

**PITHAPUR RAJAH'S
GOVT. COLLEGE (A),
KAKINADA**



**DEPARTMENT OF
COMPUTER
APPLICATIONS**

**BOARD OF STUDIES
2022-2023**

P R GOVERNMENT COLLEGE [AUTONOMOUS] KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
BOARD OF STUDIES 2022-2023

The Nineteenth meeting of Board of Studies *COMPUTER APPLICATIONS* has been conducted in the Department of Computer Applications on 31st October , 2022 at 2 PM to discuss the following.

Agenda

1. Revamping of Syllabus for I, III & V Semesters.
2. Model Question Papers and Blue Print.
3. Panel of Question Paper setters and Examiners.
4. Pass minimum in Internal Assessment.
5. Choice Based Credit System for I, II, & III year students.
6. Introducing of New Courses of Study and the possibilities.
7. Admission criteria for programs offered by the Departments.
8. Proposals for Community Service/Extension Activities/ Projects for the benefit of the society.
9. Introducing certificate course with the Name **Basic Computer Applications** (30 hours) as per the requirement and possibility and feasibility.
10. Mandatory attendance of 60% for I mid examinations, 75% of attendance for II mid examination and 75% attendance for SEE – theory and practical.
11. Any other proposal / item with the permission of the Chair.

Resolutions taken

1. It is resolved to Revamping of Syllabus for I,III & V Semesters.
2. It is resolved to follow the existing model question papers and blue print of papers.
3. It is resolved to follow the modified panel of question paper setters and examiners.
4. It is resolved to follow the pass minimum in internal assessment as per norms.
5. It is resolved to follow Choice Based Credit System for I, II, & III year students.
6. It is resolved to introduce new courses of study whenever necessary.
7. It is resolved to follow the admission criteria for programs offered by the Department.
8. It is resolved to conduct extension lectures by the eminent persons.
9. It is resolved to introduce certificate course with the Name **Basic Computer Applications** (30 hours) as per the requirement, possibility and feasibility.
10. It is resolved to Mandate attendance of 60% for I mid examinations, 75% of attendance for II mid examination and 75% attendance for SEE – theory and practical.
11. Nil.

MEMBERS PRESENT

1 Smt. Dr K. V. Sobha Rani
Lecturer In-charge (Computer Applications)
P. R. Govt College (A)
Kakinada


Chairman

2 Smt. N.Naga Subrahmanyeswari
Lecturer In Computer Science
ASD Govt degree College for Women(A)
Kakinada
Ph: 9948438376
Eswari.velugu@asgdcw.ac.in

N.N.S. Eswari 31/10/22
University Nominee

3 Smt. G.Satya Suneetha
Lecturer In Computer Applications
ASD Govt degree College for Women(A)
Kakinada.
Ph:9491215695
Satyasuneetha.grandhi@asgdcw.ac.in

Suneetha 31/10/22
Subject Expert

4 Sri. R.V.Phani Kumar
Lecturer in Computer Applications
P. R. Govt College (A)
Kakinada


Member

5. P. Jyothi
Lecturer In Computer Applications
P. R. Govt College (A)
Kakinada

P. Jyothi
Member 31/10/22.

6. K.Jyothirmayi
Lecturer In Computer Applications
P. R. Govt College (A)
Kakinada

Member

STUDENT REPRESENTATIVES

- | | |
|---------------------|---------------|
| 1. K.Divya | II B.Com CECs |
| 2. Shaik Kareemulla | I B.Com CA |
| 3. T. Dhana Laxmi | I B.Com CA |
| 4. P. Rajeswari | I B.Com CECs |

PANEL OF NAMES FOR APPOINTMENT OF EXAMINERS/PAPER SETTERS

2022-23

S.No	NAME & DESIGNATION	COLLEGE	EXPERIENCE	Address
1.	Sri L. Diwakar Rao	Aditya College, Kakinada 0884-2376665	16 Years	C/o college
2.	Sri M. Satyanarayana	V.S.Laxmi Degree college, Kakinada 08842300200 7893365011	14 Years	C/o college
3.	Smt K. Surekha	V.S.M.College, Ramachandrapuram 08851242309	16 Years	C/o college
4.	Sri M. Kameshwara Rao	Chaitanya PG & Degree college, Chaitanya Nagar, Kakinada 0884-2344444	14 Years	C/o college
5.	Sri D. V. Mahesh	V.S.Lakshmi Degree college, Sasikanth Nagar, Kakinada 0884 - 2300228	14 Years	C/o college
6.	Sri Ch. Venkata Veerendra	Suryaraya Degree College, Pithapuram, East Godavari District- 533450 0884-5592875	9 Years	C/o college
7.	Smt. N.Naga Subrahmanyeswari	ASD Womens College, Kakinada Ph: 9948438376	4 Years	C/o college
8.	Smt. G.Satya Suneetha	ASD Women's College, Kakinada Ph:9491215695	4 Years	C/o college
9.	Dr. U.Subhashini	Govt Degree College, Ravulapalem Ph:9700507249	4 Years	C/o college
10.	Smt S.Vaani Kumari	Govt. Degree College(W) (A) , Srikakulam Ph:9885766144	4 Years	C/o college

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Information Technology	I BCOM CA Sem - I 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	5

Course Objective
To acquire basic knowledge in Information Technology and its applications in the areas of business

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
CO2	Interpret, produce, and present work-related documents and information effectively and accurately
CO3	Critically examines, using data and figures (Analysis and Evaluation**).
CO4	Apply the techniques to prepare the slides
CO5	Create form letters in mail merge
CO6	Retrieve information and create reports from databases.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)

SYLLABUS:

Information Technology

(Four units with each unit having 15 hours of class work)

Unit I Introduction:

Computer Definition - Characteristics and Limitations of Computer—Generations of Computer, Classification of Computers, Applications of Computer, Block Diagram of a Digital Computer - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types

Unit II MS word:

Word Processing – Features-Advantages and Applications- Parts of Word Window-Toolbar-Creating, Saving, Closing, Opening and Editing of a Document-Moving and Copying a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct Spelling and Grammar- Mail Merge- Macros

Unit III MS Excel:

Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas- Types of Function-Templates –Macros – Sorting- Charts – Filtering.

Unit IV MS Power point:

Introduction – Starting – Parts-Creating of Tables- Create Presentation – TemplatesAuto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts

MS Access:

Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data - Modify Table Data - Sort and Filter Records - Querying a Database -Create Basic Queries - Sort and Filter Data in a Query

References:

- (1) P.Mohan computer fundamentals- HimalayaPublications.
- (2) R.K.Sharma and Shashi K Gupta, Computer Fundamentals - Kalyani Publications
- (3) Fundamentals of Computers ByBalagurusamy, Mcgraw Hill
- (4) Computer Fundamentals Anita Goel Pearson India
- (5) Introduction to Computers Peter Norton
- (6) Fundamentals of Computers Rajaraman V Adabala N
- (7) Office 2010 All-in-One For Dummies Peter Weverka
- (8) MS-Office S.S. Shrivastava
- (9) MS-OFFICE 2010 Training Guide Prof. Satish Jain, M. Geetha, KratikaBPB Publications

Online Resources:

<https://support.office.com/en-us/office-training-center>
<https://www.skillshare.com/browse/microsoft-office>
https://www.tutorialspoint.com/computer_fundamentals/index.htm
<https://www.javatpoint.com/computer-fundamentalstutorial>
<https://edu.gcfglobal.org/en/subjects/office/>

Practical Component: @ 2 hours/week/batch

- MS word creation of documents letters invitations etc, tables, mailmerge, animations in word, formatting text
- MS Excel performing different formulas, creating charts,macros
- MS power point slide creation, creation of animation

➤ MS Access creation of database, forms and reports

RECOMMENDED CO-CURRICULAR ACTIVITIES:

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology

PAPER- I

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology

PAPER- I

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	2	2	30
UNIT -III	1	1	15
UNIT -IV	1	2	20
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
MODEL PAPER
Information Technology
SEMESTER-I

Time : 2 Hrs

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1. A) Define Computer. Explain about Block Diagram of a Digital Computer.(UNIT-I)
(OR)
B) Explain about Input and Output Devices. (UNIT-I)
2. A) Explain about Features, Advantages and Applications of MS Word. (UNIT-II)
(OR)
B) Explain about Mail Merge in MS Word. (UNIT-II)
3. A) What is Excel? Explain the Features of MS Excel. (UNIT-III)
(OR)
B) How to Create a Simple Access Database? (UNIT-IV)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. What are the Characteristics of Computer?
5. What are the Applications of Computer?
6. Explain about Bullets and Numbering, Find and Replace.
7. Write about Headers and Footers in MS Word.
8. Discuss about cell and cell address.
9. What are the features of PowerPoint?
10. Explain data types in MS Access.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology
Question Bank

Essay Questions:

UNIT-I

1. Define Computer. Explain about Block Diagram of a Digital Computer.
2. Write about Generations of Computer.
3. Explain about Input and Output Devices.
4. What is an Operating System? Explain about Functions of Operating System.

UNIT-II

1. Explain about Features, Advantages and Applications of MS Word.
2. Write about Creating, Saving, Closing, Opening and Editing of a Document.
3. Explain about Mail Merge in MS Word.
4. Write about insertion of objects in detail.

UNIT-III

1. What is Excel? Explain the Features of MS Excel.
2. What is Excel? Explain the Types of Functions in MS Excel.
3. Explain about charts in MS Excel.

UNIT-IV

1. What is MS PowerPoint? What are the features of MS PowerPoint?
2. How to create presentation in MS PowerPoint?
3. How to Create a Simple Access Database?
4. Write about Querying a Database -Create Basic Queries.

Short Answer Questions:

UNIT-I

1. What are the Characteristics of Computer?
2. What are the Applications of Computer?
3. Briefly explain about Primary and Secondary Memories.
4. Write about any five Input Devices.

UNIT-II

1. Explain about Bullets and Numbering, Find and Replace.
2. Write about Headers and Footers in MS Word.
3. Explain about Auto Correct Spelling and Grammar in MS Word.
4. What are the advantages of MS Word.

UNIT-III

1. Explain the Features of MS Excel.
2. Discuss about cell and cell address.
3. What is a formula? What are the advantages of formula?
4. Explain about mathematical functions in MS Excel.

UNIT-IV

1. What are the features of PowerPoint?
2. Explain data types in MS Access.
3. Write about Queries in MS Access.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	3	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	2	3	2	2	3	1	3	2	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	1	2	3	3	1	1	3	1	2	1	2
CO 5	3	3	1	2	2	2	3	3	1	2	3	1	2	3	2
CO 6	2	3	2	1	2	3	1	2	2	2	1	1	1	2	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	E Commerce and Web designing	I BCOM CA Sem - II 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	5

Course Objective
<p>1. The business development can be done through the e-commerce being the primary and the basic object.</p> <p>2. Learn the language of the HTML, XML and CSS</p>

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Analyze the impact of E-commerce on business models and strategy.
CO2	Describe the major types of E-commerce.
CO3	Identify the key security threats in the E-commerce environment.
CO4	Be able to use the HTML, XML languages
CO5	Runs the page he/she has designed using HTML, XML codes

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

SYLLABUS

Unit I: Introduction: Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce.

Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, Evolution And Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website)

Unit-II: E-payment System: Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e-money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.

Unit-III: On-line Business Transactions: Meaning, Purpose, Advantages and Disadvantages of Transacting Online, ECommerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services (Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.)

Unit-IV: Website designing Designing a home page, HTML document, Anchor tag Hyperlinks, Head and body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling.

Frames: Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements.

