Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: MBA

Subject: MANAGEMENT

Title of the Paper: INTERNATIONAL BUSINESS

Paper Code: **R20MBA401**

W.E.F: 2021-22

Max.Marks: 70M

Pass Marks: 28M

Duration: 3Hrs

Time: 9am to 12pm

Date: 12/06/2023

SECTION: A

Answer any FIVE of the following questions 5 X 3 = 15 M

1. a) Elements of International Business

   b) Ethics in International Business

   c) Trade barriers

   d) Foreign Direct Investment

   e) Balance of Payments

   f) Strategy of International Business

   g) Outsourcing

   h) Global Marketing

SECTION: B

Answer the following questions 5 X 8 = 40 M

2. a) Define International Business. Explain various types of International Business.

   or

   b) Discuss the influence of Economic and Technological environment on International Business.

3. a) Discuss various theories of International trade in brief.

   or

   b) Explain about WTO and it's role as international economic institution.

4. a) Explain the structure of foreign exchange market.

   or

   b) Explain the role and functioning of IMF.

5. a) Discuss the strategy and structure of International Business.

   or

   b) Explain about Strategic Alliances.

6. a) Discuss key aspects and elements of Global HRM.

or

b) Explain Export & Import Management in International Business operations.

SECTION: C

Case study / Problem – Compulsory

7. Answer the following question **1 X 15 = 15 M**

Mahindra & Mahindra (M&M) is a major player in the tractor and certain segments of the automobile market in India. After an impressive growth for a few years, the tractor market in India has been stagnating during 1998- 99 to 2000-2001.

M&M has been selling in tractors and utility vehicles in foreign markets including USA. Some of the components for its products have been sourced from abroad. M&M has a 100 percent subsidiary in USA, Mahindra USA, with a strong network of 100 dealers.

Mahindra has a five percent market share in the US market in the 28-30 horse power (HP) range. As a part of the strategy aimed at building a global supply chain, Mahindra USA has signed memorandum of Understanding (MoU) with the Korean tractor major Tong Yang, a part of the $2 billion Tong Yang Mooslam group, according to which Mahindra will source high horse power (mostly 25-40 hp range) and sell them around the world under the M&M brand name. To start with, the premium range of tractors will be sold in the US.

M&M's current tractors range is more utility-oriented and lacks the aesthetic appeal that Tong Yang's tractors have a must for a strong presence in the US market.

Questions:

1. What are the advantages and disadvantages of global sourcing?
2. How will the foreign market expansion help M&M?
3. How does the strategic alliance with Tong Yang benefit M&M?
4. What are the possible risks of the alliance? How can they be overcome/ minimized?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: MBA Max.Marks: 70M

Subject: MANAGEMENT Pass Marks: 28M

Title of the Paper: E-BUSINESS Duration: 3Hrs

Paper Code: **R20MBA402** Time: 9am-12noon

W.E.F: 2021-22 Date: 14.06.2023

SECTION: A

Answer the following questions **5 X 3 = 15 M**

1. a) e-Commerce
   b) WWW
   c) PTP
   d) MIME
   e) e-Marketing
   f) e-Supply chain
   g) Cashless Economy
   h) e-CRM

SECTION: B

Answer the following questions **5 X 8 = 40 M**

2. a) Briefly describe the four basic categories of e-commerce.

(OR)

b) Explain: Traditional Vs E-Commerce.

3. a) Explain the Technologies of the world wide web.

(OR)

b) Explain: 1. Telnet 2.IRC 3.ICQ

4. a) Write about the Advertisements in e-commerce.

(OR)

b) What is e-marketing? Explain the Advantages of online marketing.

5. a) What is E-CRM? Explain the Customer Life Cycle.

(OR)

b) What is E-supply chain? Explain the real time benefits of e-supply chain.

6. a) Explain the electronic fund transfer system.

(OR)

b) Explain the e-Cash legal issues.

SECTION: C

1 X 15 = 15 M

Answer the following questions

7. ABC Ltd a brick-and-mortar retailer based in India wants to enter the E Commerce segment to leverage their customer base. You are the Marketing Manager of the company and the directors want to discuss the challenges of the proposal with the prospective investors. Prepare a note on risks involved in the E Commerce business.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: MBA Max.Marks: 70M

Subject: MANAGEMENT Pass Marks: 28M

Title of the Paper: FINANCIAL DERIVATIVES Duration: 3Hrs

Paper Code: **R20MBA403FIN** Time: 9am-12noon

W.E.F: 2021-22 Date 21.06.2023

SECTION: A

Answer the following questions **5 X 3 = 15 M**

1. a) Types of traders
   b) Clearing house
   c) Option positions
   d) Option spreads
   e) Risk free interest rate
   f) Forward price
   g) Stock index futures
   h) Financial swaps

SECTION: B

Answer the following questions **5 X 8 = 40 M**

2. a) Explain the term 'financial derivative'. What are its important features?

(OR)

b) Explain the different types of financial derivatives.

3. a) what is an Option contract? Explain the different classifications of Options with suitable illustrations.

(OR)

b) Explain the different types of Option strategies.

4. a) Explain about Binominal Option pricing model.

(OR)

b) Explain about Black-Scholes Option pricing model.

5. a) Explain the importance of futures markets in context to economic growth of a country.

(OR)

b) Define the forward contract. Also discuss the features of forward contract.

6. a) What is a financial swap? Discuss the features of a swap contract with examples.

(OR)

b) What are various types of currency swaps? Explain their structure also.

SECTION: C

Answer the following questions **1 X 15 = 15 M**

7. Current market price of:

		X	Y
Option	=	16.12	10.62
Stock	=	Rs. 80	Rs. 80
Exercise price	=	Rs. 70	Rs. 70
Time to expiration	=	3 Months	3 Months
Risk free return	=	12% p.a.	12% p.a.
Expected dividend	=	0	0
Standard deviation of stock returns	=	60%	60%

Calculate the option value for X and Y.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: MBA

Subject: MANAGEMENT

Title of the Paper: HUMAN RESOURCE DEVELOPMENT

Paper Code: **R20MBA403HRM**

W.E.F: 2021-22

Max.Marks: 70M

Pass Marks: 28M

Duration: 3Hrs

Time: 9am-12noon

Date: 21.06.2023

SECTION : A

Answer the following questions **5 X 3 = 15 M**

1. a) HRD Process

   b) HRD Challenges

   c) HRD Matrix

   d) TQM

   e) Need for Training

   f) Training vs Development

   g) HRD in voluntary Organisation

   h) HRD Score Card

SECTION : B

Answer the following questions **5 X 8 = 40 M**

2. a) Examine the factors of HRD at micro& macro levels.

