. Explain the classification, nomenclature, isolation and general methods of synthesis of flavonoids. (3+3+3+5M)
(OR)
8. Elucidate the structure of Quercetin (14M)
9. Describe the synthesis of Chlorophyll and Haemin (7+7M)
(OR)
10. Discuss the nomenclature, classification and and general methods for the structural elucidation of plant pigments. (3+3+ 8M)

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III – SEMESTER END EXAMINATIONS

Class	: II M.Sc [OCH]	Max Marks	: 70
Subject	: Organic Chemistry	Pass Mark	: 28
Title of Paper	: Organic Photo Chemistry & Pericyclic Reactions	Duration	: 3 Hrs
Paper Code	: R22OCH305B	Time	: 9am to 12pm
W.E.F	: 2025-26	Date	: 28/11/2025

SECTION-A

I. Answer any FIVE of the following Questions

5X4=20M

1. Write a note on Photo Fries Rearrangement.
2. Write the mechanism of Barton reaction.
3. Discuss about photo chemistry of α,β -unsaturated ketones
4. Write the FMO diagrams for 1,3-butadiene.
5. Explain the terms Con-rotation and Dis-rotation
6. Write a note on (2+2) cycloaddition of ketenes
7. Write a note on claisen rearrangement.
8. Write a note on supra facial and antra facial shifts of Hydrogen (H).

SECTION-B

II. Answer ALL the following Questions

5X10=50M

9. Discuss about (i) photocyclo additions (ii) di- π methane rearrangement
(OR)
10. Discuss about the photo substitution reactions of aromatic compounds
11. Explain about the Norrish type-II reaction its mechanism with applications
(OR)
12. Discuss about (i) Paterno-Buchi (ii) Photo dimerization reactions.
13. Draw the Molecular orbital diagrams of 1,3,5-Hexatriene
(OR)
14. Write about Woodward-Hoffman selection rules for electrocyclic reactions.
15. Explain Huckel-Mobius aromatic and anti-aromatic transition state method.
(OR)
16. Discuss about the Endo-exo selectivity in Diels Alder reaction with examples, and its explanation by FMO method
17. Explain the sigmatropic reactions by FMO method
(OR)
18. Discuss the cope rearrangement and its stereochemistry by molecular orbital approach

ROOM NO.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG III - SEMESTER END EXAMINATIONS

Class : II M.Sc (OCH)

Max Marks : 70

Subject : Organic Chemistry

Pass Mark : 28

Title of Paper : Organic Photo Chemistry & Pericyclic Reactions

Duration : 3 Hrs

Paper Code : R22OCH305

Time

W.E.F : 2022-23

Date

9 am to 12 pm
22/11/2022

SECTION-A

I. Answer ALL the Questions

1. Describe the following Intermolecular reactions

- a) Cyclo addition reaction b) Photo dimerization

(14M)

(OR)

2. a) Discuss the Jablonski diagram

(7M)

- b) Write about photosensitization

(7M)

3. Explain the photochemistry of an α,β -unsaturated ketones with three examples

(14M)

(OR)

4. Describe the following photochemical rearrangements

- a) di- π methane rearrangement b) Barton reaction

(14M)

5. Draw the molecular orbitals & discuss the symmetry properties of 1,3-butadiene and 1,3,5-hexatriene

(14M)

(OR)

6. a) Write the Woodward-Hoffmann selection rules for electrocyclic reactions

(7M)

- b) Explain orbital symmetry correlation diagram of $4n+2$ electrocyclic reactions

(7M)

7. Explain FMO approach for $2+2$ & $4+2$ cycloadditions

(14M)

(OR)

8. a) Write the Woodward-Hoffmann selection rules for cycloaddition reactions

(5M)

- b) Describe suprafacial & antarafacial addition diagrams of $4+2$ cycloaddition reactions

(9M)

9. Describe the MO approach & stereochemistry of cope rearrangement

(14M)

(OR)

10. Explain the Sigmatropic rearrangement with carbon as migrating atom by FMO method

(14M)