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

DEPARTMENT OF COMPUTER APPLICATIONS

BOARD OF STUDIES
2023-2024

DEPARTMENT OF COLLEGIATE EDUCATION GOVERNMENT OF ANDHRA PRADESH

PROCEEDINGS OF THE PRINCIPAL, PITHAPUR RAJAH's GOVT. COLLEGE [A]:: KAKINADA

Present: Dr. B.V. TIRUPANYAM, Ph.D.

Rc.No.1/ A.C/BOS/2023-24 Dt.29 Aug2023

Sub: P.R.G.C[A] – Academic Cell - **Conduct of BOS Meetings for the Academic Year 2023-24** – Guidelines issued - Regarding.

Ref: Resolutions adopted in 25th Staff Council Meeting held on 29 Aug 2023

The Autonomous colleges are, as per its vision, mission, stated objectives and core values, mandated to design and develop their own outcome -based curricula keeping in view the societal, local and global industry requirements, employability and industry – ready and transferable skills duly prescribing Course Outcomes (COs), Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) and suitable learning outcome assessment management system through robust and transparent evaluation system to measure their attainment levels by the students.

The Sustained Developmental Goals (SDG-4) of UNEP recommended assurance of quality to students in HEIs promoting creativity, critical thinking and collaborative skills, while building curiosity, courage, resilience and gender equality among students.

Further, the NEP-2020 recommended that the HEIs shall equip students with such skills that translate them into leaders and potential entrepreneurs too besides credit transfer mechanism through ABC (Academic Bank of Credits).

The HEIs are also, as per the Revised Accreditation Framework [RAF] of NAAC, endowed with the responsibility of rolling out quality and holistic human resources to the modern Indian Economy by ingraining quality in teaching- learning process by facilitating the students experience a wide range of participative and experiential learning strategies including field trips, conferences, integration of technology, community service programmes, career guidance, certificate and value added courses, research and inquisition based teaching, exchange programmes, gender equity programmes, etc.

Besides, the students shall have social consciousness, regard for constitutional provisions, right perspective on environmental protection, awareness on gender equity, health and hygiene, Yoga and wellness, college social responsibility, culture and values, etc., to mention a few.

Further, the Ministry of India, GoI, through NIRF, prescribes quality research, infrastructure augmentation, enhanced placement and progression to higher education, equipment of employability skills leading to enhanced public perception about the college among the public.

Our institution has, from AY 2022-23, has devised its new vision and mission along with objectives and core values necessitating design and re-orientation of its academic administration in tune with them.

ORDER:

In the light of the above mandate and responsibilities prescribed by institutions vision and mission, SDG-4, NEP – 2020, NAAC, NIRF to the autonomous HEIs, need to customize, design and re-orient their academic and research administration in tune with the policies of above bodies, our institution is no exception.

Hence, the Chairmen of U.G and P.G Boards of Studies of various Departments are requested to make necessary arrangements for the conduct of the meetings on **31 August 2023**. They are further requested to prepare curricula and extracurricular activities and devise suitable evaluation system keeping in mind above recommendations to make students a wholesome personality and a 21st century student capable of facing challenges, adaptive to changes, creative and innovative.

Further, the Chairman of the each BOS, in association with the IQAC coordinator, preceding the BOS meeting, is requested to prescribe benchmarking, quality initiatives in pedagogy and learning; in design of curriculum (with 20% change) and optimum utilization of existing human, physical and ICT resources and adopt resolutions to the extent of benchmarks (As per SOP given in **Annexure – I)**. Further, as the regular attendance of students to the classes is a deciding factor in enhancement of quality in learning, a minimum attendance of 60% for I mid-term examination, 75% for II mid-term examination under CIA component shall be the benchmark for attendance and it shall be approved in the BOS. The Chairmen are also requested to approve the new programmes to be introduced for 2023-24, if any, number of certificate courses, their frequency, Bloom 's- Taxonomy based evaluation system for effective learning outcomes as per the Annexure – I.

The Chairmen are, therefore, requested to

• Design curricula of Odd and even semesters for the A.Y 2023-24 both for U.G and P.G courses in tune with the stated vision, mission of the institution, RAF of NAAC, NEP-2020 and NIRF.

• Conduct meeting with employers, parents, alumni, shall take feedback on the existing curricula and invite suggestions and changes to be made.

• Invite the University nominee, subject experts, industrial nominees, student nominees, parents well in advance along with the date, venue, agenda, etc. A soft copy shall be communicated well in advance to the members to have an idea on the matters.

• Facilitate much room for intense deliberation on the design of the curricula, evaluation system, research component, enhancing learning experiences, resource utilization by staff ad students, etc.,

• Each Department shall approve and recommend additional credits for additional modules, training programmes, N.S.S, N.C.C, participation in cultural programs, sports and games, environmental programs, blood donations camps, etc.

• All meetings shall be offline. Online attendance of members faculty will be permitted only in exceptional cases.

• The Chairmen shall submit minutes of the meeting in the prescribed format only (Annexure – II) in triplicate (hard copies) to the Academic cell for onward submission to the IQAC, Examination cell and library within three days from the completion of BOS meeting and besides hosting the soft copy in the college website within the period stipulated.

• Each Chairman of BOS, shall get the rough draft of the curricula verified and approved by the Principal, Academic Cell and IQAC before the actual BOS meetings to ensure uniformity and commensurate with the stated vision and mission of the college among the departments.

• The Academic Cell coordinator shall be the Chief Coordinator for the BOS meeting activity and IQAC coordinator will be the additional coordinator.

• The Academic Coordinator and IQAC coordinator conducted a meeting with the Chairmen, BOS on 28 August 2023 and explain the structure of curricula, uniformity other modalities.

• The Controller of Examinations of the institution shall fund the BOS meetings from the available funds on the condition of reimbursement after receiving autonomous funds from UGC. Initially, he shall pay Rs. 5,000/- uniformly as an advance to each Chairman towards each course (If BOS meetings for multiple courses are held under one Chairmanship, he/ she shall be given advance amount equivalent to the number of courses x Rs.500/-)

• The Chairman of each BOS shall apply to the principal for advance amount for meeting the BOS meetings with head-wise expenditure in the prescribed format (Annexure-III).

Following contents shall be presented in the BOS document in order

1. Proceedings of the Principal pertaining to BOS
2. Composition of BOS
3. Vision and Mission of the college

4. Agenda: It shall include ATR on the previous BOS meeting first, resolutions, etc., later.

5. Table showing the Allocation of Credits in the following table for both theory and Lab in case of science subjects

S. No	Semester	Title of the Course (Paper)	Hrs./week	Max. Marks (SEE)	Marks in CIA	Credits
1	III	Optics	4	50	50	4

6. Resolutions adopted in the meeting with detailed discussion that took place during the meeting (Activities and Bench marking as per Annexure –I)

7. At the end of each theory paper, each topic shall be mapped as per the Blooms taxonomy and scope of that topic for skill/ employability/ entrepreneurship opportunities in the following table incorporated

S. No	Subject	Semester	Title of the Course (Paper)	Topic	Parameter as per Blooms taxonomy (Knowledge/ Application/ Creativity/ Innovation	Experiential learning component	Scope (Skill/ employability/ entrepreneurship)
1	III	Botany	Plan Physiology	Plant Cell	Knowledge	Shall be shown Microscope	
2	III	History	Tourism	Tourism management	Application	Apprenticeship	Employability

8. Each BOS Chairman shall, immediately after syllabus, tabulate the changes made in the syllabus/ paper along with justification, in the Proforma given in Annexure – I.

9. Attendance of Members present with signatures in the tabular form.

10. List of Examiners & Paper setters

11. Syllabus for each course (both theory & Practical in case of Science subjects) followed by model question papers (theory & practical) and allocation of CIA (50 marks) for each course with structure.