   (OR)

   b) Explain various steps involved in HRD Process.

3. a) Explain various Techniques of Performance Appraisal

   (OR)

   b) What is Career Planning.& Career development? Explain various Career development activities

4. a) Define Training. Explain the Methods of Training

   (OR)

   b) Explain the Components of Management Development Programme.

5. a) What are Applications of HRD in Government & Service sectors?

   (OR)

   b) Write about the Implications for HRD in India.

6 a) Explain the Methodology of HRD Audit .

(OR)

b) Write about current status of HRD Audit in India.

SECTION : C

Case study (Compulsory)

Answer the following questions **1 X 15 = 15 M**

Gulshan Fabrics, the national readymade garments departmental chain is managed by its Executive Director. The company has its Head Office in Bangalore. It outsources its manufacturing of garments. The company was divided into different zones with zonal offices in all metropolitan cities.

In a meeting with zonal Manager, the Executive Directors received a suggestion from the head Mumbai Zone, G.P. Basotia, that organization should become more human to employees. This irritated the Executive Director. He immediately remarked addressing to the Zonal Manager of Mumbai

"I have been closely watching the operations of Mumbai branch .there has been a lot of laxity in the managing affairs of employees. The human relations they teach in a management course do not work in real life. you must exercise belier control over employees".

The Zonal Manager apologized to the executive Director for making an inappropriate suggestion. At the same time he presented a report where in Mumbai Zone has broken all earlier records growth.

Questions:

(a) Why did Executive Director get angry? Is he a theory X Manager or a theory Y Manager?

(b) Do you think G.P. Basotiea was right in suggesting that organization should become more humane? What would have happened if the performance report of Mumbai was presented before making the suggestion?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

lass: MBA Max.Marks: 70M

ubject: MANAGEMENT Pass Marks: 28M

tle of the Paper: STRESS MANAGEMENT Duration: 3Hrs

aper Code: **R20MBA404HRM** Time: 9am to 12pm

.E.F: 2021-22 Date: 23/06/2023

SECTION–A

Answer any Five of the following questions **5 X 3 = 15 M**

1. a) Stress
   b) Frustration
   c) Behavioural Modifiers
   d) Eating Disorders
   e) Assertiveness Training
   f) Yoga
   g) Burnout
   h) Pressure

SECTION-B

Answer the following questions **5 X 8 = 40 M**

2. Explain the Nature and Symptoms of Stress.

(OR)

3 Explain the Sources and Consequences of Stress.

4 Discuss the causes of Frustration.

(OR)

5 Discuss the types of Conflicts.

6 Outline the sources of Managerial Stress.

(OR)

7 Outline the behavioural and situational modifiers of Stress.

8 What are the stress-related disorders?

(OR)

9 What are the treatment methods of stress-related disorders?

10 Describe some techniques of Stress Management.

(OR)

11 Describe the usefulness of Yoga and relaxation techniques in relieving stress.

SECTION– C

Case Study-Compulsory

Answer the following case. **1 X 15 = 15**

12 Ms. Shilpa has been working with Infotech Pvt. Ltd. at Hyderabad since 2013. She joined t IT Company as a software trainee and over the time she performed so well that she got thr promotions and now she is a part of the team of software developers. Her team leader impressed by her technical knowhow and her skills to resolve the technical issues. Till 20 she devoted her quality time to her responsibilities and has been found dedicated towards h job. However, HR Manager of this Company Mr S. Dass has noticed a major change in h behavior since last few months as these changes were putting a significant impact on h performance. So he collected some important information regarding her life. He came to kno that she got married in December 2016. Her husband was staying at some other place so sh has shifted with him at a distant place in June 2017. She has to travel almost two hours dail due to this change in place. Her mother got expired in February 2018. She was very close t her mother and was not able to accept it. Moreover, she delivered a baby girl in June 2018. M Dass concluded that Shilpa is not able to manage this stress and unable to balance between he personal and professional life. As a HR Manager, he investigated the other women working i his Company. But he realized that most of women workers are maintaining work life balanc and performing well. So he calls Shilpa to discuss about her problem and provide her wit necessary counselling.

Questions:

a) Do you think that some major life changes in Shilpa's life have created stress which has reduced her efficiency?

b) What coping strategies Ms Shilpa should follow to reduce stress caused to her due to life changes?

c) Should Mr Dass suggest practicing meditation and Yoga to Ms Shilpa to relieve stress?

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

lass: MBA Max.Marks: 70M

ıbject: MANAGEMENT Pass Marks: 28M

tle of the Paper: INTERNATIONAL FINANCAIL MANAGEMENT Duration: 3Hrs

ıper Code: **R20MBA404FIN** Time: 9am to 12pm

.E.F: 2021-22 Date 23|06|2023

SECTION: A

any five of

Answer the following questions **5 X 3 = 15 M**

1. a) Features of MNCs

   b) Objectives of IFM

   c) Gold standard

   d) Exchange rate

   e) Transaction

   f) Concepts of IPF

   g) Cash Management

   h) Foreign currency

SECTION: B

Answer the following questions **5 X 8 = 40 M**

2. Explain the features of MNC'S.

(OR)

3 Difference between Financial Management and International Financial Management.

4 Explain features and functions of foreign exchange market.

(OR)

5 Write about the features and advantages of Euro currency market.

6 Explain types of transactions.

(OR)

7 Explain the methods of international capital budgeting.

8 Discuses about International Portfolio Management.

(OR)

9 Explain long term financing sources of MNCs.

10 Explain Multinational Transfer pricing and performance Measurement.

(OR)