Unit V: Security and Encryption: Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber-Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients)

References:

- (1) E-commerce and E-business Himalaya publishers
- (2) E-Commerce by Kenneth C Laudon, PEARSON INDIA
- (3) Web Design: Introductory with MindTap Jennifer T Campbell, Cengage India
- (4) HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill
- (5) Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson
- (6) HTML & CSS: COMPLETE REFERENCE POWELL, THOMAS, McGrawHill

Online Resources:

<http://www.kartrocket.com>

<http://www.e-commerceceo.com>

<http://www.fastspring.com>

<https://teamtreehouse.com/tracks/web-design>

Practical Component: @ 2 hours/week/batch

1. Creation of simple web page using formatting tags
2. Creation of lists and tables with attributes
3. Creation of hyperlinks and including images
4. Creation of forms
5. Creation of framesets
6. Cascading style sheets – inline, internal and external

RECOMMENDED CO-CURRICULAR ACTIVITIES:**MEASURABLE**

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

GENERAL

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

PAPER- II

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

PAPER- II

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	1	15
UNIT -III	1	1	15
UNIT -IV	1	2	20
UNIT -V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
MODEL PAPER
E- Commerce & Web Designing

Time : 2 Hrs.

SEMESTER-II

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1. A) Define E-Commerce. What are the advantages and disadvantages of E-Commerce?
(UNIT-I)

(OR)

B) Explain about Types of E-Commerce Business Models in detail. (UNIT-I)
2. A) Explain about models and methods of e-payments. (UNIT-II)

(OR)

B) What are the advantages and disadvantages of Online Transactions? (UNIT-III)
3. A) Explain about Lists and Their Types in HTML. (UNIT-IV)

(OR)

B) Explain about E-Commerce Security in detail. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. Discuss about Applications of E-Commerce.
5. What are the key elements of business model in e commerce?
6. Discuss briefly about Electronic Fund Transfer(EFT).
7. Explain about Online Portal and Online Learning.
8. Explain about text formatting tags in HTML.
9. Explain about hyperlinks in HTML.
10. Write about Encryption Techniques.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing
Question Bank

Essay Questions:

UNIT-I

5. Define E-commerce. What are the advantages and disadvantages of E-commerce?
6. Explain about Types of E-Commerce Business Models in detail.
7. Explain about Designing, Building and Launching e-commerce website

UNIT-II

5. Explain about models and methods of e-payments.
6. Write about Digital Signatures.
7. Explain about Online Banking.

UNIT-III

4. What are the advantages and disadvantages of Online Transactions?
5. Discuss about Online Services (Financial, Travel and Career).

UNIT-IV

1. Explain about Lists and Their Types in HTML.
2. Discuss about structure of HTML document with example program.
3. Write about Table Handling in HTML.
4. Explain about Form Elements in HTML

UNIT-V

1. Explain about E-Commerce Security in detail.
2. Write about Security Threats in The E-Commerce.

Short Questions:

UNIT-I

1. Discuss about Applications of E-Commerce.
2. What are the key elements of business model in e commerce?
3. What are the advantages of E-commerce?

UNIT-II

1. Discuss briefly about Electronic Fund Transfer(EFT).
2. What are the Risks Involved in e-payments?
3. Discuss briefly about e-payments.

UNIT-III

1. Explain about Online Portal and Online Learning.
2. Discuss about Online Shopping

UNIT-IV

1. Explain about text formatting tags in HTML.
2. Explain about hyperlinks in HTML.
3. Discuss about Frames in HTML.

UNIT-V

1. Discuss briefly about E-Commerce Security.
2. Write about Encryption Techniques.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	2	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	1	2	3	3	1	1	3	1	2	2	2
CO 5	3	3	3	2	2	2	3	3	1	2	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Computer Fundamentals with MS Office	IBCOM CECS Sem - I 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	6

Course Objective
To acquire basic knowledge in Information Technology and its applications in the areas of business

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
CO2	Interpret, produce, and present work-related documents and information effectively and accurately
CO3	Critically examines, using data and figures (Analysis and Evaluation**).
CO4	Apply the techniques to prepare the slides
CO5	Create form letters in mail merge
CO6	Retrieve information and create reports from databases.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com CECS Semester- I (2022-2023)
SYLLABUS:
Computer Fundamentals with MS Office

(Four units with each unit having 15 hours of class work)

Unit I Introduction:

Computer Definition - Characteristics and Limitations of Computer—Generations of Computer, Classification of Computers, Applications of Computer, Basic Components of PC, Computer Architecture - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types

Unit II MS word:

Word Processing – Features-Advantages and Applications- Parts of Word Window Toolbar-Creating, Saving, Closing, Opening and Editing of a Document-Moving and Coping a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct Spelling and Grammar- Mail Merge- Macros

Unit III MS Excel:

Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas- Types of Function-Templates –Macros – Sorting- Charts – Filtering.

Unit IV MS Power point:

Introduction – Starting – Parts-Creating of Tables- Create Presentation – Templates Auto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts

MS Access:

Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data - Modify Table Data - Sort and Filter Records - Querying a Database -Create Basic Queries - Sort and Filter Data in a Query - Create Basic Access Forms - Work with Data on Access Forms - Create a Report - Add Controls to a Report - Format Reports

References:

- (1) P.Mohan computer fundamentals- HimalayaPublications.
- (2) R.K.Sharma and Shashi K Gupta, Computer Fundamentals - Kalyani Publications
- (3) Fundamentals of Computers ByBalagurusamy, Mcgraw Hill
- (4) Computer Fundamentals Anita Goel Pearson India
- (5) Introduction to Computers Peter Norton
- (6) Fundamentals of Computers Rajaraman V Adabala N
- (7) Office 2010 All-in-One For Dummies Peter Weverka
- (8) MS-Office S.S. Shrivastava
- (9) MS-OFFICE 2010 Training Guide Prof. Satish Jain, M. Geetha, KratikaBPB Publications

Online Resources:

<https://support.office.com/en-us/office-training-center>
<https://www.skillshare.com/browse/microsoft-office>
https://www.tutorialspoint.com/computer_fundamentals/index.htm
<https://www.javatpoint.com/computer-fundamentalstutorial>
<https://edu.gcfglobal.org/en/subjects/office/>

Practical Component: @ 2 hours/week/batch

- MS word creation of documents letters invitations etc, tables, mailmerge, animations in word, formatting text
- MS Excel performing different formulas, creating charts, macros
- MS power point slide creation, creation of animation
- MS Access creation of database, forms and reports

RECOMMENDED CO-CURRICULAR ACTIVITIES:

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com CECS Semester- I (2022-2023)
Computer Fundamentals with MS Office

PAPER- I

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com CECS Semester- I (2022-2023)
Computer Fundamentals with MS Office

PAPER- I

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	2	2	30
UNIT -III	1	1	15
UNIT -IV	1	2	20
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com CECS Semester- I (2022-2023)
MODEL PAPER
Computer Fundamentals with MS Office

Time : 2 Hrs.

SEMESTER-I

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

11. A) Define Computer. Explain about Block Diagram of a Digital Computer.(UNIT-I)
(OR)
B) Explain about Input and Output Devices. (UNIT-I)
12. A) Explain about Features, Advantages and Applications of MS Word. (UNIT-II)
(OR)
B) Explain about Mail Merge in MS Word. (UNIT-II)
13. A) What is Excel? Explain the Features of MS Excel. (UNIT-III)
(OR)
B) How to Create a Simple Access Database? (UNIT-IV)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

14. What are the Characteristics of Computer?
15. What are the Applications of Computer?
16. Explain about Bullets and Numbering, Find and Replace.
17. Write about Headers and Footers in MS Word.
18. Discuss about cell and cell address.
19. What are the features of PowerPoint?
20. Explain data types in MS Access.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com CECS Semester- I (2022-2023)
Computer Fundamentals with MS Office
Question Bank

Essay Questions:

UNIT-I

8. Define Computer. Explain about Block Diagram of a Digital Computer.
9. Write about Generations of Computer.
10. Explain about Input and Output Devices.
11. What is an Operating System? Explain about Functions of Operating System.

UNIT-II

8. Explain about Features, Advantages and Applications of MS Word.
9. Write about Creating, Saving, Closing, Opening and Editing of a Document.
10. Explain about Mail Merge in MS Word.
11. Write about insertion of objects in detail.

UNIT-III

6. What is Excel? Explain the Features of MS Excel.
7. What is Excel? Explain the Types of Functions in MS Excel.
8. Explain about charts in MS Excel.

UNIT-IV

1. What is MS PowerPoint? What are the features of MS PowerPoint?
2. How to create presentation in MS PowerPoint?
3. How to Create a Simple Access Database?
4. Write about Querying a Database -Create Basic Queries.

Short Answer Questions:

UNIT-I

5. What are the Characteristics of Computer?
6. What are the Applications of Computer?
7. Briefly explain about Primary and Secondary Memories.
8. Write about any five Input Devices.

UNIT-II

5. Explain about Bullets and Numbering, Find and Replace.
6. Write about Headers and Footers in MS Word.
7. Explain about Auto Correct Spelling and Grammar in MS Word.
8. What are the advantages of MS Word?

UNIT-III

5. Explain the Features of MS Excel.
6. Discuss about cell and cell address.
7. What is a formula? What are the advantages of formula?
8. Explain about mathematical functions in MS Excel.

UNIT-IV

4. What are the features of PowerPoint?
5. Explain data types in MS Access.
6. Write about Queries in MS Access.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	2	3	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	2	3	2	2	3	1	3	2	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	1	2	3	3	1	1	3	1	2	1	2
CO 5	3	3	1	2	2	2	3	3	1	2	3	1	2	3	2
CO 6	2	3	2	1	2	3	1	2	2	2	1	1	1	2	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Fundamentals of C&C++	I BCOM CECS Sem - II 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	6

Course Objective
<ol style="list-style-type: none"> 1. Understand the basics of C and C++ 2. Understand the syntax of C and C++ programming language. 3. Apply C programming skill to solve problems.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Be familiar with programming environment of C and C++.
CO2	Analyze how C++ improves C with object-oriented features
CO3	Critically examines, using data and figures (Analysis and Evaluation).
CO4	Working in ‘_Outside Syllabus Area’ under a Co-curricular Activity(Creativity) Planning of structure and content, writing, updating and modifying computer programs for user solutions
CO5	Exploring C programming and Design C++ classes for code reuse (Practical skills***).

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CECS Semester- II (2022-2023)
Fundamentals of C & C++

SYLLABUS

Unit I :

Introduction and Control Structures: History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements

Unit II :

Loops And Arrays:

Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays

Unit III :

Strings and Functions:

Declaration and Initialization of String Variables - String Handling Functions -Defining Functions - Function Call - Call By Value, Call By Reference – Recursion – Basics of Pointers

Unit IV :

Introduction to OOP and its basic features - C++ program structure - Classes and objects - Friend Functions-Constructor – Types of constructors – Destructors.

Unit V :

Inheritance:

Inheritance - Types of Inheritance -Types of derivation- Public – Private - Protected Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance - Hybrid Inheritance

References:

- (1) E. Balagurusamy "Object oriented programming with C++
- (2) R.Ravichandran "Programming with C++"
- (3) Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill
- (4) Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden
- (5) Let Us C Yashavant Kanetkar
- (6) The C++ Programming Language Bjarne Stroustrup

Online Resources:

<https://www.tutorialspoint.com/cprogramming/index.html>
<https://www.learn-c.org/>
<https://www.programiz.com/c-programming>
<https://www.w3schools.in/c-tutorial/>
<https://www.cprogramming.com/tutorial/c-tutorial.html>
<https://www.tutorialspoint.com/cplusplus/index.html>
<https://www.programiz.com/cpp-programming>
<http://www.cplusplus.com/doc/tutorial/>
<https://www.learn-cpp.org/> <https://www.javatpoint.com/cpp-tutorial>

Practical Component: @ 2 hours/week/batch

1. Write C programs for
 - a. Fibonacci Series
 - b. Prime number
 - c. Palindrome number
 - d. Armstrong number.
2. 'C' program for multiplication of two matrices
3. 'C' program to implement string functions
4. 'C' program to swap numbers
5. 'C' program to calculate factorial using recursion

6. 'C++' program to perform addition of two complex numbers using constructor
7. Write a program to find the largest of two given numbers in two different classes using friend function
8. Program to add two matrices using dynamic constructor
9. Implement a class string containing the following functions:
 - a. Overload + operator to carry out the concatenation of strings.
 - b. Overload == operator to carry out the comparison of strings.
10. Program to implement inheritance.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CECS Semester- II (2022-2023)
Fundamentals of C & C++

PAPER- II

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CECS Semester- II (2022-2023)
Fundamentals of C & C++

PAPER- II

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	2	20
UNIT -III	1	1	15
UNIT -IV	1	1	15
UNIT -V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CECS Semester- II (2022-2023)
Fundamentals of C & C++
MODEL PAPER

Time : 2Hrs.