12. Each student (2023-24 AB)has to complete one MOOCS course from SWAYAM in any subject per year which is mandatory.

CIA structure for Single Major system

➢ Out of 50 marks for CIA, 25 marks are allocated for Mid examinations. In each semester two mid examinations to be conducted and the average of the two will be considered.

➢ I mid examination is to be conducted in offline mode at college level and II mid examination is to be conducted in online mode at department level.

➢ I mid examination to be conducted in offline mode in which the student should attempt **one essay** question for ten marks out of two questions, **two short** answer questions with five marks each out of four questions and five objective questions to be given for each paper.

➢ Question paper is to be given as per the following structure for the courses with **4 units**

S.No	Unit No	Long Answer Question(10)	Short Answer Question(5 M)	Objective Questions(1M)
1	I	1	0	1
2	II	1	0	1
3	III	0	2	1

4	IV	0	2	1+ one question from any with more syllabus weightage

➢ For I mid examination to be conducted in offline mode, Question paper is to be given as per the following structure for the courses with **5 units**

S.No	Unit No	Long Answer Question(10M)	Short Answer Question(5 M)	Objective Questions(1M)
1	I	1	0	1
2	II	1	0	1
3	III	0	1	1
4	IV	0	1	1
5	V	0	1+ one question from any unit(III or IV or V) with more syllabus weightage	1

The remaining 25 marks for CIA are allocated as per the following structure.

Project-10M	Viva on theory- 3M	Assignment-5M	Seminar- 5M	Clean & green and Attendance- 2M

CIA structure for 3 Major system

➢ Out of 50 marks for CIA, 25 marks are allocated for Mid examinations. In each semester two mid examinations to be conducted and the average of the two will be considered.

➢ I mid examination is to be conducted in offline mode at college level and II mid examination is to be conducted in online mode at department level.

➢ I mid examination to be conducted in offline mode in which the student should attempt **one essay** question for ten marks out of two questions, **two short** answer questions with five marks each out of four questions and five objective questions with one mark

➢The remaining 25 marks for CIA are allocated as per the following structure.

Project-10M	Viva on theory- 3M	Assignment-5M	Seminar- 5M	Clean & green and Attendance- 2M

CIA structure for 3 Major system for Honors programmes(2020-21AB)

➢ Out of 40 marks for CIA, 20 marks are allocated for Mid examinations. In each semester two mid examinations to be conducted and the average of the two will be considered.

➢ I mid examination is to be conducted in offline mode at college level and II mid examination is to be conducted in online mode at department level.

➢ I mid examination to be conducted in offline mode in which the student should attempt **Two essay** questions for ten marks each out of three questions, **four short** answer questions with five marks each out of six questions.

➢The remaining 20 marks for CIA are allocated as per the following structure

Assignment- 10M	Seminar- 5M	Quiz -5M

PRINCIPAL

PRINCIPAL
P.R. Govt. College (A)
KAKINADA

Pithapur Rajah's
Government Autonomous College
Kakinada

PROCEEDINGS OF THE PRINCIPAL, P.R.GOVERNMENT COLLEGE(A), KAKINADA-A.P

Present: Dr. B. V. Tirupanyam, M.Sc; Ph.D.

R.C.No.1/A.C./BOS/2023-24, Dated: 29.08.2023

SUB: P.R. Government College(A), Kakinada-UG Board of Studies (BOS)- Program/Course-Nomination of Members-Orders issued.

REF: 1. UGC Guidelines of for Autonomous Colleges-2018.

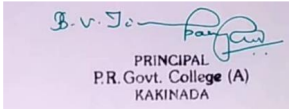
ORDERS:

The Principal, P.R. Government College(A), Kakinada is pleased to constitute UG Boards of Studies in Computer Applications / Information Technology for framing the syllabi in respective Subject for all Semesters duly following the norms of the UGC Autonomous guidelines.

S.No	Name of the Person	Designation
1	Smt. P.Jyothi	Chairman& Lecturer Incharge, Department.
2	Smt.N.NagaSubrahmanyeswari Lecturer In Computer Science ASD Govt degree College for Women(A) Kakinada	University Nominee
3	Smt. G.Satya Suneetha Lecturer In Computer Applications Govt degree Kovvur.	Subject Expert -I Lecturer in .
5	Sri.P.P.R.Mohan SME in TCS Pune.	Representative from Industry
6	Sri. K.Aswithprem Lecturer in Computer Applications P. R. Govt College (A) Kakinada	Member
7	P.Durga Bhavani	Student Alumni Member
8	P.Ashajyothi	Student Member
9	Sk. Kareemulla	Student Member
10	Sk.Madina	Student Member
11	A.Ashok	Student Member

The above members are requested to attend the BOS meeting on 31.08.2023 and share their valuable reviews, and suggestions on the following functionaries.

- Prepare syllabi for the subject keeping in view the objectives of the college, interest of the stake holders and National requirement for consideration and approval of the IQAC and Academic Council.
- Suggested methodologies for innovative teaching and evaluation techniques.
- Suggest the panel of Names to the academic council for appointment of Examiners.
- Coordinate research, teaching, extension and other activities in the Department of the college.



PRINCIPAL
P. R. Government College(A),
Kakinada

DEPARTMENT OF COMPUTER APPLICATIONS

Vision:

Department of Computer Applications Strives rigorously to provide quality education in both theoretical and applied foundations of computers and train the students to solve the real world problems effectively thus enhancing their potential for high quality careers.

Mission:

- To produce students with critical thinking and lifelong learning capabilities for applying their knowledge to uplift the living standards of the society.
- To equip students and faculty with excellent teaching-learning capabilities through advanced learning tools and technologies.
- To produce students with enriched skill set, professional behaviour, strong ethical values and leadership capabilities so as to work with commitment for the progress of the nation.

PSO's:

PSO 1: Students will improve their computer literacy, their basic understanding of operative systems and a working knowledge of software commonly used in academic and professional environments

PSO 2: Students will learn to organize information efficiently in the forms of outlines, charts , etc. using appropriate software.

PSO 3: Students will acquire skills for designing and delivering an effective presentation and developing the various IT skills to electronic databases.

PSO 4: Students will be able to design and implement a webpage
.
PSO 5: Students will be able to perform E-Banking , E-Marketing, E-Learning , E-Shopping.

PITHAPUR RAJAH'S GOVERNMENT COLLEGE [AUTONOMOUS] KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

BOARD OF STUDIES 2023-2024

The Nineteenth meeting of Board of Studies ***COMPUTER APPLICATIONS*** has been conducted in the Department of Computer Applications on 31st August, 2023 at 11.AM to discuss the following.

Agenda

1. a)To approve the curriculum, blue print and model paper for 1st year B.COM Computer Applications Major Course under CBCS based as per the directions of the APSCHE for the admitted batch 2023 -24 (I & II Semesters) (Syllabus as per APSCHE)

   b)To approve the curriculum, blue print and model paper for 1st year B.Sc Information Technology Major Course under CBCS based as per the directions of the APSCHE for the admitted batch 2023 -24 (I & II Semesters) (Syllabus as per APSCHE)
2. To approve the curriculum, blue print and model paper for 2nd year B.COM Computer Applications Course and B.Com(cecs) , BBCA under CBCS based as per the directions of the APSCHE for the admitted batch 2022 -23 (III & IV Semesters)
3. To approve the curriculum, blue print and model paper for 3rd year B.COM Computer Applications Course and B.Com(cecs) under CBCS based as per the directions of the APSCHE for the admitted batch 2021 -22 (V & VI Semesters)
4. To approve the Two Certificate Courses for Computer Applications students were introduced in this academic year
5. To approve the incorporation of additional inputs to various courses (where ever it is felt necessary) for enhancing students understanding over the concerned course and this shall not be considered for evaluation purpose.
6. To approve the Examination procedure for the courses for I, II, III years of B.com Computer Applications & B.Sc (BBCA) (2023 – 24, 2022-21& 2021-20 admitted batches).