11. Explain Dividend policy for Multinational corporations

SECTION: C

Answer the following questions **1 X 15 = 15 M**

12 XYZ Company Limited is a leading steel company in India. The company exports the steel to the Middle East countries. The company directors propose set up a plant near to the demand locations in the Middle East. The proposal to be financed through funds raised in international markets. Illustrate the factors in raising funds in international markets to the directors.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

lass: MBA Max.Marks: 70M

ubject: MANAGEMENT Pass Marks: 28M

tle of the Paper: RETAIL MANAGEMENT Duration: 3Hrs

aper Code: **R20MBA404MKT** Time: 9am to 12pm

.E.F: 2021-22 Date: 16/06/2023

SECTION-A

Answer any Five of the following: **5 X 3 = 15 M**

1) a. Concept of Retailing
   b. Global Retailing
   c. Retail Formats
   d. Location Opportunities
   e. Merchandise
   f. Push and Pull Factors
   g. Retail Services Quality
   h. Store Atmosphere

SECTION-B

Answer All questions. **5 X 8 = 40 M**

2) Define Retail marketing? Explain the nature, scope and importance of retail management.

(OR)

3 Explain in detail about the structure of Indian Retail Industry.

4. What is meant by retail strategy? Explain the market strategies.

(OR)

5 What are the merits and demerits of location and site analysis?

6. What is merchandise management? Explain the characteristics of Visual Merchandise Management.

(OR)

7. What are 'Private Label' brands? Explain.

8) Write a note on the objectives and strategies of Pricing in Retail.

(OR)

9) Evaluate the Store Operations and Inventory Management.

10) Explain the concept of Store Layout and Design.

(OR)

11) What is meant by Retail Branding? Explain the promotional strategies.

SECTION-C

1 X 15=15 M

12. **CASE STUDY (Compulsory)**

Organized retailing in India is poised for exponential growth. It is expected to experience new paradigms due to the changing dynamics in areas such as demand, supply, technology, supply chain management, government policy. What are the underlying opportunities and challenges in this sector? It is said that as consumerism is rapidly growing, rural consumers will be the biggest beneficiaries. At the same time, the retailer is expected to provide value to the customers, associates, employees and consumers. It may be noted that it is difficult to sustain retail business with such dynamics and changes taking place in the market. The need of hour is flexibility in business so that it can change according to the needs of the market. 3 With fast changes in rural market, some large companies are ready to enter the organized retail business in small cities and towns. The question is how far they would succeed. If they enter this field, they have to decide that weather they should focus on value retailing or lifestyle retailing. Retail cannot develop by setting up only malls. In order to promote retail we also have to promote India as a shopping destination. For this, it is necessary to give Indian retail an Indian face. While we bring in foreign formats to grow, it is very important that India develops her own format rather that just to imitate foreign malls.

Questions:

1. How is organized retailing different from unorganized retailing? State the advantages and dis-advantages of both forms.
2. Taking example of an organized retailer in India, explain how have they been successful in giving an Indian face to retail?
3. List the opportunities and threats before organized retailing.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV – SEMESTER END EXAMINATIONS

Class	: II MBA	Max Marks	: 70
Subject	: Management	Pass Mark	: 28
Title of Paper	: Digital And Social Media Marketing	Duration	: 3 Hrs
Paper Code	: R20MBA406MKT	Time	: 9am to 12pm
W.E.F	: 2021-22	Date	: 19/06/2023.

SECTION-A

I. **Answer ALL Questions** **5X3=15M**

1. Define Digital Marketing and its importance
2. Explain SWOT analysis
3. Explain content management
4. Explain the concept of optimization of websites.
5. What is digital marketing budgeting?
6. Explain social media advertising
7. Explain the process of YouTube marketing
8. Explain the concept of Google+ marketing

SECTION-B

II. **Answer the following Questions** **5X8=40M**

9. Explain different marketing channels and its classifications.

(OR)

10. Differentiate the concepts of digital vs real marketing.

11. What are the steps in creating initial digital marketing plan?

(OR)

12. Explain the concept of privacy issues in digital marketing.

13. Explain different types of social media channels.

(OR)

14. What are the social media marketing goals and strategies? Explain it.

15. Define Face book Marketing. How to create, visual identity and types of publications in face book.

(OR)

16. Define Instagram Marketing. Explain the process of optimization of Instagram profiles and integrating Instagram with a website.

17. Explain problems and challenges in social media marketing.

(OR)

18. Discuss ethics in social media marketing.

[P.T.O]

SECTION-C

CASE STUDY-COMPULSORY

III. Answer the following questions **1X1**

19. Case Study :

Mercedes Benz seem to win every time with their social media campaigns. The on stands out to me was back in 2013 when they created what I still believe to be one best Instagram marketing campaigns to date. Mercedes wanted to reach out to the younger audience so they hired five top Instagram photographers to each take the of a new Mercedes CLA. Whoever got the most likes got to keep the car – so they al worked at it!

By the end of the campaign, Mercedes has received:

- 87,000,000 organic Instagram impressions
- 2,000,000 Instagram likes
- 150 new marketing assets (stunning photos)

Questions:

a) What lessons can you learn from this? Could you put your followers up for a cha and make it into a competition or campaign?

b) Can you do a competition that gets people trying out your product first?

c) Like Mercedes you could recruit bloggers/influencers via social media and get the blogging about your service or product.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: MCA | Max.Marks: 70M

Subject: Computer Applications | Pass Marks: 28M

Title of the Paper: DATA SCIENCE USING PYTHON | Duration: 3Hrs

Paper Code: **R20MCA403** | Time: 9am - 12noon

W.E.F: 2021-22 | Date: 14.06.2023

Answer All Questions. All Questions carry equal marks **5 X 14 = 70 M**

Unit - I

1) A) 1.Explain Data Types in Python?

2.Explain Boolean Logic & sorting arrays?

(OR)

B) What is Numpy arrays ? Explain advantages of Numpy arrays over Python Arrays and List?

Unit-2

2) A) Explain Data Index and Selection in Pandas?

(OR)

B) Explain about Combining Data sets, Aggregation and Grouping?

Unit-3

3) A)Explain the steps to create Histograms With Matplotlib?

(OR)

B) Explain General Matplotlib Tips and Create Simple Scatter Plots?

Unit-4

4) A) Explain Three- Dimensional Plotting ?

(OR)

B) Write about Text and Annotation with Customizing Matplotlib?