SEMESTER-II

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

11. A) Explain various Conditional Control Statements in C with example.(UNIT I)
(OR)
B) Explain various operators in C with example. (UNIT-I)
12. A) Explain various Looping Statements in C with example. (UNIT-II)
(OR)
B) Explain various string handling Functions in C. (UNIT-III)
13. A) What is OOP? Explain basic features of OOP. (UNIT-IV)
(OR)
B) What is Inheritance? Explain different types of Inheritance. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

14. Write about features of C language.
15. Explain various data types in C.
16. Write about one dimensional array with example.
17. Write about break and continue statements with examples.
18. What is recursion? What advantage is there in its use?
19. Write the C++ program structure.
20. Explain Multiple Inheritance.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CECS Semester- II (2022-2023)
Fundamentals of C & C++
Question Bank

Essay Questions:

UNIT-I

Explain various Conditional Control Statements in C with example.
Explain various operators in C with example.
Write about the structure of C program with example.

UNIT-II

Explain various Looping Statements in C with example.
What is meant by Array? Explain different types of arrays with Examples.
Write about Arrays in detail.

UNIT-III

Explain various string handling Functions in C.
Explain call by value and call by reference with example.
What is a function? Explain in detail.

UNIT-IV

What is OOP? Explain basic features of OOP.
What is constructor? Explain types of constructors in C++.

UNIT-V

What is Inheritance? Explain different types of Inheritance.
What is Multilevel Inheritance? Explain Multilevel Inheritance with example.

Short Questions:

UNIT-I

Explain various data types in C.
Explain about constants in C.
Write about features of C language
Write about input and output statements in 'C' with examples.

UNIT-II

Write about while statement in detail.
Write about one dimensional array with example.
Write about break and continue statements with examples.

UNIT-III

What is recursion? What advantage is there in its use?
Explain call by reference with example.
Explain initialization of string variables with examples.

UNIT-IV

1. Write the C++ program structure.
2. Write about friend function in C++.
3. Explain class and object in detail with example.

UNIT-V

1. Explain Multiple Inheritance.
2. Explain Hierarchical Inheritance.
3. Explain Hybrid Inheritance.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3
CO 5	3	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Information Technology	I BBCA Sem - I 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	5

Course Objective
To acquire basic knowledge in Information Technology and its applications in the areas of business

Course Outcomes	
On Completion of the course, the students will be able to -	
CO1	Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
CO2	Interpret, produce, and present work-related documents and information effectively and accurately
CO3	Critically examines, using data and figures (Analysis and Evaluation**).
CO4	Apply the techniques to prepare the slides
CO5	Create form letters in mail merge
CO6	Retrieve information and create reports from databases.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)

SYLLABUS:

Information Technology

(Four units with each unit having 15 hours of class work)

Unit I Introduction:

Computer Definition - Characteristics and Limitations of Computer—Generations of Computer, Classification of Computers, Applications of Computer, Block Diagram of a Digital Computer - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types

Unit II MS word:

Word Processing – Features-Advantages and Applications- Parts of Word Window-Toolbar-Creating, Saving, Closing, Opening and Editing of a Document-Moving and Copying a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct Spelling and Grammar- Mail Merge- Macros

Unit III MS Excel:

Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas- Types of Function-Templates –Macros – Sorting- Charts – Filtering.

Unit IV MS Power point:

Introduction – Starting – Parts-Creating of Tables- Create Presentation – TemplatesAuto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts

MS Access:

Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data - Modify Table Data - Sort and Filter Records - Querying a Database -Create Basic Queries - Sort and Filter Data in a Query

References:

- (1) P.Mohan computer fundamentals- HimalayaPublications.
- (2) R.K.Sharma and Shashi K Gupta, Computer Fundamentals - Kalyani Publications
- (3) Fundamentals of Computers ByBalagurusamy, Mcgraw Hill
- (4) Computer Fundamentals Anita Goel Pearson India
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- (6) Fundamentals of Computers Rajaraman V Adabala N
- (7) Office 2010 All-in-One For Dummies Peter Weverka
- (8) MS-Office S.S. Shrivastava
- (9) MS-OFFICE 2010 Training Guide Prof. Satish Jain, M. Geetha, KratikaBPB Publications

Online Resources:

<https://support.office.com/en-us/office-training-center>
<https://www.skillshare.com/browse/microsoft-office>
https://www.tutorialspoint.com/computer_fundamentals/index.htm
<https://www.javatpoint.com/computer-fundamentalstutorial>
<https://edu.gcfglobal.org/en/subjects/office/>

Practical Component: @ 2 hours/week/batch

- MS word creation of documents letters invitations etc, tables, mailmerge, animations in word, formatting text
- MS Excel performing different formulas, creating charts,macros
- MS power point slide creation, creation of animation

➤ MS Access creation of database, forms and reports

RECOMMENDED CO-CURRICULAR ACTIVITIES:

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
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5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology

PAPER- I

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology

PAPER- I

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	2	2	30
UNIT -III	1	1	15
UNIT -IV	1	2	20
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
MODEL PAPER
Information Technology
SEMESTER-I

Time : 2 Hrs.

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

21. A) Define Computer. Explain about Block Diagram of a Digital Computer.(UNIT-I)
(OR)
B) Explain about Input and Output Devices. (UNIT-I)
22. A) Explain about Features, Advantages and Applications of MS Word. (UNIT-II)
(OR)
B) Explain about Mail Merge in MS Word. (UNIT-II)
23. A) What is Excel? Explain the Features of MS Excel. (UNIT-III)
(OR)
B) How to Create a Simple Access Database? (UNIT-IV)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

24. What are the Characteristics of Computer?
25. What are the Applications of Computer?
26. Explain about Bullets and Numbering, Find and Replace.
27. Write about Headers and Footers in MS Word.
28. Discuss about cell and cell address.
29. What are the features of PowerPoint?
30. Explain data types in MS Access.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2022-2023)
Information Technology
Question Bank

Essay Questions:

UNIT-I

12. Define Computer. Explain about Block Diagram of a Digital Computer.
13. Write about Generations of Computer.
14. Explain about Input and Output Devices.
15. What is an Operating System? Explain about Functions of Operating System.

UNIT-II

12. Explain about Features, Advantages and Applications of MS Word.
13. Write about Creating, Saving, Closing, Opening and Editing of a Document.
14. Explain about Mail Merge in MS Word.
15. Write about insertion of objects in detail.

UNIT-III

9. What is Excel? Explain the Features of MS Excel.
10. What is Excel? Explain the Types of Functions in MS Excel.
11. Explain about charts in MS Excel.

UNIT-IV

1. What is MS PowerPoint? What are the features of MS PowerPoint?
2. How to create presentation in MS PowerPoint?
3. How to Create a Simple Access Database?
4. Write about Querying a Database -Create Basic Queries.

Short Answer Questions:

UNIT-I

9. What are the Characteristics of Computer?
10. What are the Applications of Computer?
11. Briefly explain about Primary and Secondary Memories.
12. Write about any five Input Devices.

UNIT-II

9. Explain about Bullets and Numbering, Find and Replace.
10. Write about Headers and Footers in MS Word.
11. Explain about Auto Correct Spelling and Grammar in MS Word.
12. What are the advantages of MS Word.

UNIT-III

9. Explain the Features of MS Excel.
10. Discuss about cell and cell address.
11. What is a formula? What are the advantages of formula?
12. Explain about mathematical functions in MS Excel.

UNIT-IV

7. What are the features of PowerPoint?
8. Explain data types in MS Access.
9. Write about Queries in MS Access.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	P O 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	3	2	3	2	3	3	1	2	2	3	2	3	2	3	2
CO2	3	2	2	3	2	2	3	1	3	2	3	2	1	3	1
CO3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO4	3	2	3	2	1	2	3	3	1	1	3	1	2	1	2
CO5	3	3	1	2	2	2	3	3	1	2	3	1	2	3	2
CO6	2	3	2	1	2	3	1	2	2	2	1	1	1	2	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	E- Commerce & Web Designing	I BBCA Sem - I 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Prerequisites		4	-	2	6

Course Objective
1. The business development can be done through the e-commerce being the primary and the basic object.
2. Learn the language of the HTML, XML and CSS

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Analyze the impact of E-commerce on business models and strategy.
CO2	Describe the major types of E-commerce.
CO3	Identify the key security threats in the E-commerce environment.
CO4	Be able to use the HTML, XML languages
CO5	Runs the page he/she has designed using HTML, XML codes

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

SYLLABUS

Unit I: Introduction: Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce.

Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, Evolution And Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website)

Unit-II: E-payment System: Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e-money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.

Unit-III: On-line Business Transactions: Meaning, Purpose, Advantages and Disadvantages of Transacting Online, ECommerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services (Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.)

Unit-IV: Website designing Designing a home page, HTML document, Anchor tag Hyperlinks, Head and body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling.

Frames: Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements.

Unit V: Security and Encryption: Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber-Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients)

References:

- (1) E-commerce and E-business Himalaya publishers
- (2) E-Commerce by Kenneth C Laudon, PEARSON INDIA
- (3) Web Design: Introductory with MindTap Jennifer T Campbell, Cengage India
- (4) HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill
- (5) Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson
- (6) HTML & CSS: COMPLETE REFERENCE POWELL, THOMAS, McGrawHill

Online Resources:

<http://www.kartrocket.com>

<http://www.e-commerceceo.com>

<http://www.fastspring.com>

<https://teamtreehouse.com/tracks/web-design>

Practical Component: @ 2 hours/week/batch

1. Creation of simple web page using formatting tags
2. Creation of lists and tables with attributes
3. Creation of hyperlinks and including images
4. Creation of forms
5. Creation of framesets
6. Cascading style sheets – inline, internal and external

RECOMMENDED CO-CURRICULAR ACTIVITIES:**MEASURABLE**

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

GENERAL

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

PAPER- II

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing

PAPER- II

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	1	15
UNIT -III	1	1	15
UNIT -IV	1	2	20
UNIT -V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
MODEL PAPER
E- Commerce & Web Designing

Time : 2 Hrs.

SEMESTER-II

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1. A) Define E-Commerce. What are the advantages and disadvantages of E-Commerce?
(UNIT-I)

(OR)

B) Explain about Types of E-Commerce Business Models in detail. (UNIT-I)
2. A) Explain about models and methods of e-payments. (UNIT-II)

(OR)

B) What are the advantages and disadvantages of Online Transactions? (UNIT-III)
3. A) Explain about Lists and Their Types in HTML. (UNIT-IV)

(OR)

B) Explain about E-Commerce Security in detail. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. Discuss about Applications of E-Commerce.
5. What are the key elements of business model in e commerce?
6. Discuss briefly about Electronic Fund Transfer(EFT).
7. Explain about Online Portal and Online Learning.
8. Explain about text formatting tags in HTML.
9. Explain about hyperlinks in HTML.
10. Write about Encryption Techniques.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II (2022-23)
E- Commerce & Web Designing
Question Bank

Essay Questions:

UNIT-I

1. Define E-commerce. What are the advantages and disadvantages of E-commerce?
2. Explain about Types of E-Commerce Business Models in detail.
3. Explain about Designing, Building and Launching e-commerce website

UNIT-II

1. Explain about models and methods of e-payments.
2. Write about Digital Signatures.
3. Explain about Online Banking.

UNIT-III

1. What are the advantages and disadvantages of Online Transactions?
2. Discuss about Online Services (Financial, Travel and Career).

UNIT-IV

1. Explain about Lists and Their Types in HTML.
2. Discuss about structure of HTML document with example program.
3. Write about Table Handling in HTML.
4. Explain about Form Elements in HTML

UNIT-V

3. Explain about E-Commerce Security in detail.
4. Write about Security Threats in The E-Commerce.

Short Questions:

UNIT-I

1. Discuss about Applications of E-Commerce.
2. What are the key elements of business model in e commerce?
3. What are the advantages of E-commerce?