   a) Each theory subject is evaluated for 100 Marks (I, II&III Years) out of which 50 Marks through semester end examination for I, II & III year, 50 marks for internal assessment.

   b) The minimum pass mark for both internal and external examinations is 18 marks (36%), but as a whole student is subjected to get 40% marks (40 out of total 100 marks) to pass the subject. (I, II&III Years)

c) **CIA structure for Single Major system**

- Out of 50 marks for CIA, 25 marks are allocated for Mid examinations. In each semester two mid examinations to be conducted and the average of the two will be considered.
- I mid examination is to be conducted in offline mode at college level and II mid examination is to be conducted in online mode at department level.
- I mid examination to be conducted in offline mode in which **one essay** question for ten marks out of two questions, **two short** answer questions with five marks each out of four questions and five objective questions to be given for each paper.
- Question paper is to be givenas per the following structure for the courses with **4 units**

S.No	Unit No	Long Answer Question(10M)	Short Answer Question(5 M)	Objective Questions(1M)
1	I	1	0	1
2	II	1	0	1
3	III	0	2	1
4	IV	0	2	1+ one question from any unit with more syllabus weightage

- For I mid examination to be conducted in offline mode, Question paper is to be given as per the following structure for the courses with **5 units**

S.No	Unit No	Long Answer Question(10 M)	Short Answer Question(5 M)	Objective Questions(1M)
1	I	1	0	1
2	II	1	0	1
3	III	0	1	1
4	IV	0	1	1
5	V	0	1+ one question from any unit(III or IV or V) with more syllabus weightage	1

- The remaining 25 marks for CIA are allocated as per the following structure.

Project-10M	Viva on theory- 3M	Assignment- 5M	Seminar- 5M	Clean & green and Attendance- 2M

CIA structure for 3 Major system

- Out of 50 marks for CIA, 25 marks are allocated for Mid examinations. In each semester two mid examinations to be conducted and the average of the two will be considered.
- I mid examination is to be conducted in offline mode at college

level and II mid examination is to be conducted in online mode at department level.

- I mid examination to be conducted in offline mode in which **one essay** question for ten marks out of two questions, **three short** answer questions with five marks each out of five questions.
- The remaining 25 marks for CIA are allocated as per the following structure.

Project-10M	Viva on theory-3M	Assignment- 5M	Seminar- 5M	Clean & green and Attendance- 2M

Two Mid Semester Examinations will be conducted for 50 marks (1 hour) & 1st Mid is Centralized & 2nd Mid is Online mode in the following pattern

d) Internal assessment for 50 Marks is as follows: (For Certificate Courses)

vii) Study Project : 20 Marks

viii) Student Seminar : 10 Marks

ix) Viva-voce : 10 Marks

x) Assignment : 10 Marks

7. Scheme of Valuation for Practical's
   - Record - 10 Marks
   - Viva voce - 10 Marks
   - Test - 30 Marks
   - Total - 50 marks
8. Every Student has to complete one MOOC's course per year. And the Student award two extra credit to who have registered and completed SWAYAM course successfully.
9. To award 4 credits for each first year Community service project (CSP) , and second year Internship between 1st and 2nd year and 2nd and 3rd year (two summer vacations for Apprenticeship during 6th semester)
10. To implement pedagogical strategies to enrich teaching and learning process.
11. To approve the proposed departmental activities for 2023-24.
12. To approve the list of examiners and paper setters for the academic year 2023-24.
13. Mandatory attendance of 60% for I mid examinations, 75% of attendance for II mid examination and 75% attendance for SEE – theory and practical.
14. Introducing of New Courses of Study and the possibilities
15. Any other item with the permission of the chair.

CHAIRMAN
BOARD OF STUDIES

Resolutions taken :

The following resolutions are approved by university nominee and all the members of BOS

After reviewing the existing titles and contents of class I,II,III,IV and V framed by APSHE, a the board come out with the following resolutions.

Resolution – I

It is resolved to approve the following changes of course I,II of Computer Applications as it is given by APSCHE as a part of this, from the academic year as, NEP 2020, the Major and minor policy system has come into effect. According to in this 1st year course 1 & 2 papers were given as common to each major

1st year : COURSE-I & COURSE-II

It is resolved to approved the curriculum, blue print and model paper for 1st year B.COM Course under CBCS based as per the directions of the APSCHE for the admitted batch 2023 -24. (I Semester)

1st year : 2nd sem – major(2) & minor(1)

Course-III :

Course-IV :

Resolution – II

20% change in each subject has been done in 2nd year & 3rd year papers.

2nd year : COURSE-III

Paper -3 Model can be changed

Section-I

Part-A : Given 3 questions

Part-B : Given 3 questions

Write any three questions, at-least one question from each part each question carries 10 marks

Section-II

Write any Four questions out of seven questions each question carries five marks.

2nd year : COURSE-IV

Paper -IV Model can be changed

Section-I

Part-A : Given 3 questions

Part-B : Given 3 questions

Write any three questions, atleast one question from each part each question carries 10 marks

Section-II

Write any Four questions out of seven questions each question carries five marks.

2nd year : COURSE-V

Paper -V Model can be changed

Section-I

Part-A : Given 3 questions

Part-B : Given 3 questions

Write any three questions, atleast one question from each part each question carries 10 marks

Section-II

Write any Four questions out of seven questions each question carries five marks.

Resolution – III

3rd year : COURSE-VI(A)

Paper - VI(A) Model can be changed

Section-I

Part-A : Given 3 questions

Part-B : Given 3 questions

Write any three questions, atleast one question from each part each question carries 10 marks

Section-II

Write any Four questions out of seven questions each question carries five marks.

3rd year : COURSE-VII(A)

Paper - VII(A) Model can be changed

Section-I

Part-A : Given 3 questions

Part-B : Given 3 questions

Write any three questions, atleast one question from each part each question carries 10 marks

Section-II

Write any Four questions out of seven questions each question carries five marks.

Resolution – IV

It is resolved to introduce certificate course with the Name **Basic Computer Applications** (30 hours) as per the requirement, possibility and feasibility, another certificate course name is **Emerging and Advanced Technologies.**

Resolution – V

It is resolved to approved the incorporation of additional inputs to various courses (where ever it is felt necessary) for enhancing students understanding over the concerned course and this shall not be considered for evaluation purpose.

Resolved to adopt Community Service Project for all the students at the end of Sem–II.

Resolved to send all the final year Statistics students for on job training apprenticeship in connection with industries for off-site Project in the end of Sem V/VI with the industries in accordance with their interest of study.

4. It is resolved to approve the proposed departmental activities for 2023-24.

5. It is resolved to approve the list of examiners and paper setters for the academic year 2023-24.

Resolution – VI

Streamlining of regularity in attendance. Resolved to make the eligibility to appear for 1st mid is 75% of attendance for the2nd mid it would be 75% , for 75% of attendance for semester examination and 90% for practical examinations .Also it is resolved that the student should attend at least one internal exam to appear for the Semester end examination.

Resolution – VII

Resolved to give extra credits for MOOCS courses, N.S.S., N.C.C., winners of zonal level sports and games competitions, participation in state level/ National level competitions, blood donations camps, environmental programs like extending services in facing the natural calamities etc.

Resolution – VIII

Resolved to Engaging of 7th hour of time table.

Resolution – IX

Resolved to conduct International / National , Webinar / Seminar like Data Science, etc.,

Resolution – X

Resolved to introduce new courses of study whenever necessary.

Resolution – XI

Resolved to follow the admission criteria for the programmes offered by the department.

Resolution – XII

Resolved to conduct extension lectures by the eminent persons.

Resolution – XIII

It is resolved to conduct a workshop on Python ,by a eminent persons.

Resolution – XIV

It is resolved to arrange a filed trip.