Unit-5

5) A)Briefly Explain Categories of Machine Learning?

(OR)

B) What is Machine Learning ? Qualitative Examples of Machine Learning Applications?

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

Class	: II MCA	Max Marks	: 70
Subject	: Computers	Pass Mark	: 28
Title of Paper	: Java Full Stack Development	Duration	: 3 Hrs
Paper Code	: R20MCA405	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 12/06/2023.

SECTION-A

I. Answer ALL Questions **5X14=70M**

1. Briefly explain about interface with example.

(OR)

2. Explain about Hash Tables in java.

3. Explain about include, forward and sendRedirect methods in Servlets.

(OR)

4. Write about JSP basics and explain the difference between Servlets and JSP.

5. Explain about Hibernate session and Hibernate configuration.

(OR)

6. Briefly explain about Spring framework.

7. What is MongoDB. Explain different datatypes of MongoDB.

(OR)

8. Explain about documents and collections in MongoDB.

9. Write about create, update, delete and read documents in MongoDB.

(OR)

10. Explain $set, $sort, $limit, $skip in MongoDB.

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

Class : II MCA
Subject : Computers
Title of Paper : Cryptography And Network Security
Paper Code : R20MCA406
W.E.F : 2022-23

Max Marks : 70
Pass Mark : 28
Duration : 3 Hrs
Time : 9am to 12pm
Date : 16/06/2023

SECTION-A

I. Answer ALL Questions **5X14=70M**

1. Explain about security attacks, security services.

(OR)

2. Explain about Data Encryption Standard in detail.

3. Explain about RSA algorithm in detail.

(OR)

4. Explain about Data Encryption Standard in detail.

5. Explain in detail about Kerberos.

(OR)

6. Explain about X.509 Authentication service.

7. Explain about Authentication header and Encapsulating Security Pay load.

(OR)

8. Briefly discuss about Pretty good privacy.

9. Explain about Password management.

(OR)

10. Explain about firewall design principles.

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...oom. No: _____ Regd. No: _____

IV SEMESTER END EXAMINATION

...lass : II MCA
...itle of paper : Dot Net Programming
...aper Code : MCA 40217
...uration : 3 Hrs

Max Marks : 70
Pass Marks : 28
Time : 9am-12noon
Date : 14.06.2023

...nswer all questions. All questions carry equal marks (5 X 14 = 70M)

UNIT-I

1.(A) Briefly explain the control class in VB.NET. (7)
(B) Explain the Picture Box Control with an example. (7)

(OR)

(C) Explain about ToolStrip Control. (7)
(D) Explain about open File Dialog Control. (7)

UNIT - II

...(A) Explain different data types supported by C#. (14)

(OR)

(B) Write about inheritance in C#. (7)
(C) Explain 'try-catch-finally' statement with an example. (7)

UNIT-III

...(A) Explain AdRotator Control in ASP.NET with an example. (7)
(B) Write the steps for creating static menu in ASP.NET? (7)

(OR)

...) Explain Compare Validator control with an example. (7)
...) Explain Login Name control with an example. (7)

UNIT-IV

...(A) Explain about Object Datasource control in ADO.NET. (7)
(B) Explain about Datalist control in ADO.NET (7)

(OR)

...) Explain Web Port Zone control in detail. (7)
...) Explain Proxy Web Port Manager control in detail. (7)

UNIT-V

...(A) Explain the steps for creating a Simple Master Page. (7)
(B) Explain how can you apply themes for controls at runtime. (7)

(OR)

...) Briefly explain about Data Caching. (14)

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH/ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: GREEN CHEMISTRY Duration: 3Hrs

Paper Code: **R20OCH402/R20ACH402** Time: 9am to 12pm

W.E.F: 2021-22 Date: 21/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

UNIT-I

1. Describe the Claisen Rearrangement and Aldol Condensation with mechanism. (14M)

(OR)

2. Discuss the principles of Green Chemistry and discuss their importance in our society. (14M)

UNIT-II

3. Explain the green synthesis of Sebacic Acid and Ibuprofen with mechanism. (14M)

(OR)

4. Explain in detail about green synthesis of Quinoxalines and Prednisolone. (14M)

UNIT-III

5. What is Microwave Assisted Chemistry? How do microwave promote chemical reactions? What types of chemical reactions are particularly used in Organic Solvents. (14M)

(OR)

6. Discuss the phase transfer catalyst reactions of C-Alkylation and S-Alkylation. (14M)

UNIT-IV

7. Define Sonochemical Reactions and explain its types of reactions in detail. (14M)

(OR)

8. Write short notes on Ultrasound assisted organic synthesis. (14M)

UNIT-V

9. Explain in detail about Friedel Craft's reaction and Suzuki Coupling reactions. (14M)

(OR)

10. Discuss the application of organic synthesis in alkylation and oxidation reactions. (14M)

Regd No: 403 Room No: 218

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: CHEMISTRY OF BIO-ORGANIC COMPOUNDS Duration: 3Hrs

Paper Code: **R20OCH403** Time: 9am to 12pm

W.E.F: 2021-22 Date: 24/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Explain the following.

   i) Mutarotation ii) Occurrence of carbohydrates iii) Ring structures of glucose.

(OR)

2. Explain the chemistry of Sucrose.

3. Write the classification and general properties of amino acids. Give few methods of synthesis of alpha amino acids.

(OR)

4. What are proteins and explain the structure and classification of proteins.

5. Discuss the structural elucidation and synthesis of Vitamin-A_1.

(OR)

6. Discuss the occurrence and structural elucidation of Vitamin C.

7. Write and compare the concepts of the structure of DNA and RNA.

(OR)

8. Explain

   (i) Differences between Nucleotides and Nucleosides. (ii) Types of mutations.