UNIT-II

1. Discuss briefly about Electronic Fund Transfer(EFT).
2. What are the Risks Involved in e-payments?
3. Discuss briefly about e-payments.

UNIT-III

1. Explain about Online Portal and Online Learning.
2. Discuss about Online Shopping

UNIT-IV

1. Explain about text formatting tags in HTML.
2. Explain about hyperlinks in HTML.
3. Discuss about Frames in HTML.

UNIT-V

3. Discuss briefly about E-Commerce Security.
4. Write about Encryption Techniques.

Mapping of Cos with POs/PSOs

CO /PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO2	3	2	3	3	2	2	3	1	3	3	3	2	1	3	1
CO3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO4	3	2	3	2	1	2	3	3	1	1	3	1	2	2	2
CO5	3	3	3	2	2	2	3	3	1	2	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Programming with C&C++	II BCOM CA Sem - III 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
<ol style="list-style-type: none"> 1. Understand the basics of C and C++ 2. Understand the syntax of C and C++programming language. 3. Apply C programming skill to solve problems.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Be familiar with programming environment of C and C++.
CO2	Analyze how C++ improves C with object-oriented features
CO3	Critically examines, using data and figures (Analysis and Evaluation).
CO4	Working in ‘_Outside Syllabus Area’ under a Co-curricular Activity(Creativity) Planning of structure and content, writing, updating and modifying computer programs for user solutions
CO5	Exploring C programming and Design C++ classes for code reuse (Practical skills***).

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- III (2022-2023)
Programming with C & C++
SYLLABUS

Unit I :

Introduction and Control Structures: History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements

Unit II :

Loops And Arrays:

Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays

Unit III :

Strings and Functions:

Declaration and Initialization of String Variables - String Handling Functions -Defining Functions - Function Call - Call By Value, Call By Reference – Recursion- Basics of Pointers

Unit IV :

Introduction to OOP and its basic features - C++ program structure - Classes and objects - Friend Functions-Constructor – Types of constructors – Destructors.

Unit V :

Inheritance:

Inheritance - Types of Inheritance -Types of derivation- Public – Private - Protected Hierarchical Inheritance - Multilevel Inheritance – Multiple Inheritance - Hybrid Inheritance

References:

- (1) E. Balagurusamy "Object oriented programming with C++
- (2) R.Ravichandran "Programming with C++"
- (3) Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill
- (4) Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden
- (5) Let Us C Yashavant Kanetkar
- (6) The C++ Programming Language Bjarne Stroustrup

Online Resources:

<https://www.tutorialspoint.com/cprogramming/index.html>
<https://www.learn-c.org/>
<https://www.programiz.com/c-programming>
<https://www.w3schools.in/c-tutorial/>
<https://www.cprogramming.com/tutorial/c-tutorial.html>
<https://www.tutorialspoint.com/cplusplus/index.html>
<https://www.programiz.com/cpp-programming>
<http://www.cplusplus.com/doc/tutorial/>
<https://www.learn-cpp.org/>
<https://www.javatpoint.com/cpp-tutorial>

Practical Component: @ 2 hours/week/batch

1. Write C programs for
 - a. Fibonacci Series
 - b. Prime number
 - c. Palindrome number
 - d. Armstrong number.
2. 'C' program for multiplication of two matrices
3. 'C' program to implement string functions
4. 'C' program to swap numbers
5. 'C' program to calculate factorial using recursion
6. 'C++' program to perform addition of two complex numbers using constructor
7. Write a program to find the largest of two given numbers in two different classes using friend function
8. Program to add two matrices using dynamic constructor
9. Implement a class string containing the following functions:
 - a. Overload + operator to carry out the concatenation of strings.
 - b. Overload == operator to carry out the comparison of strings.
10. Program to implement inheritance.

RECOMMENDED CO-CURRICULAR ACTIVITIES: MEASURABLE

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- III (2022-2023)
Programming with C & C++

PAPER- III

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- III (2022-2023)
Programming with C & C++

PAPER- III

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	2	20
UNIT -III	1	1	15
UNIT -IV	1	1	15
UNIT -V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- III (2022-2023)
Programming with C & C++
MODEL PAPER
SEMESTER-III

Time : 2Hrs

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks (3x10=30M)

1. A) Explain various Conditional Control Statements in C with example.(UNIT I)
(OR)
B) Explain various operators in C with example. (UNIT-I)
2. A) Explain various Looping Statements in C with example. (UNIT-II)
(OR)
B) Explain various string handling Functions in C. (UNIT-III)
3. A) What is OOP? Explain basic features of OOP. (UNIT-IV)
(OR)
B) What is Inheritance? Explain different types of Inheritance. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks (4x5=20M)

4. Write about features of C language.
5. Explain various data types in C.
6. Write about one dimensional array with example.
7. Write about break and continue statements with examples.
8. What is recursion? What advantage is there in its use?
9. Write the C++ program structure.
10. Explain Multiple Inheritance.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- III (2022-2023)
Programming with C & C++
Question Bank

Essay Questions:

UNIT-I

1. Explain various Conditional Control Statements in C with example.
2. Explain various operators in C with example.
3. Write about the structure of C program with example.

UNIT-II

1. Explain various Looping Statements in C with example.
2. What is meant by Array? Explain different types of arrays with Examples.
3. Write about Arrays in detail.

UNIT-III

1. Explain various string handling Functions in C.
2. Explain call by value and call by reference with example.
3. What is a function? Explain in detail.

UNIT-IV

1. What is OOP? Explain basic features of OOP.
2. What is constructor? Explain types of constructors in C++.

UNIT-V

1. What is Inheritance? Explain different types of Inheritance.
2. What is Multilevel Inheritance? Explain Multilevel Inheritance with example.

Short Questions:

UNIT-I

1. Explain various data types in C.
2. Explain about constants in C.
3. Write about features of C language
4. Write about input and output statements in 'C' with examples.

UNIT-II

1. Write about while statement in detail.
2. Write about one dimensional array with example.
3. Write about break and continue statements with examples.

UNIT-III

1. What is recursion? What advantage is there in its use?
2. Explain call by reference with example.
3. Explain initialization of string variables with examples.

UNIT-IV

1. Write the C++ program structure.
2. Write about friend function in C++.
3. Explain class and object in detail with example.

UNIT-V

1. Explain Multiple Inheritance.
2. Explain Hierarchical Inheritance.
3. Explain Hybrid Inheritance.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	3	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	2	2	3	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	3
CO 4	3	2	3	2	3	2	3	3	1	1	3	1	2	2	2
CO 5	1	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA						
Course Code	DATA BASE MANAGEMENT SYSTEM	II BCOM CA Sem - IV 2022-23				
Hours	90 (60 Theory + 30 Practical)	L	T	P	C	
Pre requisites	Basic Computer Knowledge	4	-	2	5	

Course Objective
<ol style="list-style-type: none"> 1. Understand the role of a database management system in an organization. 2. Understand basic database concepts, including the structure and operation of the relational data model. 3. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization 4. Understand Functional Dependency and Functional Decomposition. 5. Gets the information about creating tables, modifications of tables etc. 6. Gets knowledge about writing of PL/SQL program with many options like Triggers, functions, procedures etc.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Students would learn about Understand the role of a database management system in an organization. Understand basic database concepts, including the structure and operation of the relational data model. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization Understand Functional Dependency and Functional Decomposition.
CO2	Students would learn about To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages.
CO3	Students would learn about Apply various Normalization techniques Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model .
CO4	Students would learn about Design and implement a small database project.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- IV (2022-2023)
Data base management system
SYLLABUS

Unit I :

Overview of Database Management System

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

File-Based System

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

Unit II:

Entity-Relationship Model:

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

Unit III :

Structured Query Language

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

Unit IV :

PL/SQL:

Introduction, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

References:

1. Paneerselvam: Database Management system, PHI.
2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
5. MARTIN, Database Management-Prentice Hall of India, New Delhi.
6. Bipin C. Desai, 'An Introduction to Database System', Galgotia Publications
7. Korth, Database Management System.
8. Navathe, Database Management System.
9. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management System

Online resources:

[http:// www.onlinegdb.com/](http://www.onlinegdb.com/)

[http:// www.tutorialspoint.com/](http://www.tutorialspoint.com/)

Practical Component: @ 2 hours/week/batch

1. Create tables department and employee with required constraints.
2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command.

3. Basic column should not be null

4. Add constraint that basic should not be less than 5000.

5. Calculate hra, da, gross and net by using PL/SQL program.

6. The percentage of hra and da are to be stored separately.

7. When the da becomes more than 100%, a message has to be generated and with user permission da has to be merged with basic.

8. Empno should be unique and has to be generated automatically.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)

2. Student seminars (on topics of the syllabus and related aspects (individual activity))

3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))

5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

3. Group Discussion

4. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),

2. Closed-book and open-book tests,

3. Coding exercises,

4. Practical assignments and laboratory reports,

5. Observation of practical skills,

6. Individual and group project reports,

7. Efficient delivery using seminar presentations,

8. Viva voce interviews.

9. Computerized adaptive testing, literature surveys and evaluations,

10. Peers and self-assessment, outputs from individual and collaborative work

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)

II B.Com- (CA) SEMESTER-IV

SUBJECT:DATA BASE MANAGEMENT SYSTEM
PAPER- IV

Time: 2 Hrs
Marks: 50

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
II B.Com - CA Semester- IV (W.E.F. 2022-2023)
Database Management System

Time: 2 Hrs

Marks: 50

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	2	2	30
UNIT -III	1	2	20
UNIT -IV	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com - CA Semester- IV (W.E.F. 2022-2023)
MODEL PAPER
Database Management System

Time : 2 Hrs.30Mins

SEMESTER-III

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks (3x10=30M)

1)A) What is meant by DBMS? Explain advantages of DBMS. (UNIT-I)

(OR)

B) Explain the components of database system with a neat diagram. (UNIT-I)

2A) Write about building blocks of Entity-Relationship diagram. (UNIT-II)

(OR)

B) What is data model? Write about relational data model. (UNIT-II)

3A) Explain DDL, DML and DCL commands in SQL. (UNIT-III)

(OR)

B) Write about while loop used in PL/SQL. (UNIT-IV)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks (4x5=20M)

4.Explain about objectives of DBMS.

5.What are the functions of DBA?

6.Explain about Aggregation.

7.Explain about i) Candidate key ii) Primary key iii) Foreign key

8.What is SQL? Explain about different data types in SQL.

9.Explain about Aggregate functions in SQL.

10.Write about cursors in PL/SQL.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com - CA Semester- IV (W.E.F. 2022-2023)
Database Management System
IMPORTANT QUESTIONS

Essay Questions:

UNIT-I

1. What is meant by DBMS? Explain advantages of DBMS.
2. Explain about characteristics and drawbacks of File based system.
3. Explain the components of database system with a neat diagram.
4. Explain DBMS architecture in detail.

UNIT-II

1. Write about building blocks of Entity-Relationship diagram.
2. Write about Generalization and Specialization.
3. What is data model? Write about relational data model.
4. Write about CODD's Rules.

UNIT-III

1. Explain DDL, DML and DCL commands in SQL.
2. Explain about Set operators in SQL with examples.
3. A) Explain about Aggregate Functions in SQL.
B) What are the different data types in SQL.
4. Define Query. Explain Select statements with suitable examples.

UNIT-IV

1. What is PL/SQL? Write about structure of PL/SQL with example.
2. Write about while loop used in PL/SQL.
3. Discuss about for loop used in PL/SQL.
4. Write about Explicit Cursor in detail.

Short Questions:

UNIT-I

1. Explain about objectives of DBMS.
2. Explain about database users.
3. What are the functions of DBA?
4. Distinguish between data and information.

UNIT-II

1. Explain about relational model.
2. Explain about Aggregation.
3. Explain about i) Candidate key ii) Primary key iii) Foreign key
4. Explain about concept of relational integrity.