It is resolved to introduce the following new courses in the programmes B.Com Computer applications, from the AY 2023-24

S.No	Course Code	Title of the new course	Programmes in which it is introduced
1.	CA01	Fundamental of Commerce	B.Com(CA) Major
2.	CA02	Business Organisation	B.Com(CA) Major
3.	CA03	Office Automation Tools	B.Com(CA) Major

MEMBERS PRESENT

1	Smt. P.Jyothi Lecturer In-charge (Computer Applications) P. R. Govt College (A) Kakinada	Chairman P. Jyothi 31/8/23
2	Smt. N.Naga Subrahmanyeswari Lecturer In Computer Science ASD Govt degree College for Women(A) Kakinada Ph: 9948438376 Eswari.velugu@asgdcw.ac.in	University Nominee N.N.S.Eswari
3	Smt. G.Satya Suneetha Lecturer In Computer Applications Govt degree College Kovvur. Ph:9491215695 satyasuneetha10@gmail.com gdckovvur@gmail.com	Subject Expert Suneetha 31/8/23
4	Sri.P.P.R.Mohan SME in TCS Pune.	Representative from Industry
5.	Sri. K.Aswithprem Lecturer in Computer Applications P. R. Govt College (A) Kakinada	Member K. Aswith
6.	P.Durga Bhavani	Alumini P. Durga Bhavani

STUDENT REPRESENTATIVES

1. P.Asha Jyothi — II B.Com CECs — P. Asha Jyothi
2. Sk. Kareemulla — II B.Com CA — Sk. Kareemulla
3. Sk.Madina — I B.Com CA — Sk. Madina Falcha.
4. A.Ashok — I B.Com CECs — A. Ashok

PANEL OF NAMES FOR APPOINTMENT OF EXAMINERS/PAPERSETTERS

2023-24

S.No	NAME & DESIGNATION	COLLEGE	EXPERIENCE	Address
1.	**Dr.K.V.Sobha Rani**	Govt Degree College, Ramachandrapuram 8500856417	10 Years	C/o college
2.	**Sri R.V.Phani Kumar**	Govt Degree College, Perumallapuram 784223115	5 Years	C/o college
3.	**Smt. N.Naga Subrahmanyeswari**	ASD Womens College, Kakinada Ph: 9948438376	5 Years	C/o college
4.	**Smt. G.Satya Suneetha**	Govt Degree College, Kovvur Ph:9491215695	5 Years	C/o college
5.	**Dr. U.Subhashini**	Govt Degree College, Ravulapalem Ph:9700507249	5 Years	C/o college
6.	**Smt S.Vaani Kumari**	Govt. Degree College(W) (A) , Srikakulam Ph:9885766144	5 Years	C/o college
7.	**Sri G.B.V.Padmanadh**	Govt Degree College, Mummidivaram Ph:9866604328	5 Years	C/o college
8.	**Sri D.Sunil Kumar**	Govt Arts College, Rajahmundry Ph:9700507249	5 Years	C/o college

\

P.R.GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA – 533 001
DEPARTMENT OF COMPUTER APPLICATIONS
ALLOCATION OF CREDITS AT SUBJECT LEVEL
Under CBCS from 2023-2024(Admitted Batch)
Course: B.Com (Computer Applications)

YEAR	SEM	COURSE CODE	MODULE NATURE	COURSE TITLE	Hrs./ Week	Max. Marks			Credits
						Int.	Ext	Tot	
I	II		Core-1	OFFICE AUTOMATION TOOLS	4	50	50	100	3
			Core-1 Practicals	OFFICE AUTOMATION TOOLS	2	-	-	50	2
				Community Service Project	-	-	-	100	4
II	III		CORE-3	Programming with C & C++	4	50	50	100	3
			Core Practicals	Programming with C & C++ Practicals	2	-	-	50	2
	IV		CORE-4	Database Management System	4	50	50	100	3
			Core Practicals	Database Management System Practicals	2	-	-	50	2
			CORE-5	OOP's through Java	4	50	50	100	3
			Core Practical's	OOP's through Java Practical	2	-	-	50	2
				Short Term Internship	-	-	-	100	4
III	V	6A	SEC Elective A	Big Data Analytics using R	4	50	50	100	3
			SEC Practicals	Big Data Analytics using R Practicals	2	-	-	50	2
		7A	SEC Elective A	Data Science using Python	4	50	50	100	3
			SEC Practicals	Data Science using Python practical	2	-	-	50	2
	VI			Apprenticeship(6 months)	-	-	-	-	12

P.R.GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA – 533 001
DEPARTMENT OF COMPUTER APPLICATIONS
ALLOCATION OF CREDITS AT SUBJECT LEVEL
Under CBCS from 2023-2024(Admitted Batch)
Course: B.Com (C.E.Cs)

YEAR	SEM	COURSE CODE	MODULE NATURE	COURSE TITLE	Hrs./ Week	Max. Marks			Credits
						Int.	Ext	Tot	
II	III		CORE-3	DB Concepts & SQL	4	50	50	100	3
			Core Practicals	DB Concepts & SQL Practicals	2	-	-	50	2
				Community Service Project				100	4
	IV		CORE-4	HTML & E Commerce	4	50	50	100	3
			Core Practicals	HTML & E Commerce Practicals	2	-	-	50	2
			CORE-5	Java Programming	4	50	50	100	3
			Core Practical's	Java Programming Practicals	2	-	-	50	2
				Short Term Internship	-	-	-	100	4
III	V	6A	SEC Elective A	R Programming and Basics of Big Data Analytics	4	50	50	100	3
			SEC Practical	R Programming and Basics of Big Data Analytics practical	2	-	-	50	2
		7A	SEC Elective A	Python with Data Science Fundamentals	4	50	50	100	3
			SEC Practical	Python with Data Science Fundamentals practical	2	-	-	50	2
	VI			Apprenticeship (6months)	-	-	-	-	12

P.R.GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA – 533 001
DEPARTMENT OF COMPUTER APPLICATIONS
ALLOCATION OF CREDITS AT SUBJECT LEVEL
Under CBCS from 2023-2024
Course: B.B.CA

YEAR	SEM	COURSE CODE	MODULE NATURE	COURSE TITLE	Hrs./ Week	Max. Marks			Credits
						Int.	Ext	Tot	
II	III		CORE-3	Programming with C & C++	4	50	50	100	3
			Core Practicals	Programming with C & C++ Practicals	2	-	-	50	2
	IV		CORE-4	Database Management System	4	50	50	100	3
			Core Practicals	Database Management System Practicals	2	-	-	50	2
			CORE-5	OOP's through Java	4	50	50	100	3
			Core Practical's	OOP's through Java Practical	2	-	-	50	2

B.COM-CA

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**FUNDAMENTALS OF COMMERCE**	**I BCOM CA Sem - I 2023-24**			
Hours	60	L	T	P	C
Pre requisites	Basics of Commerce	4	-	-	4

Course Objective
1. The objective of this paper is to help students to acquire conceptual knowledge of the Commerce, Economy and Role of Commerce in Economic Development. 2. To acquire Knowledge on Accounting and Taxation.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Identify the role commerce in Economic Development and Societal Development
CO2	Equip with the knowledge of imports and exports and Balance of Payments
CO3	They acquire knowledge on micro and micro economics and factors determine demand and supply
CO4	An idea of Indian Tax system and various taxes levied on in India.
CO5	They will acquire skills on web design and digital marketing

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
Programme: B.Com. Computer Applications (Major)
I B.Com – CA Semester- I w.e.f (2023-24)
FUNDAMENTALS OF COMMERCE

Unit 1: Introduction: Definition of Commerce – Role of Commerce in Economic Development - Role Commerce in Societal Development. Imports and Exports, Balance of Payments. World Trade Organization.

Unit 2: Economic Theory: Macro Economics – Meaning, Definition, Measurements of National Income, Concepts of National Income. Micro Economics – Demand and Supply. Elasticity of Demand and Supply. Classification of Markets -Perfect Competition – Characteristics – Equilibrium Price, Marginal Utility.