   (iii) Heterocyclic bases

9. Explain the role of lipids in human biochemistry and write some of the chemical properties of simple lipids (fats).

(OR)

10. Write a note on structure of phospholipids, glycolipids and explain the functioning of Cholesterol.

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: ORGANO METALIC REAGENTS Duration: 3Hrs

Paper Code: **R20OCH404** Time: 9am to 12pm

W.E.F: 2021-22 Date: 26/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Explain the reactions of Grignard reagent with alkyl, propargylic halides, carbonyl compounds and amines. 14M

(OR)

2. Write the preparation of Lithium Di isopropyl amide (LDA), and its uses in aromatic annulation and hetero aromatic annulations. 14M

3. Write a note on synthesis and properties of Gilman reagents. 14M

(OR)

4. Write a note on synthesis and properties of Organo nickel compounds. 14M

5. Explain following reactions with mechanisms.

i) Suzuki coupling reaction. ii) Sonogashira coupling reaction. 14M

(OR)

6. Write a note on preparation and medicinal applications of organo platinum compounds. 14M

7. Give one method for the preparation of disiamylborane, thexylborane, 9-BBN and Catechol boranes. 14M

(OR)

8. Write a note on functional group transformations of organoboranes. 14M

9. Write the synthetic applications of Alkenyl silanes, Allyl silanes and Sillyl enol ethers. 14M

(OR)

10. Write the Synthetic applications of α-silylcarbanion and β-silyl carbonyl compounds. 14M

Room No: _____ Regd No: 210cu0ar

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV – SEMESTER END EXAMINATIONS

Class	: II M.Sc (Organic Chemistry)	Max Marks	: 100
Subject	: Chemistry	Pass Mark	: 40
Title of Paper	: Bio-Inorganic And Chemistry of Main Group Elements	Duration	: 3 Hrs
Paper Code	: R20OCH401	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 28/07/2023.

SECTION-A

I. Answer any FIVE of the following Questions **5X20=100M**

Each Question carries 20 Marks

1. Describe the significance of elements in daily life.

2. Write a note on zinc containing enzymes.

3. Explain VSEPR Theory.

4. Write a note on periodic trends and classification of main group compounds.

5. Explain the structures of alkyl lithium and crown ethers.

6. Explain the role of Na^+ , K^+ in biological system.

7. Discuss the MO diagram of BF_3 molecule .

8. What are the allotropes of carbon and explain it.

9. Explain the structure of Oxo acids of phosphorus.

10. Discuss about structure of halogen oxides and inter halogen compounds.

Regd No: 21ACH007 Room No: 227

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH/ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: GREEN CHEMISTRY Duration: 3Hrs

Paper Code: **R20OCH402/R20ACH402** Time: 9am to 12pm

W.E.F: 2021-22 Date: 21/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

UNIT-I

1. Describe the Claisen Rearrangement and Aldol Condensation with mechanism. (14M)

(OR)

2. Discuss the principles of Green Chemistry and discuss their importance in our society. (14M)

UNIT-II

3. Explain the green synthesis of Sebacic Acid and Ibuprofen with mechanism. (14M)

(OR)

4. Explain in detail about green synthesis of Quinoxalines and Prednisolone. (14M)

UNIT-III

5. What is Microwave Assisted Chemistry? How do microwave promote chemical reactions? What types of chemical reactions are particularly used in Organic Solvents. (14M)

(OR)

6. Discuss the phase transfer catalyst reactions of C-Alkylation and S-Alkylation. (14M)

UNIT-IV

7. Define Sonochemical Reactions and explain its types of reactions in detail. (14M)

(OR)

8. Write short notes on Ultrasound assisted organic synthesis. (14M)

UNIT-V

9. Explain in detail about Friedel Craft's reaction and Suzuki Coupling reactions. (14M)

(OR)

10. Discuss the application of organic synthesis in alkylation and oxidation reactions. (14M)

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Regd No: 21ACH007 Room No: 218

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: TRADITIONAL AND ENVIRONMENTAL METHODS OF ANALYSIS Duration: 3Hrs

Paper Code: **R20ACH403** Time: 9am to 12pm

W.E.F: 2021-22 Date: 24/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Write the principle of decomposition and describe sample decomposition solution techniques with acids and by alkali fusion.

(OR)

2. Write the differences between sintering and fusion. Give an account on the decomposition of samples by sintering with sodium peroxide.

3. Describe the method for the quantitative determination of aliphatic and aromatic primary amine group.

(OR)

4. Explain the method for the quantitative determination of aldehydes & ketones.

5. Summarise the analysis of Benzyl penicillin.

(OR)

6. Outline the analysis of Methyldopa, an antihypertensive agent.

7. Explain the types of water pollutants and their effects in detail. Write the analytical method for the determination of chloride ion.

(OR)

8. Explain the determination of DO and BOD standards for drinking water.

9. Explain the classification of air pollutants and describe the chemical analysis of CO_2 and NO.

(OR)

10. Write a note on inorganic and organic particulates. Give the standards for ambient air quality.

Regd No: 21ACH007

Room No: 222

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(ACH)

Max.Marks: 70M

Subject: CHEMISTRY

Pass Marks: 28M

Title of the Paper: QUALITY CONTROL AND STANDARD METHODS OF ANALYSIS Duration: 3Hrs

Paper Code: **R20ACH404**

Time: 9am to 12pm

W.E.F: 2021-22

Date: 26/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1 a) Write a short note on elements of quality assurance and its design 14M

b) Write a short note on ISO 9000 and ISO14000 requirements.

(OR)

2. a) Write a short note on Good Laboratory Practices.

b) Write a short note on ICH guidelines on drugs.

3. Discuss Heterogenous, Homogeneous Nucleation and Crystal growth 14M

(OR)

4. Explain the theories of Co-precipitation and post precipitation with examples.

5. Write a short note on theory of PFHS and methods of PFHS. 14M

(OR)

6. Explain the gravimetric determination with Chloride, Sulphate and DMG as examples.

7. Explain the classification of errors with examples. 14M

(OR)

8. Write a note on T-test , F-test and explain their significance

9. Discuss elements of quality, quality control and triple role concept. 14M

(OR)

10. Write a short note on statistical process control, statistical quality and acceptance of sampling.

Room No: 221 Regd No: 21ACH001

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV – SEMESTER END EXAMINATIONS

Class	: II M.Sc (Analytical Chemistry)	Max Marks	: 100
Subject	: Chemistry	Pass Mark	: 40
Title of Paper	: Bio-Inorganic And Bio Chemistry	Duration	: 3 Hrs
Paper Code	: R20ACH401	Time	: 9am to 12pm
W.E.F	: 2022-23	Date	: 28/07/2023