UNIT-III

1. What is SQL? Explain about different data types in SQL.
2. Explain about DCL commands in SQL.
3. Explain about aggregate functions in SQL.

UNIT-IV

1. Write about cursors in PL/SQL.
2. Explain about basic loop statements in PL/SQL.
3. Explain about simple IF statement in PL/SQL.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3
CO 5	3	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Object Oriented Programming through Java	II BCOM CA Sem - IV 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
<ol style="list-style-type: none"> 1. Understand the concepts and features of object oriented programming 2. Learn control structures and apply them in problem solving. 3. Illustrate inheritance concepts for reusing the program. 4. To understand streams and efficient user interface design techniques. 5. To demonstrate skills in writing programs using exception handling techniques and multithreading.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Understand the concept and underlying principles of Object-Oriented Programming
CO2	Implement Object Oriented Programming Concepts (Class, Constructor, Overloading, Inheritance, Overriding) in JAVA
CO3	Create and use interfaces in JAVA
CO4	Implement Multithreading, Exception handling in JAVA
CO5	Create and use packages and Applets

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA Semester- IV (2022-2023)
Object Oriented Programming through Java

SYLLABUS

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming, Applications of OOP.

Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Simple Java program structure, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System.out.println(), Command Line Arguments.

Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, For loop, Switch Statement, break Statement, continue Statement. **Arrays:** Defining Arrays, one-dimensional arrays, two-dimensional arrays. **Strings:** Creating Strings, String Class Methods.

Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors, Method overloading, Static members.

Inheritance: Inheritance, Types of Inheritance, Method overriding, final methods. Abstract Methods and Abstract Class. **Interfaces:** Introduction to multiple inheritance, Defining interfaces, Extending interfaces, implementing interface.

Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package. **Threads:** Uses of Threads, Life cycle of a Thread, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

Unit V: Exception Handling: Errors in Java Program, Exceptions, Exception handling code, Pre-defined Exceptions, Multiple catch statements, using finally statement.

Applet Programming: Introduction to applets, Building Applet code, Applet Life cycle.

Text Books:

1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGrawHill Company

Reference Books:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TATA McGraw-Hill Company.
4. Deitel & Deitel. JavaTM: How to Program, PHI(2007)
5. Object Oriented Programming Through Java by P. RadhaKrishna, Universities Press(2008)

Online Resources:

1. <https://stackify.com/java-tutorials/>
2. <https://www.w3schools.com/java/>

3. <https://www.javatpoint.com/java-tutorial>
4. <https://www.tutorialspoint.com/java/index.html>

Practical Component: @ 2 hours/week/batch

1. Write a program to implement command line arguments.
2. Write a program to read Student Name, Reg.No, Marks and calculate Total, Percentage, and Result. Display all the details of students .
3. Write a program to perform String Operations.
4. Java program to implement Addition of two N X N matrices.
5. Java program to implement bubble sort.
6. Java program to demonstrate the use of Constructor.
7. Calculate area of the following shapes using method overloading.
a.Rectangle b. Circle c. Square
8. Implement multilevel inheritance
9. Java program for to display Serial Number from 1 to 5 by creating two Threads
10. Java program to demonstrate the following exception handlings
a. Divided by Zero b. Array Index Out of Bound c. Arithmetic Exception

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P. R.GOV.T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)

II B.Com- (CA) SEMESTER-IV

SUBJECT:OBJECT ORIENTED PROGRAMMING through JAVA Time: 2 Hrs
PAPER- IV Marks: 50

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
II B.Com-CA SEMESTER-IV(W.E.F. 2022-2023)

SUBJECT:OBJECT ORIENTED PROGRAMMING through JAVA

Time: 2 Hrs

Marks: 50

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	2	20
UNIT -III	1	1	15
UNIT -IV	1	1	15
UNIT-V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL PAPER (W.E.F. 2022-2023)

II B.Com-CA Semester -IV

SUBJECT: OBJECT ORIENTED PROGRAMMING through JAVA PAPER-IV

Time : 2 Hrs.

SEMESTER-IV

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1.) Explain the features of Java?. (UNIT-I)

(OR)

B) What is an operator? Explain types of operators?. (UNIT-I)

2. A) Explain different Loop statements available in Java. (UNIT-II)

(OR)

B) What is Inheritance? Explain Different types of Inheritance in Java. (UNIT-III)

3. A) What is a package? Explain the process of creating and using packages? (UNIT-IV)

(OR)

B) Explain how exceptional handling is done in java. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. What are the data types supported by Java?

5. What are the applications of OOPs?

6. What is the difference between break and continue statements in java.

7. List and explain any five String class methods in java

8. Explain about access specifiers in java?

9. Explain about thread priority?

10. Define local and remote applets.

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CA SEMESTER-IV(W.E.F. 2022-2023)

Subject: OBJECT ORIENTED PROGRAMMING through JAVA Max.Marks:50
Paper-IV

Question Bank
Unit I

Short Questions: (5M)

1. What are the applications of oops?
2. Explain about java virtual machine?
3. Explain structure of a java program?
4. What are the data types supported by Java?

Essay Questions: (10M)

1. Explain the principles of object-oriented programming
2. Explain the features of Java?.
3. What is an operator? Explain types of operators?
4. How to read input using Scanner class in Java?
5. Explain about command line arguments in Java with an example program.

Unit II

Short Questions: (5M)

1. What is the difference between break and continue statements in java.
2. Distinguish String and StringBuffer classes.
3. What is an Array? How to define Arrays in Java.
4. List and explain any five String class methods in java

Essay Questions: (10M)

1. Explain different decision-making statements available in Java
2. Explain different Loop statements available in Java
3. Explain the different ways of creating, initializing and accessing arrays in Java
4. Define String. Discuss the way of creating Strings. Explain different String Class Methods

Unit III

Short Questions: (5M)

1. Explain about constructors in Java?
2. Explain about access specifiers in java?

Essay Questions: (10M)

1. Explain classes and methods in Java with examples?
2. What is Inheritance? Explain Different types of Inheritance in Java.
3. Explain about abstract methods and abstract classes?
4. Explain interface with an example

Unit IV

Short Questions: (5M)

1. Explain about Pre-defined Packages in Java.
2. Explain thread priority?

Essay Questions: (10M)

1. What is a package? Explain the process of creating and using packages?
2. Explain the lifecycle of thread?
3. Write the procedure for creating a thread.

Unit V

Short Questions: (5M)

1. Explain about types of errors?
2. Define local and remote applets

Essay Questions: (10M)

1. Explain how exceptional handling is done in java?
2. Explain Applet Life Cycle with an example

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3
CO 5	3	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	DB CONCEPTS & SQL	II BCOM CECS Sem - III 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
<ol style="list-style-type: none"> 1. Understand the role of a database management system in an organization. 2. Understand basic database concepts, including the structure and operation of the relational data model. 3. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization 4. Understand Functional Dependency and Functional Decomposition. 5. Gets the information about creating tables, modifications of tables etc. 6. Gets knowledge about writing of PL/SQL program with many options like Triggers, functions, procedures etc.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Students would learn about Understand the role of a database management system in an organization. Understand basic database concepts, including the structure and operation of the relational data model. Understand and successfully apply logical database design principles, including E-R diagrams and database normalization Understand Functional Dependency and Functional Decomposition.
CO2	Students would learn about To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages.
CO3	Students would learn about Apply various Normalization techniques Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model .
CO4	Students would learn about Design and implement a small database project.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CECS Semester- III (2022-2023)
Data base management system
SYLLABUS

Unit I :

Overview of Database Management System

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

File-Based System

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

Unit II:

Entity-Relationship Model:

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

Unit III :

Structured Query Language

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

Unit IV :

PL/SQL:

Introduction, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

References:

1. Paneerselvam: Database Management system, PHI.
2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
5. MARTIN, Database Management-Prentice Hall of India, New Delhi.
6. Bipin C. Desai, 'An Introduction to Database System', Galgotia Publications
7. Korth, Database Management System.
8. Navathe, Database Management System.
9. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management System

Online resources:

[http:// www.onlinegdb.com/](http://www.onlinegdb.com/)
[http:// www.tutorialspoint.com/](http://www.tutorialspoint.com/)

Practical Component: @ 2 hours/week/batch

1. Create tables department and employee with required constraints.

2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command.
3. **Basic column should not be null**
4. Add constraint that basic should not be less than 5000.
5. **Calculate hra, da, gross and net by using PL/SQL program.**
6. The percentage of hra and da are to be stored separately.
7. When the da becomes more than 100%, a message has to be generated and with user permission da has to be merged with basic.
8. Empno should be unique and has to be generated automatically.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity)
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General

3. Group Discussion
4. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)

II B.Com- (CECS) SEMESTER-III

SUBJECT: DB CONCEPTS & SQL
PAPER- III

Time: 2 Hrs
Marks: 50

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
II B.Com - CECS Semester- III (W.E.F. 2022-2023)
DB CONCEPTS & SQL

Time: 2 Hrs

Marks: 50

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	2	2	30
UNIT -III	1	2	20
UNIT -IV	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com - CA Semester- IV (W.E.F. 2022-2023)
MODEL PAPER
DB CONCEPTS & SQL

Time : 2 Hrs.30Mins

SEMESTER-III

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1)A) What is meant by DBMS? Explain advantages of DBMS. (UNIT-I)

(OR)

B) Explain the components of database system with a neat diagram. (UNIT-I)

2A) Write about building blocks of Entity-Relationship diagram. (UNIT-II)

(OR)

B) What is data model? Write about relational data model. (UNIT-II)

3A) Explain DDL, DML and DCL commands in SQL. (UNIT-III)

(OR)

B) Write about while loop used in PL/SQL. (UNIT-IV)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4.Explain about objectives of DBMS.

5.What are the functions of DBA?

6.Explain about Aggregation.

7.Explain about i) Candidate key ii) Primary key iii) Foreign key

8.What is SQL? Explain about different data types in SQL.

9.Explain about Aggregate functions in SQL.

10.Write about cursors in PL/SQL.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com - CA Semester- IV (W.E.F. 2022-2023)
DB CONCEPTS & SQL
IMPORTANT QUESTIONS

Essay Questions:

UNIT-I

- 1.What is meant by DBMS? Explain advantages of DBMS.
- 2.Explain about characteristics and drawbacks of File based system.
- 3.Explain the components of database system with a neat diagram.
- 4.Explain DBMS architecture in detail.

UNIT-II

5. Write about building blocks of Entity-Relationship diagram.
6. Write about Generalization and Specialization.
7. What is data model? Write about relational data model.
8. Write about CODD's Rules.

UNIT-III

- 9.Explain DDL, DML and DCL commands in SQL.
- 10.Explain about Set operators in SQL with examples.
- 11.A) Explain about Aggregate Functions in SQL.
B) What are the different data types in SQL.
- 12.Define Query. Explain Select statements with suitable examples.

UNIT-IV

- 13.What is PL/SQL? Write about structure of PL/SQL with example.
- 14.Write about while loop used in PL/SQL.
- 15.Discuss about for loop used in PL/SQL.
- 16.Write about Explicit Cursor in detail.

Short Questions:

UNIT-I

- 1.Explain about objectives of DBMS.
- 2.Explain about database users.
- 3.What are the functions of DBA?
- 4.Distinguish between data and information.

UNIT-II

5. Explain about relational model.
6. Explain about Aggregation.
7. Explain about i) Candidate key ii) Primary key iii) Foreign key
8. Explain about concept of relational integrity.

UNIT-III

- 9.What is SQL? Explain about different data types in SQL.
- 10.Explain about DCL commands in SQL.
- 11.Explain about aggregate functions in SQL.

UNIT-IV

- 12.Write about cursors in PL/SQL.
- 13.Explain about basic loop statements in PL/SQL.
- 14.Explain about simple IF statement in PL/SQL.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3
CO 5	3	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	HTML & E- Commerce	II BCOM CECS Sem - IV 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	5

Course Objective
<p>1. The business development can be done through the e-commerce being the primary and the basic object.</p> <p>2. Learn the language of the HTML, XML and CSS</p>

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Analyze the impact of E-commerce on business models and strategy.
CO2	Describe the major types of E-commerce.
CO3	Identify the key security threats in the E-commerce environment.
CO4	Be able to use the HTML, XML languages
CO5	Runs the page he/she has designed using HTML, XML codes

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com CECS Semester- IV (2022-23)
HTML & E- Commerce

SYLLABUS

Unit I: Introduction: Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce.

Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, Evolution And Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website)

Unit-II: E-payment System: Models and methods of e-payments (Debit Card, Credit Card, Smart Cards, e-money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.

Unit-III: On-line Business Transactions: Meaning, Purpose, Advantages and Disadvantages of Transacting Online, ECommerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services (Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.)

Unit-IV: Website designing Designing a home page, HTML document, Anchor tag Hyperlinks, Head and body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling.

Frames: Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements.

Unit V: Security and Encryption: Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber-Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients)

References:

- (1) E-commerce and E-business Himalaya publishers
- (2) E-Commerce by Kenneth C Laudon, PEARSON INDIA
- (3) Web Design: Introductory with MindTap Jennifer T Campbell, Cengage India
- (4) HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill
- (5) Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson
- (6) HTML & CSS: COMPLETE REFERENCE POWELL, THOMAS, McGrawHill

Online Resources:

<http://www.kartrocket.com>

<http://www.e-commerceceo.com>

<http://www.fastspring.com>

<https://teamtreehouse.com/tracks/web-design>

Practical Component: @ 2 hours/week/batch

1. Creation of simple web page using formatting tags
2. Creation of lists and tables with attributes
3. Creation of hyperlinks and including images
4. Creation of forms
5. Creation of framesets
6. Cascading style sheets – inline, internal and external

**RECOMMENDED CO-CURRICULAR ACTIVITIES:
MEASURABLE**

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity))
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

GENERAL

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com CECS Semester- IV (2022-23)
HTML & E- Commerce

PAPER- II

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com CECS Semester- IV (2022-23)
HTML & E- Commerce

PAPER- II

Marks: 50M

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	1	15
UNIT -III	1	1	15
UNIT -IV	1	2	20
UNIT -V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com CECS Semester- IV (2022-23)
MODEL PAPER
HTML&E- Commerce

Time : 2 Hrs.

SEMESTER-IV

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1. A) Define E-Commerce. What are the advantages and disadvantages of E-Commerce?
(UNIT-I)

(OR)

B) Explain about Types of E-Commerce Business Models in detail. (UNIT-I)
2. A) Explain about models and methods of e-payments. (UNIT-II)

(OR)

B) What are the advantages and disadvantages of Online Transactions? (UNIT-III)
3. A) Explain about Lists and Their Types in HTML. (UNIT-IV)

(OR)

B) Explain about E-Commerce Security in detail. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. Discuss about Applications of E-Commerce.
5. What are the key elements of business model in e commerce?
6. Discuss briefly about Electronic Fund Transfer(EFT).
7. Explain about Online Portal and Online Learning.
8. Explain about text formatting tags in HTML.
9. Explain about hyperlinks in HTML.
10. Write about Encryption Techniques.

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DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com CECS Semester- IV (2022-23)
HTML & E- Commerce
Question Bank

Essay Questions:

UNIT-I

1. Define E-commerce. What are the advantages and disadvantages of E-commerce?
2. Explain about Types of E-Commerce Business Models in detail.
3. Explain about Designing, Building and Launching e-commerce website

UNIT-II

1. Explain about models and methods of e-payments.
2. Write about Digital Signatures.
3. Explain about Online Banking.

UNIT-III

1. What are the advantages and disadvantages of Online Transactions?
2. Discuss about Online Services (Financial, Travel and Career).

UNIT-IV

1. Explain about Lists and Their Types in HTML.
2. Discuss about structure of HTML document with example program.
3. Write about Table Handling in HTML.
4. Explain about Form Elements in HTML

UNIT-V

1. Explain about E-Commerce Security in detail.
2. Write about Security Threats in The E-Commerce.

Short Questions:

UNIT-I

1. Discuss about Applications of E-Commerce.
2. What are the key elements of business model in e commerce?
3. What are the advantages of E-commerce?

UNIT-II

1. Discuss briefly about Electronic Fund Transfer(EFT).
2. What are the Risks Involved in e-payments?
3. Discuss briefly about e-payments.

UNIT-III

1. Explain about Online Portal and Online Learning.
2. Discuss about Online Shopping

UNIT-IV

1. Explain about text formatting tags in HTML.
2. Explain about hyperlinks in HTML.
3. Discuss about Frames in HTML.

UNIT-V

1. Discuss briefly about E-Commerce Security.
2. Write about Encryption Techniques.

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	2	3	1	3	3	3	2	1	3	1
CO 3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO 4	3	2	3	2	1	2	3	3	1	1	3	1	2	2	2
CO 5	3	3	3	2	2	2	3	3	1	2	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	Java Programming	II BCOM CECS Sem - IV 2022-23			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
<ol style="list-style-type: none"> 4. Understand the concepts and features of object oriented programming 5. Learn control structures and apply them in problem solving. 6. Illustrate inheritance concepts for reusing the program. 7. To understand streams and efficient user interface design techniques. 8. To demonstrate skills in writing programs using exception handling techniques and multithreading.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Understand the concept and underlying principles of Object-Oriented Programming
CO2	Implement Object Oriented Programming Concepts (Class, Constructor, Overloading, Inheritance, Overriding) in JAVA
CO3	Create and use interfaces in JAVA
CO4	Implement Multithreading, Exception handling in JAVA
CO5	Create and use packages and Applets

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.Com – CECS Semester- IV (2022-2023)
Java Programming
SYLLABUS

Unit I: Introduction to OOPs: Problems in Procedure Oriented Approach, Features of Object Oriented Programming, Applications of OOP

Introduction to Java: Features of Java, The Java Virtual Machine (JVM), Simple Java program structure, Naming Conventions in Java, Data Types in Java, Operators in Java, Reading Input using scanner Class, Displaying Output using System.out.println(), Command Line Arguments.

Unit II: Control Statements in Java: if... else, do... while Loop, while Loop, For loop, Switch Statement, break Statement, continue Statement.

Arrays: Defining an Arrays, one-dimensional arrays, two-dimensional arrays.

Strings: Creating Strings, String Class Methods.

Unit III: Classes and Objects: Object Creation, Initializing the Instance Variables, Access Specifiers, Constructors, Method overloading, Static members.

Inheritance: Inheritance, Types of Inheritance, Method overriding, final methods. Abstract Methods and Abstract Class. **Interfaces:** Introduction to multiple inheritance, Defining interfaces, Extending interfaces, implementing interface.

Unit IV: Packages: Package, Different Types of Packages, Creating Package and Accessing a Package. **Threads:** Uses of Threads, Life cycle of a Thread, Creating a Thread and Running it, Terminating the Thread, Thread Class Methods.

Unit V: Exception Handling: Errors in Java Program, Exceptions, Exception handling code, Pre-defined Exceptions, Multiple catch statements, using finally statement.

Applet Programming: Introduction to applets, Building Applet code, Applet Life cycle.

Text Books:

1. E. Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGrawHill Company

Reference Books:

1. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
2. Core Java: An Integrated Approach, Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
3. John R. Hubbard, Programming with Java, Second Edition, Schaum's outline Series, TATA McGraw-Hill Company.
4. Deitel & Deitel. JavaTM: How to Program, PHI(2007)
5. Object Oriented Programming Through Java by P. RadhaKrishna, Universities Press(2008)

Online Resources:

1. <https://stackify.com/java-tutorials/>
2. <https://www.w3schools.com/java/>
3. <https://www.javatpoint.com/java-tutorial>
4. <https://www.tutorialspoint.com/java/index.html>

Practical Component: @ 2 hours/week/batch

11. Write a program to implement command line arguments.
12. Write a program to read Student Name, Reg.No, Marks and calculate Total, Percentage, and Result. Display all the details of students .
13. Write a program to perform String Operations.
14. Java program to implement Addition of two N X N matrices.
15. Java program to implement bubble sort.
16. Java program to demonstrate the use of Constructor.
17. Calculate area of the following shapes using method overloading.
a.Rectangle b. Circle c. Square
18. Implement multilevel inheritance
19. Java program for to display Serial Number from 1 to 5 by creating two Threads
20. Java program to demonstrate the following exception handlings
a. Divided by Zero b. Array Index Out of Bound c. Arithmetic Exception

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

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3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)
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5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

General

Group Discussion

Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
II B.Com- (CECS) SEMESTER-IV

SUBJECT:JAVA PROGRAMMING
PAPER- IV

Time: 2 Hrs
Marks: 50

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
2	Section-B Short Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
II B.Com-CECS SEMESTER-IV(W.E.F. 2022-2023)

SUBJECT: JAVA PROGRAMMING
Time: 2 Hrs

Marks: 50

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	2	20
UNIT -III	1	1	15
UNIT -IV	1	1	15
UNIT-V	1	1	15
Total No. of questions	6	7	
Total Marks Including choice			95

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL PAPER (W.E.F. 2022-2023)
II B.Com-CECS Semester -IV

SUBJECT: JAVA PROGRAMMING

PAPER-IV

Time : 2 Hrs.

Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1.) Explain the features of Java?. (UNIT-I)

(OR)

B) What is an operator? Explain types of operators?. (UNIT-I)

2. A) Explain different Loop statements available in Java. (UNIT-II)

(OR)

B) What is Inheritance? Explain Different types of Inheritance in Java. (UNIT-III)

3. A) What is a package? Explain the process of creating and using packages? (UNIT-IV)

(OR)

B) Explain how exceptional handling is done in java. (UNIT-V)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. What are the data types supported by Java?

5. What are the applications of OOPs?

6. What is the difference between break and continue statements in java.

7. List and explain any five String class methods in java

8. Explain about access specifiers in java?

9. Explain about thread priority?

10. Define local and remote applets.

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

II B.Com – CECS SEMESTER-IV(W.E.F. 2022-2023)

Subject: JAVA PROGRAMMING

Max.Marks:50

Paper-IV

Question Bank

Unit I

Short Questions: (5M)

1. What are the applications of oops?
2. Explain about java virtual machine?
3. Explain structure of a java program?
4. What are the data types supported by Java?

Essay Questions: (10M)

6. Explain the principles of object-oriented programming
7. Explain the features of Java?.
8. What is an operator? Explain types of operators?
9. How to read input using Scanner class in Java?
10. Explain about command line arguments in Java with an example program.

Unit II

Short Questions: (5M)

1. What is the difference between break and continue statements in java.
2. Distinguish String and StringBuffer classes.
3. What is an Array? How to define Arrays in Java.
4. List and explain any five String class methods in java

Essay Questions: (10M)

5. Explain different decision-making statements available in Java
6. Explain different Loop statements available in Java
7. Explain the different ways of creating, initializing and accessing arrays in Java
8. Define String. Discuss the way of creating Strings. Explain different String Class Methods

Unit III

Short Questions: (5M)

1. Explain about constructors in Java?
2. Explain about access specifiers in java?

Essay Questions: (10M)

5. Explain classes and methods in Java with examples?
6. What is Inheritance? Explain Different types of Inheritance in Java.
7. Explain about abstract methods and abstract classes?
8. Explain interface with an example

Unit IV

Short Questions: (5M)

1. Explain about Pre-defined Packages in Java.
2. Explain thread priority?

Essay Questions: (10M)

4. What is a package? Explain the process of creating and using packages?
5. Explain the lifecycle of thread?
6. Write the procedure for creating a thread.