.

Unit 3: Accounting Principles: Meaning and Objectives Accounting, Accounting Cycle - Branches of Accounting - Financial Accounting, Cost Accounting, Management Accounting. Concepts and Conventions of Accounting – GAAP.

Unit 4: Taxation: Meaning of Tax, Taxation - Types of Tax- Income Tax, Corporate Taxation, GST, Customs & Exercise. Differences between Direct and Indirect Tax – Objectives of Tax-Concerned authorities – Central Board of Direct Taxes (CBDT) and Central Board of Excise and Customs (CBIC).

Unit 5: Computer Essentials: Web Design - Word Press Basics, Developing a Simple Website. Digital Marketing - Social Media Marketing, Content Marketing, Search Engine Optimization (SEO), E-mail Marketing. Data Analytics- Prediction of customer behaviour, customized suggestions.

Lab Exercise:

- Build a sample website to display product information.
- Provide wide publicity for your product over social media and e-mail
- Estimate the customer behavior and provide necessary suggestions regarding the products of his interest.

Activities:

- Assignment on GAAP.
- Group Activates on Problem solving.
- Collect date and report the role of Commerce in Economic Development.
- Analyze the demand and supply of a product and make a scheduled based on your analysis, problems on elasticity of demand.
- Identify the Tax and distinguish between Direct Tax and Indirect Tax.
- Assignments and students seminars on Demand function and demand curves
- Quiz Programs
- Assignment on different types of taxes which generate revenue to the Government of India.
- Invited lectures on GST and Taxation system
- Problem Solving Exercises on current economy situation.
- Co-operative learning on Accounting Principles.
- Group Discussions on problems relating to topics covered by syllabus

- Examinations (Scheduled and surprise tests)
- Any similar activities with imaginative thinking beyond the prescribed syllabus

Reference Books:

1. S.P. Jain & K.L Narang, Accountancy - I Kalyani Publishers.
2. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
3. Business Economics -S.Sankaran, Margham Publications, Chennai.
4. Business Economics - Kalyani Publications.
5. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann Publications.
6. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, SahityaBhavan Publications

.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2023-24)
FUNDAMENTALS OF COMMERCE **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**

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 (2023-24)
FUNDAMENTALS OF COMMERCE

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
I B.Com – CA Semester- I (2023-24)
FUNDAMENTALS OF COMMERCE
MODEL PAPER

Time: 2Hrs **SEMESTER-I** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30)

Part-A

1. Long Answer Question1.
2. Long Answer Question2.
3. Long Answer Question3.

Part-B

4. Long Answer Question4.
5. Long Answer Question5.
6. Long Answer Question6.

SECTION-II

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

7. Short answer question1.
8. Short answer question2.
9. Short answer question3.
10. Short answer question4.
11. Short answer question5.
12. Short answer question6.
13. Short answer question7.

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															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**BUSINESS ORGANIZATION**	**I BCOM CA Sem - I 2023-24**			
Hours	60	L	T	P	C
Pre requisites	Basics of Commerce	4	-	-	4

Course Objective
1. The course aims to acquire conceptual knowledge of business, formation various business organizations. 2. To provide the knowledge on deciding plant location, plan layout and business combinations.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization.
CO2	The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems
CO3	The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
Programme: B.Com. Computer Applications (Major)
I B.Com – CA Semester- I w.e.f (2023-24)
BUSINESS ORGANIZATION

Unit 1: Business: Concept, Meaning, Features, Stages of development of business and importance of business. Classification of Business Activities. Meaning, Characteristics, Importance and Objectives of Business Organization.. Difference between Industry & Commerce and Business & Profession, Modern Business and their Characteristics.

Unit 2: Promotion of Business: Considerations in Establishing New Business. Qualities of a Successful Businessman. Forms of Business Organization - Sole Proprietorship, Partnership, Joint Stock Companies & Co-operatives and their Characteristics, relative merits and demerits, Difference between Private and Public Company, Concept of One Person Company.

Unit 3: Plant Location and Layout: Meaning, Importance, Factors affecting Plant Location. Plant Layout - Meaning, Objectives, Importance, Types of Layout. Factors affecting Layout. Size of Business Unit - Criteria for Measuring the Size and Factors affecting the Size. Optimum Size and factors determining the Optimum Size.

Unit 4: Business Combination: Meaning, Characteristics, Objectives, Causes, Forms and Kinds of Business Combination. Rationalization: Meaning, Characteristics, Objectives, Principles, Merits and demerits, Difference between Rationalization and Nationalization.

Unit 5: Computer Essentials: Milestones of Computer Evolution – Computer, Block diagram, generations of computer . Internet Basics - Internet, history, Internet Service Providers, Types of Networks, IP, Domain Name Services, applications. Ethical and Social Implications - Network and security concepts- Information Assurance Fundamentals, Cryptography - Symmetric and Asymmetric, Malware, Firewalls, Fraud Techniques, privacy and data protection.

Activities:

- Assignment on business organizations and modern business.
- Group Discussion on factors that influence plan location
- Seminars on different topics related to Business organization
- Case study could be given to present business plan of students choice.
- Identifying the attributes of network (Topology, service provider, IP address and bandwidth of your college network) and prepare a report covering network architecture.
- Identify the types of malwares and required firewalls to provide security.
- Latest Fraud techniques used by hackers.

Reference Books:

1. Gupta, C.B., “Business Organisation”, Mayur Publiction, (2014).
2. Singh, B.P., Chhabra, T.N., “An Introduction to Business Organisation & Management”, Kitab Mahal, (2014).
3. Sherlekar, S.A. &Sherlekar, V.S, “Modern Business Organization & Management Systems Approach Mumbai”, Himalaya Publishing House, (2000).
4. Bhusan Y. K., “Business Organization”, Sultan Chand & Sons.
5. Prakash, Jagdish, “Business Organistaton and Management”, Kitab Mahal Publishers (Hindi and English)
6. Fundamentals of Computers by V. Raja Raman
7. Cyber Security Essentials by James Graham, Richard Howard, Ryan Olson.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- I (2023-24)
BUSINESS ORGANIZATION **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**

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 (2023-24)
BUSINESS ORGANIZATION

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
I B.Com – CA Semester- I (2023-24)
BUSINESS ORGANIZATION
MODEL PAPER

Time: 2Hrs **SEMESTER-I** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30)

Part-A

1. Long Answer Question1.
2. Long Answer Question2.
3. Long Answer Question3.

Part-B

4. Long Answer Question4.
5. Long Answer Question5.
6. Long Answer Question6.

SECTION-II

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

7. Short answer question1.
8. Short answer question2.
9. Short answer question3.
10. Short answer question4.
11. Short answer question5.
12. Short answer question6.
13. Short answer question7.

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															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**Office Automation Tools**	**I BCOM CA Sem - II 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	3	-	1	4

Course Objective
1. Understand the basics of Ms-Word 2. Understand the basics of Ms-Excel, Power point. 3. Apply Ms-Word, Ms-Excel, Power point to create make presentations and inserting multimedia in them.

Course Outcomes	
On Completion of the course, the students will be able to –	
CO1	Understand concept of Word Processor and its features.
CO2	To use the advanced features of Ms-Word to make day to day usage easier.
CO3	To work comfortably with Ms-Excel Environment.
CO4	To create work sheets and user advanced feature of Excel.
CO5	To create make presentations and inserting multimedia in them.