SECTION-A

I. Answer any FIVE of the following Questions **5X20=100M**
Each Question carries 20 Marks

1. Write a note on Orientation of amino acid residue in Solvent.

2. Explain briefly about the structures of Primary, secondary and tertiary of proteins.

3. Give an account on Catalytic efficiency and Enzyme kinetics.

4. Briefly explain the Michaelis -Menton kinetics and its features.

5. Explain the structure and function of lipids.

6. Give a note on structural difference between DNA and RNA.

7. Explain the structure and function of vitamin-B_1 .

8. Give a note on reaction of glucose.

9. Explain the vital role of metals in biology.

10. Briefly explain the Heamocyanin and Hemerythrin.

Room No: _____ Regd. No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class : II M.Sc (Organic Chemistry)
Subject : Chemistry
Title of Paper : Organic Reaction Mechanisms And Nano chemistry
Paper Code : OCH 40217
W.E.F : 2017-18

Max Marks : 70
Pass Marks : 28
Duration : 3 Hrs
Time : 09:00 to 12:00
Date : 17/06/2022

SECTION – A

Answer any FIVE of the following questions **5X14=70M**

1. a) Write a note on STEVENS and NEBER rearrangements.
b) Explain the following molecular rearrangements
i) FAVORSKII rearrangement ii) BECKMANN rearrangement

2. a) Explain WAGNER-MEERWEIN and PINACOL-PINACOLONE rearrangements.
b) Write about CURTIUS, LOSEN and SCHMIDT rearrangements with mechanism and examples.

3. a) Write molecular orbital diagrams and symmetry properties (C_2 and m) for 1,2-butadiene and 1,3,5-hexatriene.
b) Write the correlation diagrams for interconversion of cyclohexadiene and 1,3,5-hexatriene system and give conclusions.

4. a) Explain con-rotatory and dis-rotatory motions and Suprafacial and Antarafacial additions in pericyclic reactions.
b) Write the FMO approach for (2+2) and (4+2) cycloaddition reactions.

5. a) Write a note on COPE and AZA-COPE rearrangement.
b) Explain Sigmatropic rearrangement involving Hydrogen atom by PMO method.

6. a) Write about Claisen rearrangement with examples. (6 M)
b) Explain i) Fluxional tautomerism and ii) (3,3) and (5,5) Sigmatropic rearrangements.

a) Write about i) Photo reduction ii) Singlet and triplet states.
b) Explain NORRISH Type-I and Type-II reactions with examples.

8. a) Explain about di-π methane rearrangement and PHOTO-FRIES rearrangement.
b) Write a detailed note on PATERNO-BUCHI reaction.

9. a) Write about solid and gaseous carbon source based Nanotube production techniques.
b) Write about general, adsorption, electronic, optical properties and reactivity of nanotubes.

10. a) Write a brief note on structure of single and multi-walled carbon nanotubes.
b) Write about growth mechanism of Carbon-nanotubes.

Room. No: _____ Regd. No: _____

IV SEMESTER END EXAMINATION

Class : II M.Sc (Organic Chemistry)
Title of paper : Advanced Organic Spectroscopy
Paper Code : OCH40117
Duration : 3 Hrs

Max Marks : 70
Pass Marks : 28
Time : 09:00 to 12:00
Date : 15/06/2022

Answer ~~any~~ FIVE the questions **(5 X 14 = 70)**

UNIT – I

1. **(A)** Write a detailed note on Nuclear Overhauser effect. (6M)
   (B) Explain AB_2 and ABC spectra with examples. (8M)

2. **(A)** What is a spin system. Write about nomenclature of spin system. (6M)
   (B) Discuss about nuclear magnetic double resonance. (8M)

UNIT – II

(A) Mention the similarities and differences between PMR and CMR. (6M)
(B) Write a note on BBD and SFORD techniques. (8M)

4. **(A)** Write about C^{13} NMR chemical shift values of allenes and aromatic compounds. (6M)
   (B) Explain how 3 isomeric ethers of MF: $C_4H_{10}O$ can be distinguished using ^{13}CNMR spectra. (8M)

UNIT – III

5. **(A)** Write a note on cotton effect. (6M)
   (B) Explain about α-halo keto rule (8M)

6. **(A)** Write about ORD and CD curves. (6M)
   (B) Discuss about Octant rule and mention the applications. (8M)

UNIT –IV

7. **(A)** Define DEPT spectrum. Explain its importance. (6M)
   (B) Write a detailed note on COSY spectra. (8M)

8. **(A)** Write about NOESY specturm. (6M)

   (B) Discss about HOM2DJ and HET2DJ. (8M)

P.T.O

9. A compound with MF:$C_9H_{10}O$ gave the following spectral data. Deduce its structure. (14M)

IR: 1720, 1100, 750Cm^{-1}
^{1}HNMR : 2.2(S,3H), 3.6(S,2H), 7.3(M,5H)
^{13}CPMR 29(q), 50(t), 126(d), 136(S), 127(d), 128(d) and 206(s)

10. When acetone is treated with a base, a product. A is formed. It showed the following spectral properties UV: λmax 238 nm (ϵmax 11,700) (14M)

IR: 1620cm-1, 1695 cm-1
PMR : s-1.90(S,3H); 2.10 (S,6H); 6.0δ(S,1H)
MS: (m/2, RA) 98(49); 83(90); 55(100); 53(13); 43(78), 41(13); 39(43); 29(46); 28(8); 27(42)

Deduce the structure of compound A and interpret the above spectral data. Suggest a mechanism for the formation of A.

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Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: ORGANIC METALIC REAGENTS Duration: 3Hrs

Paper Code: **R20OCH404** Time: 9am to 12pm

W.E.F: 2021-22 Date: 20/06/2022

Answer any five of the Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Write the preparation of Grignard reagents with alkyl, allyl and propargyl halides and explain the reactions of Grignard reagent with esters, acids, carbon dioxide and sulfur dioxide.