Unit V

Short Questions: (5M)

1. Explain about types of errors?

2. Define local and remote applets

Essay Questions: (10M)

3. Explain how exceptional handling is done in java?
4. Explain Applet Life Cycle with an example

Mapping of Cos with POs/PSOs

CO /PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PSO1	PSO2	PSO3	PS O4	PS O5
CO1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3
CO5	3	3	3	2	2	2	3	3	1	1	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA							
Course Code	COMPUTING BASICS AND ITS APPLICATIONS			II BA(OM&SP) Sem - III 2022-23			
Hours	90 (60 Theory + 30 Practical)			L	T	P	C
Pre requisites	Basic Computer Knowledge			4	-	2	5

COURSE OBJECTIVES:

<ol style="list-style-type: none"> 1. <i>Understand the characteristics and generations of computers.</i> 2. <i>Understand the URL and websites.</i> 3. <i>Understand the role of a database management system in an organization.</i> 4. <i>Understand basic database concepts, including the structure and operation of the relational data model.</i> 5. <i>Get the Knowledge in MS-Word components.</i>

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Students would learn about Understand the role of a database management system in an organization. Understand basic database concepts, including the structure and operation of the relational data model.
CO2	Students would learn about <i>Understand the characteristics and generations of computers and operating system concepts also.</i>
CO3	Students would learn about the URL, websites, web pages and home pages.
CO4	Students would learn about implement of MS-Word components.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.A – OM&SP Semester- III(2022-2023)
Computing Basics and its Applications

SYLLABUS

Unit-I:

World of Computers:

Characteristics of Computers, Evolution and Generation of Computers, Hardware and Software Components, Operating System: types, functions and characteristics. Examples: Windows etc., Networking basics and Internet Concepts.

Unit II:

Advanced Concepts of Networks and Internet:

Keywords: URL, IP address, Hyperlinks, Web pages, Home page, web sites, WWW. Working with Microsoft Internet Explorer: Opening a web page, opening multiple browser windows, opening multiple tabs in a single browser windows and their management, working offline, deleting temporary files, exploring Internet Options, Net Etiquettes, Searching the Web: Meaning of Search Engines and Keywords,

Unit III:

Database Management System (DBMS):

Meaning and need of a database, Advantages, Limitations of databases, Applications of Database, Meaning and need of DBMS, Database Components: Tables, Rows, Columns, Attributes, Queries, Record, Primary Key, Foreign Key, Relationship between tables.

Unit IV:

E-Typewriting:

Meaning and uses of Touch Method (The student is required to achieve proficiency in e-typewriting with touch method of typewriting.) Method of speed calculation (The minimum accurate speed to be attained is 30 words per minute).

Word Processing:

Meaning of Word Processor, Need and Uses of Word Processing, Advantages and Limitations of Word Processing, Software used for Word Processing, Why MS-Word and which version? Starting Word: MS Word interface, opening a blank document, hiding and showing toolbars, templates. Working in Word: selecting text, editing text, finding and replacing text, formatting text, checking and correcting spellings, Justification and Alignment, Bullets and Numbering, Tabs, Paragraph formatting, Indent, Page Formatting, Header and Footer & Word Count. Working with a Document: Page Setup of a document, viewing a document, switching between documents, saving a document, print preview, printing document. Finishing Touch to a document: Inserting date and time, Special effects such as Bold, Scripts, etc., Inserting and deleting a comment, Inserting Clip Arts.

Note: The relevant short cut keys of MS Word to be discussed.

References:

1. Absolute Beginner's Guide to Computer Basics, Michael Miller.
2. Fundamental of Computers, AkashSaxena, Kartika Gupta.
3. Fundamentals of Information Technology, Alexis and Mathew.
4. Computer Fundamentals, P.K. Sinha.
5. Principles of Typewriting, D.P. Bhatia and S.S. Sangal.
6. Microsoft Word 2010 Step by Step(Microsoft) by Joyce Cox and JoanLambert.
7. MS Word 2000 Thumb Rules and Details, Snigdha Banerjee.
8. Word 2010 All-in-One for Dummies, Doug Lowe and Ryan C. Williams.

Online resources:

1. [http:// www.onlinegdb.com/](http://www.onlinegdb.com/)
2. [http:// www.tutorialspoint.com/](http://www.tutorialspoint.com/)
3. <https://byjus.com/govt-exams/microsoft-word/>
4. <https://rckochi.nios.ac.in/page/e-typewriting.html>

Practical Component: @ 2 hours/week/batch**GUIDELINES FOR THE CONDUCT OF PRACTICAL EXAMINATION****Computing Basics & Its Applications –I****Practical**

Time: 35 Minutes (Excluding Viva-Voce)

Maximum Marks: 50

Ques No.	Description of Question	No. of Words	Marks	Time Allowed
1	E-Typewriting	300	20	5 Minutes
2	A Question on MS-Word comprising of simple formatting of passage/letter e.g. bold, italics, etc. Generate mail merge for the letter so created to send it to multiple recipients at the same time.	150	20	30 Minutes
	Total		40	35 Minutes
	Viva-Voce		10	
	Total Marks		50	

NOTE:

1. There will be no Internal Assessment in the Practical component of this paper.
2. 10 Minutes time may be given to the examiners for adjustment of computers before the practical.
3. The examinees will have to produce hard copies of above questions for evaluation.

RECOMMENDED CO-CURRICULAR ACTIVITIES:**Measurable**

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity) Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as exams)
3. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity)
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General

5. Group Discussion
6. Visit to Informatic centers to know about networking concepts.

RECOMMENDED ASSESSMENT METHODS

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests)
2. Problem-solving exercises
3. Practical assignments and Observation of practical skills
4. Individual and group project reports
5. Efficient delivery using seminar presentations
6. Viva voce interviews.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II BA – OM&SP Semester- III(2022-2023)
Computing Basics and its Applications

PAPER- III

Marks: 50M

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A Essay Questions	6	10	60	3	10	30
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$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 47.36\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
II B.A / Semester- III
Computing Basics and its Applications

Time: 2 Hrs 30 Minutes

Marks: 50

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Marks allotted to the chapter
UNIT-I	2	2	30
UNIT -II	1	1	15
UNIT -III	2	2	30
UNIT -IV	1	2	20
Total No. of questions	6	7	
Total Marks Including choice			95

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.A / Semester- III (W.E.F. 2022-2023)
MODEL PAPER
Computing Basics and its Applications

Time: 2 Hrs.30Mins

SEMESTER-III
Max. Marks: 50

SECTION-A

Answer ALL Questions. Each question carries 10 marks

(3x10=30M)

1.A. Explain about Basic Components of PC. (UNIT I)

OR

B. Write about Generations of Computer. (UNIT I)

2.A. What is Internet? Explain about IP Addresses, Hyperlinks and Web pages. (UNIT II)

OR

B. Explain about Word Processing? (UNIT IV)

3 . A Explain about Components of Data base system? (UNIT III)

OR

B. What is meant by DBMS and explain advantages of DBMS. (UNIT III)

SECTION-B

Answer any FOUR Questions. Each question carries 5 marks

(4x5=20M)

4. Write the Characteristics of a Computer.

5. Explain briefly about URL and Components of URL

6. Explain about different Data Base users?

7. Explain the method of speed calculations.

8. Write the Advantages and Limitations of Word Processing.

9. What are the objectives of DBMS?

10. Explain about hardware components of a computer

IMPORTANT QUESTIONS

Essay Questions:

UNIT-1

1. Explain about Basic Components of PC
2. Write about Generations of Computer.
3. What is an Operating System? Explain about Functions of Operating System

UNIT-2

4. What is Internet? Explain about IP Addresses, Hyperlinks and Web pages.
5. What is WWW? Write a brief note on Web pages ,Home pages and Websites
6. Explain about browsers

UNIT-3

7. Explain about Components of Data base system?
8. What is meant by DBMS and explain advantages of DBMS.
9. Explain about the following with examples
 - a) Primary key
 - b) Foreign key
 - c) Candidate key

UNIT-4

10. Explain the Meaning and uses of Touch Method.
11. Differentiate between typewriting and E-Typewriting.
12. Explain about E-typewriting - meaning and importance.
13. Explain about Word Processing?
14. Explain about MS-Word Components.
15. How to create a Document and Saving It.

SHORT ANSWER QUESTIONS:

UNIT-1

1. Write the Characteristics of a Computer?
2. What are the applications of a Computer.

UNIT-2

3. Explain briefly about URL and Components of URL.
4. Write a short note on Searching the Web.

UNIT-3

5. Explain about different Data Base users?
6. What are the objectives of DBMS?

UNIT-4

7. Explain the method of speed calculations.
8. Explain about uses of Touch Method.
9. Write the Advantages and Limitations of Word Processing.
10. Explain about finishing touch to a document.
11. Explain about Inserting and Deleting a comment.

Mapping of Cos with POs/PSOs

CO /PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PSO1	PSO2	PSO3	PS O4	PS O5
CO1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO3	2	1	2	3	2	3	2	2	2	3	2	2	3	2	2
CO4	3	2	3	2	2	2	3	3	1	1	3	1	2	2	3

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	BIGDATA ANALYTICS USING R	III BCOM (CA) Sem - V 2022-23			
Hours	90 (60 + 30)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective

1. To examine large amounts of data to uncover hidden patterns, correlations and other insights
2. Understand to extract meaningful insights, such as hidden patterns
3. To store, transform and analyse the data
4. Organize data to complex process of examining big data
5. Large data analysis to help companies

Course Outcomes

On completion of the course, the students will be able to-		
Outcome	Description	Cognitive Level
CO1	Understand data and classification of digital data.	Knowledge
CO2	Understand Big Data Analytics.	Knowledge
CO3	Load data in to R.	Analysis and Evaluation
CO4	Organize data in the form of R objects and manipulate them as needed.	Application
CO5	Perform analytics using R programming.	Creativity

Course-6A: BIGDATA ANALYTICS USING R

SYLLABUS

Unit – 1: Introduction to Big data

Data, classification Of Digital Data--structured, unstructured, semi-structured data, characteristics of data, evaluation of big data, definition and challenges of big data , what is big data and why to use big data ?, business intelligence Vs big data.

Unit – 2: Big data Analytics

What is and isn't big data analytics? Why hype around big data analytics? Classification of analytics, top challenges facing big data, importance of big data analytics, technologies needed to meet challenges of big data.

Unit – 3: Introduction to R and getting started with R

What is R? Why R? , advantages of R over other programming languages, Data types in R- logical, numeric, integer, character, double, complex, raw, coercion, ls() command, expressions, variables and functions, control structures, Array, Matrix, Vectors, R packages.

Unit – 4: Exploring data in R

Data frames-data frame access, ordering data frames, R functions for data frames dim(), nrow(), ncol(), str(), summary(), names(), head(), tail(), edit() .Load data frames—reading from .CSV files, sub setting data frames, reading from tab separated value files, reading from tables.

Data Visualization using R:Reading and getting data into R (External Data): Excel files.

Working with R Charts and Graphs: Histograms, Bar Charts, Line Graphs, Scatterplots, Pie Charts

BOOKS :

1. Seema Acharya , Subhashini Chellappan --- Big Data And Analytics second edition, Wiley
2. Seema Acharya--Data Analytics using R, McGraw Hill education (India) Private Limited.
3. Big Data Analytics, Introduction to Hadoop, Spark, and Machine-Learning, Raj kamal, Preeti Saxena, McGraw Hill, 2018.
4. Big Data, Big Analytics: Emerging Business intelligence and Analytic trends for Today's Business, Michael Minelli, Michelle Chambers, and Ambiga Dhiraj, John Wiley & Sons, 2013

Reference Books:

1. An Introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics. W. N. Venables, D.M. Smith and the R Development Core Team

Web links:

<https://www.tutorialspoint.com/r/index.htm>
<https://www.javatpoint.com/r-tutorial>
<https://www.w3schools.com/r/default.asp>
https://www.tutorialspoint.com/big_data_tutorials.htm

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups a steams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports.
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

Course-6A: Big Data Analytics Using R---- Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Create a vector in R and perform operations on it.
2. Create integer, complex, logical, character data type objects in R and print their values and their class using print and class functions.
3. Write code in R to demonstrate sum(), min(), max() and seq() functions.
4. Write code in R to manipulate text in R using grep(), toupper(), tolower() and substr() functions.
5. Create data frame in R and perform operations on it.
6. Import data into R from text and excel files using read.table () and read.csv () functions.
7. Write code in R to find out whether number is prime or not.
8. Print numbers from 1 to 100 using while loop and for loop in R.
9. Write a program to import data from csv file and print the data on the console.
10. Write a program to demonstrate histogram in R.