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
I B.Com – CA Semester- II(2023-24)
Office Automation Tools
SYLLABUS

Unit I :

Introduction to MS Office & MS Word: MS-Word: Features of MS-Word, MS-Word Window components, working with formatted text, Shortcut keys, Formatting documents: Selecting text, Copying &moving data, Formatting characters, changing cases, Paragraph formatting ,Indents, Drop Caps ,Using format painter, Page formatting, Header & footer, Bullets & numbering, Tabs, Forming tables. Finding & replacing text, go to(F5) command, proofing text (Spell-check, Auto correct),

Unit II :

MS Word Advanced features: Difference between Wizard and Template - Customize the Quick Access Tool Bar – Macros: Purpose – Creating Macro – Using Macro – Storing Macro - ,Inserting pictures: From Computer, Online Pictures – Insert 3d Models - Insert Shapes – Insert Text Box – Insert Equation, Hyperlinks, Tables Insert tables Mail merging, Printing documents, Tables : Insert tables, Mathematical calculations on tables data. Insert Text Box etc.

Unit III :

Introduction to MS Excel & Its features: MS-Excel: Excel Features, Spreadsheets, workbooks, creating, saving & editing a workbook, Renaming sheet, cell entries (numbers, labels, and formulas), spell check ,find and replace, Adding and deleting rows and columns Filling series, fill with drag, data sort, Formatting worksheet, Functions and its parts, Some useful Functions in Excel (SUM,AVERAGE,COUNT, MAX,MIN, IF)

Unit IV :

Ms-Excel Advanced Features: Cell referencing (Relative, Absolute, Mixed), What-if analysis, Introduction to charts: types of charts, creation of charts, printing a chart, printing worksheet – Sort – Filters – View Menu

Unit V :

Ms-PowerPoint and its Applications: MS-Power Point: Features of Power Point, Uses, components of slide, templates and wizards, using template, choosing an auto layout ,using outlines, adding sub headings, editing text, formatting text, using master slide, adding slides, changing color scheme, changing background and shading, adding header and footer, adding clipart and auto shapes. Various presentation, Working in slide sorter view(deleting, duplicating, rearranging slides),adding transition and animations to slide show, inserting music or sound on a slide, viewing slide show ,Printing slides.

References:

1. Computer Fundamentals–Pradeep.K.Sinha:BPB Publications.

2. Fundamentals of Computers -ReemaThareja, Oxford University Press India

3. Fundamentals of Computer – V . Rajaraman, Printice Hell of India.

4. Introduction to Computers–Peter Norton McGraw-Hill.

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-programminghttp://www.cplusplus.com/doc/tutorial/

https://www.learn-cpp.org/

https://www.javatpoint.com/cpp-tutorial

Practical Component: @ 2 hours/week/batch

1) Design a visiting card for Managing Director of a company as per the following specification.
   - Sizeofvisitingcardis3½×2
   - Name of the company with big font
   - Phone number, Fax number and E-mail address with appropriate symbols.
   - Office and Residence address separated by a line
2) Create a table with following columns and display the result ins eparate cells for the following.
   - Emp Name, Basic pay, DA, HRA, Total salary.
   - Sort all the employees in ascending order with the name as the key
   - Calculate the totals alary of the employee
   - Calculate the Grand total salary of the employee
   - Finding highest salary and
   - Find lowest salary
3) Prepare an advertisement to a company requiring software professional with the following
   - Attractive page border
   - Design the name of the company using WordArt
   - Use at least one clipart.
   - Give details of the company (use bullets etc)
   - Give details of the Vacancies in each category of employee's (Business manager, Software engineers, System administrators, Programmers, Data entry operators) qualification required.
4) Name of thecompanyonthetopofthepage2withbigfontandgoodstyle.
   - Phone no, Fax no and E-mail address with symbols.

- Main products manufactured by the company
- Slogans if any should be specify in bold at the bottom

5) Create two pages of curriculum vitae of a graduate with the following specifications
   - Table to show qualifications with proper headings
   - Appropriate left and right margins
   - Format ½pageusingtwo-columnapproachabout yourself
   - Name on each page at the top right side
   - Page no. in the footer on the right side.
6) Write a macro format documents below Linespacing“2”(double)
   - Paragraphindentof0.1
   - Justification formatting style
   - Arial font andBoldof14pt-size
7) Create a letter as the maindocumentandcreate10recordsforthe 10persons use mail merge to create letter for selected persons among10.
8) Create an electronic spread sheet in which you enter the following decimal numbers and convert the min to octal, Hexa decimal and binary numbers and vice-versa.

   DecimalNumbers: 35,68,95,78,165,225,355,375,465

   BinaryNumbers: 101,1101,11101,11111,10001,11101111

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(2023-24)

PAPER- II **Office Automation Tools**

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**

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 (2023-24)
Office Automation Tools

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
I B.Com – CA Semester- II (2023-24)
Office Automation Tools
MODEL PAPER

Time: 2Hrs **SEMESTER-II** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30)

Part-A

14. What is MS-Word ? Explain features of MS –Word?
15. Explain about Mail-Merge in MS-Word?
16. Distinguish between Wizard and Template?

Part-B

17. What is MS-Excel? Explain the Features of MS-Excel.
18. Explain about various charts in MS-Excel
19. How to create presentation in MS-Power point?

SECTION-II

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

20. Write about Headers and Footers in MS Word.
21. Explain various components of MS- Word window.
22. What are the features of PowerPoint?
23. Explain about Spread sheets.
24. What is Page formatting?
25. Discuss about cell and cell address.
26. How to apply animations to slide show?

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															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**Programming with C&C++**	**II BCOM CA Sem - III 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
3. Understand the basics of C and C++ 4. Understand the syntax of C and C++programming language. 5. 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 (2023-24)
Programming with C & C++
SYLLABUS

Unit I :

Introduction and Control Structures: Algorithms, Flowcharts ,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

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 YashavantKanetkar
(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-programminghttp://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 contructor
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 (2023-24)
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**

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 (2023-24)
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 (2023-24)
Programming with C & C++
MODEL PAPER

Time : 2Hrs **SEMESTER-III** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from any Part (3x10=30M)

Part-A

27. Explain various Conditional Control Statements in C with example.(UNIT I)
28. Explain various operators in C with example. (UNIT-I)
29. Explain various Looping Statements in C with example. (UNIT-II)

Part-B

30. Explain various string handling Functions in C. (UNIT-III)
31. What is OOP? Explain basic features of OOP. (UNIT-IV)
32. What is Inheritance? Explain different types of Inheritance. (UNIT-V)

SECTION-II

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

33. Write about features of C language.
34. Explain various data types in C.
35. Write about one dimensional array with example.
36. Write about break and continue statements with examples.
37. What is recursion? What advantage is there in its use?
38. Write the C++ program structure.
39. Explain Multiple 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	PO 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**DATA BASE MANAGEMENT SYSTEM**	**II BCOM CA Sem - IV 2023-2024**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
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 (2023-2024)
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.

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.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 GOVT COLLEGE(AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

II B.Com – CA Semester- IV (W.E.F. 2023-24)

Database Management System

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**

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. 2023-24)
II B.Com – CA Semester- IV (W.E.F. 2023-24)
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. 2023-24)
MODEL PAPER
Database Management System

Time : 2 Hrs **SEMESTER-III** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. What is meant by DBMS? Explain advantages of DBMS.
2. Explain the components of database system with a neat diagram.
3. Write about building blocks of Entity-Relationship diagram

Part-B

4. What is data model? Write about relational data model.
5. Explain DDL, DML and DCL commands in SQL.
6. Write about while loop used in PL/SQL.

SECTION-II

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

7. Explain about objectives of DBMS.
8. What are the functions of DBA?
9. Explain about Aggregation.
10. Explain about i) Candidate key ii) Primary key iii) Foreign key
11. What is SQL? Explain about different data types in SQL.
12. Explain about Aggregate functions in SQL.
13. Write about cursors in PL/SQL.

Mapping of Cos with POs/PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5
CO1															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**Object Oriented Programming through Java**	**II BCOM CA Sem - IV 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
6. Understand the concepts and features of object oriented programming 7. Learn control structures and apply them in problem solving. 8. Illustrate inheritance concepts for reusing the program. 9. To understand streams and efficient user interface design techniques. 10. 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 (2023-24)
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 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.