2. Write the preparation, characteristics and uses of alkyl lithium reagents.

3. Write the synthesis and properties of Gilman reagents, draw structure of LDA.

4. Explain
   i) Properties of organo nickel compounds (π-allyl nickel complexes)
   ii) Synthesis of nickel carbonyl.

5. Explain the following reactions with mechanisms.
   i) Suzuki coupling reaction ii) Sonogashira coupling reaction.

6. Write the preparation and special properties of organo platinum compounds.

7. Write few functional group transformations of organoboranes and reactions of organoboranes with α-bromo ketones, α-bromo esters.

8. Discuss one preparation method of catechol borane and 9-BBN and explain the reaction of alkenyl boranes and trialkenyl borates.

9. Write synthetic applications of trimethylsilyl chloride & trimethylsilyl triflate.

10. Explain
    i) Peterson olefination ii) Alkenyl silanes

Room No: _____ Regd. No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
IV SEMESTER END EXAMINATIONS

Class : II M.Sc (Organic Chemistry)
Subject : Chemistry
Title of Paper : Techniques and Tools for Industrial Applications
Paper Code : OCH 40317
W.E.F : 2017-18

Max Marks : 70
Pass Marks : 28
Duration
Time : 3 Hrs
Date : 09:00 to 12:00
: 20/06/2022

SECTION – A

Answer any FIVE of the following questions **5X14=70M**

1. Describe the principle, theory and applications of column chromatography.
2. **a)** Explain the types of paper chromatography.
   b) Write the applications of paper chromatography.
3. Explain the different types of cation and anion exchange resins.
4. **a)** Write the applications of TLC.
   b) Describe the principle of ion exchange chromatography.
5. **a)** Explain the instrumentation of HPLC.
   b) Write the application of HPLC in the separation of organic compounds.
6. **a)** Write a note on method development and validation parameters.
   b) Write a note on detectors used in HPLC.
7. **a)** Explain about Thermal Conductivity detector and Flame Ionisation detector in GC.
   b) Explain the applications of GC.
8. **a)** Explain the instrumentation of GC.
   b) Write a note on selection of columns and carrier gases.
9. Explain the basic principle of capillary electrophoresis.
10. Write the principle of paper electrophoresis and separation of serum proteins by paper chromatography.

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: CHEMISTRY OF BIO-ORGANIC COMPOUNDS Duration: 3Hrs

Paper Code: **R20OCH403** Time: 09:00 to 12:00

W.E.F: 2021-22 Date: 17/06/2022

Answer only FIVE **Questions. All Questions Carry Equal Marks** **5 X 14 = 70 M**

1. Explain the stereo chemistry and ring structure of Fructose. 14M

2. Write a note on the following. 14M

   i) Classification of carbohydrates ii) Mutarotation. iii) Anomeric effects.

3. i) Write a note on Classification of Peptides and Proteins. 6M

   ii) Write a note on determination of C-Terminal and N- Terminal Amino acids. 8M

4. Explain general methods of synthesis of alpha-amino acids. 14M

5. Discuss the structural elucidation of vitamin B_2. 14M

6. Discuss the structural elucidation and synthesis of vitamin D. 14M

7. What are Heterocyclic bases and write the reactions of Heterocyclic bases. 14M

8. Write a note on basic concepts of the structure of RNA and DNA. 14M

9. Write a note on classification of lipids and its role in human biochemistry. 14 M

10. Explain the structure and functioning of cholesterol. 14M

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: CHEMISTRY OF BIO-ORGANIC COMPOUNDS Duration: 3Hrs

Paper Code: **R20OCH403** Time: 9am to 12pm

W.E.F: 2021-22 Date: 24|07|2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Explain the following.
   i) Mutarotation ii) Occurrence of carbohydrates iii) Ring structures of glucose.

(OR)

2. Explain the chemistry of Sucrose.

3. Write the classification and general properties of amino acids. Give few methods of synthesis of alpha amino acids.

(OR)

4. What are proteins and explain the structure and classification of proteins.

5. Discuss the structural elucidation and synthesis of Vitamin-A_1.

(OR)

6. Discuss the occurrence and structural elucidation of Vitamin C.

7. Write and compare the concepts of the structure of DNA and RNA.

(OR)

8. Explain
   (i) Differences between Nucleotides and Nucleosides. (ii) Types of mutations.
   (iii) Heterocyclic bases

9. Explain the role of lipids in human biochemistry and write some of the chemical properties of simple lipids (fats).

(OR)

10. Write a note on structure of phospholipids, glycolipids and explain the functioning of Cholesterol.

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: ORGANO METALIC REAGENTS Duration: 3Hrs

Paper Code: **R20OCH404** Time: 9am to 12pm

W.E.F: 2021-22 Date: 26/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Explain the reactions of Grignard reagent with alkyl, propargylic halides, carbonyl compounds and amines. 14M

(OR)

2. Write the preparation of Lithium Di isopropyl amide (LDA), and its uses in aromatic annulation and hetero aromatic annulations. 14M

3. Write a note on synthesis and properties of Gilman reagents. 14M

(OR)

4. Write a note on synthesis and properties of Organo nickel compounds. 14M

5. Explain following reactions with mechanisms.

i) Suzuki coupling reaction. ii) Sonogashira coupling reaction. 14M

(OR)

6. Write a note on preparation and medicinal applications of organo platinum compounds. 14M

7. Give one method for the preparation of disiamylborane, thexylborane, 9-BBN and Catechol boranes. 14M

(OR)

8. Write a note on functional group transformations of organoboranes. 14M

9. Write the synthetic applications of Alkenyl silanes, Allyl silanes and Sillyl enol ethers. 14M

(OR)

10. Write the Synthetic applications of α-silylcarbanion and β-silyl carbonyl compounds. 14M

Room No: _____ Regd No: _____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV – SEMESTER END EXAMINATIONS

Class : II M.Sc (Organic Chemistry)
Subject : Chemistry
Title of Paper : Bio-Inorganic And Chemistry of Main Group Elements
Paper Code : R20OCH401
W.E.F : 2022-23

Max Marks : 100
Pass Mark : 40
Duration : 3 Hrs
Time : 9am to 12pm
Date : 28/07/2023

SECTION-A

I. Answer any FIVE of the following Questions **5X20=100M**
Each Question carries 20 Marks

1. Describe the significance of elements in daily life.

2. Write a note on zinc containing enzymes.

3. Explain VSEPR Theory.

4. Write a note on periodic trends and classification of main group compounds.

5. Explain the structures of alkyl lithium and crown ethers.

6. Explain the role of Na^+ , K^+ in biological system.

7. Discuss the MO diagram of BF_3 molecule .

8. What are the allotropes of carbon and explain it.

9. Explain the structure of Oxo acids of phosphorus.

). Discuss about structure of halogen oxides and inter halogen compounds.