Note: The list of experiments need not be restricted to the above list. Detailed list of Programming/software tool based exercises can be prepared by the concerned Faculty members.

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
III B.Com- (CA) SEMESTER-V

SUBJECT: BIGDATA ANALYTICS USING R
PAPER- V

Time: 2½ Hrs
Marks: 60

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A very Short Questions	5	1	5	5	1	5
2	Section-B Short Questions	6	5	30	3	5	15
3	Section-C Essay Questions	8	10	80	4	10	40
TOTAL		19		115	TOTAL MARKS		60

$$\text{Percentage of choice given} = \frac{115 - 60}{115} \times 100 = \frac{55}{115} \times 100 = 47.82\%$$

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL PAPER (W.E.F. 2022-2023)
III B.Com-CA Semester -V

SUBJECT: BIGDATA ANALYTICS USING R
PAPER-V

Time: 2½ Hrs
Marks: 60

SEMESTER-IV

Section –A

Answer all questions (Very Short Answer Questions)

5 x 1=5M

1. Define Big data.
2. What is Structured data?
3. Define class and object.
4. What is an array?
5. Data visualization.

Section –B

Answer any 3 questions

3 x 5 =15M

1. Distinguish between structured and unstructured data.?
2. Explain about evaluation of bigdata.
3. Write about classification of analytics.
4. Write about Technologies needed to meet challenges of Big data.
5. Wriet about R packages.?
6. Explain about data frames in R?

Section –C

Answer all questions

4 x 10 = 40M

7. A) What is Big Data? What are the characterstics of Big Data?
(OR)
B) Explain business intelligence Vs BigData.

8. A) What is BigData Analytics? Explain about different types of BigData Analytics.
(OR)
B) What are top-challenges facing Big data

9. A) What is R? Explain about different datatypes in R?
(OR)
B) Explain about vectors in R-Language?

10. A) Write about R functions for data frames
(OR)
B) Write a program to create a graph and usage of plot() in R?

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
III B.Com-CA SEMESTER-V(W.E.F. 2022-2023)

SUBJECT: BIGDATA ANALYTICS USING R
PAPER-V

Time: 2½ Hrs
Marks: 60

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Very Short Questions 1 Mark	Marks allotted to the chapter
Module-1	2	2	2	32
Module-2	2	2	1	31
Module-3	2	1	1	26
Module-4	2	1	1	26
Total No. of questions	8	6	5	
Total Marks Including choice				115

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com-CA SEMESTER-V (W.E.F. 2022-2023)
Big Data Analytics using R
Question Bank

Essay Questions

Unit-1

1. What is BigData? What are the types of Big Data?
2. What is Big Data? What are the characteristics of Big Data?
3. What is BigData? What are the Challenges of Big Data.
4. Explain business intelligence Vs BigData.

Unit-2

1. What is BigData Analytics? Explain about different types of BigData Analytics.
2. What is BigData? What is the importance of big data analytics?
3. What are top-challenges facing Big data.

Unit -3

1. What is R? Explain about different datatypes in R.
2. Write about control structures in R?
3. Explain about vectors in R-Language.

Unit-4

1. Write about R functions for data frames.
2. Write a program to create a graph and usage of plot() in R.
3. Write about Data Visualization using R.

Short Answer Questions

Unit-1

1. What are the advantages of Bigdata.
2. Distinguish between structured and unstructured data.
3. Explain about evaluation of bigdata.

Unit-2

1. Write about classification of analytics.
2. Write about importance of big-data analytics.
3. Write about Technologies needed to meet challenges of Big data.

Unit-3

1. Write about advantages of R over other programming languages.
2. Write about R packages.
3. Write about logical operators in R.

Unit-4

1. Explain about data frames in R.

2. Explain about summary() and str() functions in R.

Very Short Questions

Unit-1

6. Big data
7. Business intelligence
8. Semi-structured data

Unit-2

1. Big data analytics.
2. Structured data

Unit-3

1. What is variable?
2. What is an array?
3. What is package?

Unit-4

1. Data frame
2. Data visualization
3. Bar charts

Mapping of Cos with POs/PSOs

CO /PO	P O 1	P O2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	P O 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO1	3	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO2	3	2	3	3	2	3	3	1	3	3	3	2	1	3	1
CO3	2	3	2	3	3	3	2	2	2	3	2	2	3	2	2
CO4	3	2	3	2	2	2	3	3	1	1	3	1	2	1	3
CO5	2	3	2	2	3	2	3	3	1	2	3	1	2	3	2

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	Data Science Using Python	III BCOM (CA) Sem - V 2022-23			
Hours	90 (60 + 30)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective

9. Understand the basics of Data Science
10. Understand the syntax of Python programming language.
11. Apply python programming skills to solve problems.

Course Outcomes

On completion of the course, the students will be able to-		
Outcome	Description	Cognitive Level
CO1	Understand basic concepts of data science	Knowledge
CO2	Understand why python is a useful scripting language for developers.	Knowledge
CO3	Use standard programming constructs like selection and repetition.	Analysis and Evaluation
CO4	Use aggregated data (list, tuple, and dictionary).	Application
CO5	Implement functions and modules	Creativity

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS

III B.Com – CA Semester – V (W.E.F. 2022-2023)

DATA SCIENCE USING PYTHON

SYLLABUS

Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Understand basic concepts of data science – CO1
2. Understand why python is a useful scripting language for developers. – CO2
3. Use standard programming constructs like selection and repetition. – CO3
4. Use aggregated data (list, tuple, and dictionary). – CO4
5. Implement functions and modules. – CO5

Syllabus :

Unit – 1: Introduction to data science (12h)

Data science and its importance, advantages of data science, the process of data science, Responsibilities of a data scientist, qualifications of data scientists, would you be a good data scientist, why to use python for data science.

Unit – 2: Introduction to python (14h)

What is python , features of python, history of python, writing and executing the python program, basic syntax, variables, keywords, data types ,operators ,indentation, Conditional statements-if, if-else, nested if-else, looping statements-for, while, break, continue, pass

Unit – 3: Control structures and strings (10h)

Strings - definition, accessing, slicing and basic operations Lists - introduction, accessing list, operations, functions and methods, Tuples - introduction, accessing tuple Dictionaries - introduction, accessing values in dictionaries

Unit – 4: Functions and modules (13h)

Functions - defining a function, calling a function, types of functions, function arguments, local and global variables, lambda and recursive functions, Modules- math and random

Unit-5: Classes & Objects (11h)

Classes and Objects, Class method and self-argument, class variables and object variables, public and private data members, private methods, built-in class attributes, static methods.

Reference Books:

1. Steven cooper--- Data Science from Scratch, Kindle edition
2. Reemathareja—Python Programming using problem solving approach, Oxford

Web links:

1. <https://www.w3schools.com/python/>
2. <https://www.tutorialspoint.com/python/index.htm>
3. <https://www.geeksforgeeks.org/python-programming-language/>

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2022-2023)
III B.Com- (CA) SEMESTER-V

SUBJECT: DATA SCIENCE USING PYTHON
PAPER- VII

Time: 2½ Hrs
Marks: 60

Model blue print for the model paper and choice

S.NO	Type of Question	To be given in the Question Paper			To be answered		
		No. of Questions	Marks allotted to each question	Total Marks	No. of Questions	Marks allotted to each question	Total Marks
1	Section-A very Short Questions	5	1	5	5	1	5
2	Section-B Short Questions	6	5	30	3	5	15
3	Section-C Essay Questions	8	10	80	4	10	40
TOTAL		19		115	TOTAL MARKS		60

$$\text{Percentage of choice given} = \frac{115 - 60}{115} \times 100 = \frac{55}{115} \times 100 = 47.82\%$$

P.R.GOV.T.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL PAPER (W.E.F. 2022-2023)
III B.Com-CA Semester -V

SUBJECT: DATA SCIENCE USING PYTHON
PAPER-VII

Time: 2½ Hrs
Marks: 60

SEMESTER-V

Section –A

Answer all questions (Very Short Answer Questions)

5 x 1=5M

1. What is Data Science?
2. Define keyword.
3. Define dictionary.
4. Define module.
5. Define class variable.

Section –B

Answer any 3 questions

3 x 5 =15M

10. What is data science? Mention its importance.
11. Write about data types in python?
12. Write about operators in python?
13. Write about slicing in strings?
14. Write about recursive functions in python?
15. Write about class method in python?

Section –C

Answer all questions

4 x 10 = 40M

16. A) Write the advantages and process of data science.(UNIT-I)

(OR)

B) Explain classes and objects in python with example.(UNIT-V)

17. A) Write about conditional statements in python.(UNIT-II)

(OR)

B) Write about looping statements in python.(UNIT-II)

18. A) Write about lists in python.(UNIT-III)

(OR)

B) Write about tuples in python.(UNIT-III)

10. A) Write about functions in python.(UNIT-IV)

(OR)

B) Write about different functions available in math and random modules.(UNIT-IV)

P. R.GOV'T. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
III B.Com-CA SEMESTER-V(W.E.F. 2022-2023)

SUBJECT: DATA SCIENCE USING PYTHON
PAPER-IV

Time: 2½ Hrs
Marks: 60

Model Blue print for the question paper setter

Chapter Name	Essay Questions 10 Marks	Short Questions 5 Marks	Very Short Questions 1 Mark	Marks allotted to the chapter
Module-1	1	1	1	21
Module-2	2	2	1	26
Module-3	2	1	1	26
Module-4	2	1	1	26
Module-5	1	1	1	16
Total No. of questions	8	6	5	
Total Marks Including choice				115

P R GOVERNMENT (AUTONOMOUS) COLLEGE, KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com – CA SEMESTER-V (W.E.F. 2022-2023)

Subject: DATA SCIENCE USING PYTHON
Paper-VII

Max.Marks:60

Question Bank

Unit I

Very Short Questions: (1M)

1. What is data science?
2. What is data scientist?
3. Mention two advantages of data science?

Short Questions: (5M)

5. Why to use Python for data science?
6. What is data science? Mention its importance.
7. What are the advantages of data science?

Essay Questions: (10M)

1. Write the advantages and the process of data science?
2. Write the responsibilities and qualifications of data scientist?

Unit II

Very Short Questions: (1M)

1. Define Variable.
2. What is Keyword?
3. What is data type?
4. What is operator?
5. What is pass?

Short Questions: (5M)

5. Data types in Python.
6. Break and Continue in Python.
7. Writing and executing the Python program.
8. Operators in Python.

Essay Questions: (10M)

9. Write about conditional statements in Python?
10. Write about looping statements in Python?
11. Write about operators in Python?
12. What is Python? Write about the features of Python?

Unit III

Very Short Questions: (1M)

1. Define string.
2. Define list?
3. Define tuple.
4. Define dictionary.

Short Questions: (5M)

3. Write about slicing in strings?

4. How to access tuple?
5. Write about list operations?

Essay Questions: (10M)

9. Write about strings in Python?
10. Write about lists in Python?
11. Write about tuples in Python?
12. Write about dictionaries in Python?

Unit IV

Very Short Questions: (1M)

1. Define function.
2. Define module.

Short Questions: (5M)

3. Write about recursive functions in python.
4. Write about types of functions in python.

Essay Questions: (10M)

7. Write about functions in Python?
8. Write about different functions available in math and random modules?
9. Write about lambda and recursive functions in Python?

Unit V

Very Short Questions: (1M)

1. Define class.
2. Define object
3. Define class variable
4. Define object variable.

Short Questions: (5M)

3. Write about class method in Python?
4. Write about self argument in Python?
5. What are private methods in python?

Essay Questions: (10M)

5. Explain classes and objects in Python with example?
6. Explain class variables and object variables in Python with example?
7. Explain public and private data members in Python?

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1	2	3	2	2	3	3	1	2	2	3	2	3	2	3	2
CO 2	3	2	3	3	2	2	3	1	3	3	3	1	1	3	1
CO 3	2	2	2	3	3	3	2	2	2	3	2	2	3	2	2
CO 4	3	3	3	2	2	2	3	2	1	1	3	1	2	1	3
CO 5	2	3	2	2	3	2	3	3	1	2	3	1	1	3	2