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.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2023-24)

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.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT

II B.Com-CA **SEMESTER-IV** **(W.E.F. 2023-24)**

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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

MODEL PAPER (W.E.F. 2023-24)

II B.Com-CA Semester -IV

SUBJECT: OBJECT ORIENTED PROGRAMMING through JAVA **PAPER-IV**

Time : 2 Hrs. **SEMESTER-IV** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. Explain the features of Java?.
2. What is an operator? Explain types of operators?.
3. Explain different Loop statements available in Java.

Part-B

4. What is Inheritance? Explain Different types of Inheritance in Java.
5. What is a package? Explain the process of creating and using packages?
6. Explain how exceptional handling is done in java.

SECTION-II

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

7. What are the data types supported by Java?
8. What are the applications of OOPs?
9. What is the difference between break and continue statements in java.
10. List and explain any five String class methods in java
11. Explain about access specifiers in java?
12. Explain about thread priority?
13. Define local and remote applets.

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															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	BIGDATA ANALYTICS USING R	**III BCOM (CA) Sem - V 2023-24**			
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

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com – CA Semester – V(W.E.F. 2023-24)

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(), sub setting data frames.

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 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. 2023-24)
III B.Com- (CA) SEMESTER-V

SUBJECT: BIGDATA ANALYTICS USING R **Time: 2Hrs**
PAPER- VI **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 Short Questions	6	10	60	3	10	30
2	Section-B Essay Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 45.95\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com CA Semester- V (2023-24)
MODEL PAPER

BIGDATA ANALYTICS USING R

Time : 2 Hrs. **SEMESTER-V** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. What is Big Data? What are the characteristics of Big Data?
2. Explain business intelligence Vs BigData
3. What is BigData Analytics? Explain about different types of BigData Analytics.

Part-B

4. What is R? Explain about different datatypes in R?
5. Explain about vectors in R-Language?
6. Write about R functions for data frames

SECTION-II

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

7.Distinguish between structured and unstructured data.?
8.Explain about evaluation of big data.
9.Write about classification of analytics.
10.Write about Technologies needed to meet challenges of Big data.
11.Write about R packages.?
12.Explain about data frames in R?
13. What are top-challenges facing Big data

.

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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO2	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
CO1															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	Data Science Using Python	**III BCOM (CA) Sem - V 2023-24**			
Hours	90 (60 + 30)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective

11. Understand the basics of Data Science
12. Understand the syntax of Python programming language.
13. 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.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

III B.Com – CA Semester – V (W.E.F. 2023-24)

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

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

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

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

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

Classes & Objects

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. 2023-24)
III B.Com- (CA) SEMESTER-V

SUBJECT: DATA SCIENCE USING PYTHON **Time: 2Hrs**
PAPER- VII **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 Short Questions	**6**	**10**	**60**	**3**	**10**	**30**
2	Section-B Essay Questions	**7**	**5**	**35**	**4**	**5**	**20**
TOTAL		**13**		**95**	**TOTAL MARKS**		**50**

Percentage of choice given = $\frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 45.95\%$

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

MODEL PAPER (W.E.F. 2023-24)

III B.Com-CA Semester -V

SUBJECT: DATA SCIENCE USING PYTHON **Time: 2 Hrs**
PAPER-VII **Marks: 50**

Time : 2 Hrs. **SEMESTER-V** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. Write the advantages and process of data science?
2. Explain classes and objects in python with example?
3. Write about conditional statements in python?

Part-B

5. Write about lists in python?
7. Write about functions in python?
8. Write about different functions available in math and random modules

SECTION-II

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

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

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
III B.Com-CA SEMESTER-V(W.E.F. 2023-24)

SUBJECT: DATA SCIENCE USING PYTHON **Time: 2 Hrs**
PAPER-VII **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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

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															
CO 2															
CO 3															
CO 4															
CO 5															

B.COM-CECS

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**DB CONCEPTS & SQL**	**II BCOM CECS Sem - III 2023-2024**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
7. *Understand the role of a database management system in an organization.* 8. *Understand basic database concepts, including the structure and operation of the relational data model.* 9. *Understand and successfully apply logical database design principles, including E-R diagrams and database normalization* 10. *Understand Functional Dependency and Functional Decomposition.* 11. *Gets the information about creating tables, modifications of tables etc.* 12. *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 (W.E.F. 2023-24)
DB CONCEPTS & SQL
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.

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.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 GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2023-24)
II B.Com – CECS Semester- III (W.E.F. 2023-24)
DB CONCEPTS & SQL

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

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- III (W.E.F. 2023-24)
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 – CECS Semester- III (W.E.F. 2023-24)
MODEL PAPER
DB CONCEPTS & SQL

Time : 2 Hrs **SEMESTER-III** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

14. What is meant by DBMS? Explain advantages of DBMS.
15. Explain the components of database system with a neat diagram.
16. Write about building blocks of Entity-Relationship diagram

Part-B

17. What is data model? Write about relational data model.
18. Explain DDL, DML and DCL commands in SQL.
19. Write about while loop used in PL/SQL.

SECTION-II

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

20. Explain about objectives of DBMS.
21. What are the functions of DBA?
22. Explain about Aggregation.
23. Explain about i) Candidate key ii) Primary key iii) Foreign key
24. What is SQL? Explain about different data types in SQL.
25. Explain about Aggregate functions in SQL.
26. Write about cursors in PL/SQL.

Mapping of Cos with POs/PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5
CO1															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**HTML & E- Commerce**	**II BCOM CECS Sem - IV 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites		4	-	2	5

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
II B.Com CECS Semester- IV (2023-24)
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, E-Commerce 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 (2023-24)
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**

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 (2023-24)
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 (2023-24)
MODEL PAPER
HTML&E- Commerce

Time : 2 Hrs. **SEMESTER-IV** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from any Part (3x10=30M)

Part-A

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 models and methods of e–payments

Part-B

4. What are the advantages and disadvantages of Online Transactions
5. Explain about Lists and Their Types in HTML
6. Explain about E-Commerce Security in detail

SECTION-II

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

7.Discuss about Applications of E-Commerce.
8.What are the key elements of business model in e commerce?
9.Discuss briefly about Electronic Fund Transfer(EFT).
10.Explain about Online Portal and Online Learning.
11.Explain about text formatting tags in HTML.
12.Explain about hyperlinks in HTML.
13.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	PO 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**JAVA PROGRAMMING**	**II BCOM CECS Sem - IV 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
14. Understand the concepts and features of object oriented programming 15. Learn control structures and apply them in problem solving. 16. Illustrate inheritance concepts for reusing the program. 17. To understand streams and efficient user interface design techniques. 18. 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 (2023-24)**

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.

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:

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

Reference Books:

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

Online Resources:

5. https://stackify.com/java-tutorials/
6. **https://www.w3schools.com/java/**
7. **https://www.javatpoint.com/java-tutorial**
8. **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
    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.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2023-24)

II B.Com- (CECS) **SEMESTER-IV**

SUBJECT:JAVA PROGRAMMING **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**

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

II B.Com-CECS **SEMESTER-IV (W.E.F. 2023-24)**

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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

MODEL PAPER (W.E.F. 2023-24)

II B.Com-CECS **Semester -IV**

SUBJECT: JAVA PROGRAMMING **PAPER-IV**

Time : 2 Hrs. **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

14. Explain the features of Java?.
15. What is an operator? Explain types of operators?.
16. Explain different Loop statements available in Java.

Part-B

17. What is Inheritance? Explain Different types of Inheritance in Java.
18. What is a package? Explain the process of creating and using packages?
19. Explain how exceptional handling is done in java.

SECTION-II

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

20. What are the data types supported by Java?
21. What are the applications of OOPs?
22. What is the difference between break and continue statements in java.
23. List and explain any five String class methods in java
24. Explain about access specifiers in java?
25. Explain about thread priority?
26. Define local and remote applets.