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG IV SEMESTER END EXAMINATIONS

Class:M.Sc(ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks:28M

Title of the Paper: QUALITY CONTROL AND STANDARD METHODS OF ANALYSIS Duration: 3Hrs

Paper Code: **R20ACH404** Time: 09:00 to 12:00

W.E.F: 2021-22 Date: 20/06/2022

Answer any FIVE Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Explain ISO 9000, ISO 14000 and its requirements

2. Explain
   i) GLP ii) Outline of ICH guidelines on drug substances and products

3. Explain the Co-precipitation and post precipitation with examples

4. Write about homogenous, heterogenous nucleation and crystal growth

5. Write the methods and applications of PFHS

6. Explain the gravimetric determination using DMG

7. Explain i) Propagation of errors
   ii) Test of significance of T-test and F-test

8. Write about i) Determinate errors
   ii) Significant figures

9. Describe the following
   i) Quality assurance ii) Triple role concept

10. Explain Statistical process control and acceptance sampling

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: TRADITIONAL AND ENVIRONMENTAL METHODS OF ANALYSIS Duration: 3Hrs

Paper Code: **R20ACH403** Time: 9am to 12pm

W.E.F: 2021-22 Date: 24/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1. Write the principle of decomposition and describe sample decomposition solution techniques with acids and by alkali fusion.

(OR)

2. Write the differences between sintering and fusion. Give an account on the decomposition of samples by sintering with sodium peroxide.

3. Describe the method for the quantitative determination of aliphatic and aromatic primary amine group.

(OR)

4. Explain the method for the quantitative determination of aldehydes & ketones.

5. Summarise the analysis of Benzyl penicillin.

(OR)

6. Outline the analysis of Methyldopa, an antihypertensive agent.

7. Explain the types of water pollutants and their effects in detail. Write the analytical method for the determination of chloride ion.

(OR)

8. Explain the determination of DO and BOD standards for drinking water.

9. Explain the classification of air pollutants and describe the chemical analysis of CO_2 and NO.

(OR)

10. Write a note on inorganic and organic particulates. Give the standards for ambient air quality.

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(OCH/ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: GREEN CHEMISTRY Duration: 3Hrs

Paper Code: **R20OCH402/R20ACH402** Time: 9am to 12pm

W.E.F: 2021-22 Date: 21/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

UNIT-I

1. Describe the Claisen Rearrangement and Aldol Condensation with mechanism. (14M)

(OR)

2. Discuss the principles of Green Chemistry and discuss their importance in our society. (14M)

UNIT-II

3. Explain the green synthesis of Sebacic Acid and Ibuprofen with mechanism. (14M)

(OR)

4. Explain in detail about green synthesis of Quinoxalines and Prednisolone. (14M)

UNIT-III

5. What is Microwave Assisted Chemistry? How do microwave promote chemical reactions? What types of chemical reactions are particularly used in Organic Solvents. (14M)

(OR)

6. Discuss the phase transfer catalyst reactions of C-Alkylation and S-Alkylation. (14M)

UNIT-IV

7. Define Sonochemical Reactions and explain its types of reactions in detail. (14M)

(OR)

8. Write short notes on Ultrasound assisted organic synthesis. (14M)

UNIT-V

9. Explain in detail about Friedel Craft's reaction and Suzuki Coupling reactions. (14M)

(OR)

10. Discuss the application of organic synthesis in alkylation and oxidation reactions. (14M)

Regd No:_____ Room No:_____

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)
PG IV SEMESTER END EXAMINATIONS

Class: M.Sc(ACH) Max.Marks: 70M

Subject: CHEMISTRY Pass Marks: 28M

Title of the Paper: QUALITY CONTROL AND STANDARD METHODS OF ANALYSIS Duration: 3Hrs

Paper Code: **R20ACH404** Time: 9am to 12pm

W.E.F: 2021-22 Date: 26/07/2023

Answer All Questions. All Questions Carry Equal Marks **5 X 14 = 70 M**

1 a) Write a short note on elements of quality assurance and its design 14M

b) Write a short note on ISO 9000 and ISO14000 requirements.

(OR)

2. a) Write a short note on Good Laboratory Practices.

b) Write a short note on ICH guidelines on drugs.

3. Discuss Heterogenous, Homogeneous Nucleation and Crystal growth 14M

(OR)

4. Explain the theories of Co-precipitation and post precipitation with examples.

5. Write a short note on theory of PFHS and methods of PFHS. 14M

(OR)

6. Explain the gravimetric determination with Chloride, Sulphate and DMG as examples.

7. Explain the classification of errors with examples. 14M

(OR)

8. Write a note on T-test , F-test and explain their significance

9. Discuss elements of quality, quality control and triple role concept. 14M

(OR)

10. Write a short note on statistical process control, statistical quality and acceptance of sampling.

Room No: _____ Regd No: _____

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

Class : II M.Sc (Analytical Chemistry)
Subject : Chemistry
Title of Paper : Bio-Inorganic And Bio Chemistry
Paper Code : R20ACH401
W.E.F : 2022-23

Max Marks : 100
Pass Mark : 40
Duration : 3 Hrs
Time : 9am to 12pm
Date : 28/07/2023

SECTION-A

I. Answer any FIVE of the following Questions
Each Question carries 20 Marks **5X20=100M**

1. Write a note on Orientation of amino acid residue in Solvent.

2. Explain briefly about the structures of Primary, secondary and tertiary of proteins.

3. Give an account on Catalytic efficiency and Enzyme kinetics.

4. Briefly explain the Michaelis -Menton kinetics and its features.

5. Explain the structure and function of lipids.

6. Give a note on structural difference between DNA and RNA.

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8. Give a note on reaction of glucose.

9. Explain the vital role of metals in biology.

10. Briefly explain the Heamocyanin and Hemerythrin.