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															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	R Programming and Basics of Big Data Analytics	**III BCOM (CECS) Sem - V 2023-24**			
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

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com – CECS Semester – V(W.E.F. 2023-24)

Course-6A: R Programming and Basics of Big Data Analytics

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 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. 2023-24)
III B.Com- (CECS) SEMESTER-V

SUBJECT: R Programming and Basics of Big Data Analytics **Time: 2 Hrs**
PAPER- V **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 Short Questions	6	10	60	3	10	30
2	Section-B Essay Questions	7	5	35	4	5	20
TOTAL		13		95	TOTAL MARKS		50

$$\text{Percentage of choice given} = \frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 45.95\%$$

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
III B.Com – CECS Semester – V(W.E.F. 2023-24)
MODEL PAPER
R Programming and Basics of Big Data Analytics

Time : 2 Hrs. **SEMESTER-IV** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. What is Big Data? What are the characteristics of Big Data?
2. Explain business intelligence Vs BigData
3. What is BigData Analytics? Explain about different types of BigData Analytics.

Part-B

4. What is R? Explain about different datatypes in R?
5. Explain about vectors in R-Language?
6. Write about R functions for data frames

SECTION-II

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

7.Distinguish between structured and unstructured data.?
8.Explain about evaluation of big data.
9.Write about classification of analytics.
10.Write about Technologies needed to meet challenges of Big data.
11.Write about R packages.?
12.Explain about data frames in R?
13. What are top-challenges facing Big data

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT

III B.Com-CECS **SEMESTER-V(W.E.F. 2023-24)**

SUBJECT: R Programming and Basics of Big Data Analytics **Time: 2Hrs**
PAPER-V **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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

Mapping of Cos with POs/PSOs

CO /PO	PO 1	PO2	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
CO1															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
	Python with Data Science Fundamentals	**III BCOM (CECS) Sem - V 2023-24**			
Hours	90 (60 + 30)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective

19. Understand the basics of Data Science
20. Understand the syntax of Python programming language.
21. 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.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

III B.Com – CECS Semester – V (W.E.F. 2023-24)

PYTHON WITH DATA SCIENCE FUNDAMENTALS

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

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

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

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

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

Classes & Objects

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:

4. https://www.w3schools.com/python/
5. https://www.tutorialspoint.com/python/index.htm
6. https://www.geeksforgeeks.org/python-programming-language/

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2023-24)
III B.Com- (CECS) SEMESTER-V

SUBJECT: Python with Data Science Fundamentals **Time: 2Hrs**
PAPER- VII **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 Short Questions	**6**	**10**	**60**	**3**	**10**	**30**
2	Section-B Essay Questions	**7**	**5**	**35**	**4**	**5**	**20**
TOTAL		**13**		**95**	**TOTAL MARKS**		**50**

Percentage of choice given = $\frac{95 - 50}{95} \times 100 = \frac{45}{95} \times 100 = 45.95\%$

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

MODEL PAPER (W.E.F. 2023-24)

III B.Com-CECS Semester -V

SUBJECT: Python with Data Science Fundamentals **Time: 2 Hrs**
PAPER-VII **Marks: 50**

Time : 2 Hrs. **SEMESTER-V** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1. Write the advantages and process of data science?
2. Explain classes and objects in python with example?
3. Write about conditional statements in python?

Part-B

5. Write about lists in python?
7. Write about functions in python?
8. Write about different functions available in math and random modules

SECTION-II

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

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

P. R.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT
III B.Com-CECS SEMESTER-V(W.E.F. 2023-24)

SUBJECT: Python with Data Science Fundamentals **Time: 2 Hrs**
PAPER-VII **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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

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															
CO 2															
CO 3															
CO 4															
CO 5															

BBCA

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**Programming with C&C++**	**II BBCA Sem - III 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
22. Understand the basics of C and C++ 23. Understand the syntax of C and C++programming language. 24. 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 BBCA Semester- III (2023-24)
Programming with C & C++
SYLLABUS

Unit I :

Introduction and Control Structures: Algorithms, Flowcharts ,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

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 YashavantKanetkar
(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-programminghttp://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 contructor
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 BBCA Semester- III (2023-24)
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

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 BBCA Semester- III (2023-24)
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 BBCA Semester- III (2023-24)
Programming with C & C++
MODEL PAPER

Time : 2Hrs **SEMESTER-III** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from any Part (3x10=30M)

Part-A

40. Explain various Conditional Control Statements in C with example.(UNIT I)
41. Explain various operators in C with example. (UNIT-I)
42. Explain various Looping Statements in C with example. (UNIT-II)

Part-B

43. Explain various string handling Functions in C. (UNIT-III)
44. What is OOP? Explain basic features of OOP. (UNIT-IV)
45. What is Inheritance? Explain different types of Inheritance. (UNIT-V)

SECTION-II

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

46. Write about features of C language.
47. Explain various data types in C.
48. Write about one dimensional array with example.
49. Write about break and continue statements with examples.
50. What is recursion? What advantage is there in its use?
51. Write the C++ program structure.
52. Explain Multiple 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	PO 10	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5
CO 1															
CO 2															
CO 3															
CO 4															
CO 5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**DATA BASE MANAGEMENT SYSTEM**	**II BBCA Sem - IV 2023-2024**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
13. *Understand the role of a database management system in an organization.* 14. *Understand basic database concepts, including the structure and operation of the relational data model.* 15. *Understand and successfully apply logical database design principles, including E-R diagrams and database normalization* 16. *Understand Functional Dependency and Functional Decomposition.* 17. *Gets the information about creating tables, modifications of tables etc.* 18. *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 BBCA Semester- IV (2023-2024)
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.

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.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 GOVT COLLEGE(AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

II BBCA Semester- IV (W.E.F. 2023-24)

Database Management System

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**

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. 2023-24)
II BBCA Semester- IV (W.E.F. 2023-24)
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 BBCA Semester- IV (W.E.F. 2023-24)
MODEL PAPER
Database Management System

Time : 2 Hrs **SEMESTER-III** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

27. What is meant by DBMS? Explain advantages of DBMS.
28. Explain the components of database system with a neat diagram.
29. Write about building blocks of Entity-Relationship diagram

Part-B

30. What is data model? Write about relational data model.
31. Explain DDL, DML and DCL commands in SQL.
32. Write about while loop used in PL/SQL.

SECTION-II

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

33. Explain about objectives of DBMS.
34. What are the functions of DBA?
35. Explain about Aggregation.
36. Explain about i) Candidate key ii) Primary key iii) Foreign key
37. What is SQL? Explain about different data types in SQL.
38. Explain about Aggregate functions in SQL.
39. Write about cursors in PL/SQL.

Mapping of Cos with POs/PSOs

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4	PSO5
CO1															
CO2															
CO3															
CO4															
CO5															

PR GOVERNMENT COLLEGE (AUTONOMOUS), KAKINADA					
Course Code	**Object Oriented Programming through Java**	**II BBCA Sem - IV 2023-24**			
Hours	90 (60 Theory + 30 Practical)	L	T	P	C
Pre requisites	Basic Computer Knowledge	4	-	2	5

Course Objective
25. Understand the concepts and features of object oriented programming 26. Learn control structures and apply them in problem solving. 27. Illustrate inheritance concepts for reusing the program. 28. To understand streams and efficient user interface design techniques. 29. 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 BBCA Semester- IV (2023-24)
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 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.

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:

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

Reference Books:

11. The Complete Reference JAVA Seventh Edition Herbert Schildt. Tata McGraw Hill Edition.
12. Core Java: An Integrated Approach, Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
13. John R. Hubbard, Programming with Java, Second Edition, Schaum‘s outline Series, TATA McGraw-Hill Company.

14. Deitel & Deitel. JavaTM: How to Program, PHI(2007)
15. Object Oriented Programming Through Java by P. RadhaKrishna, Universities Press(2008)

Online Resources:

9. https://stackify.com/java-tutorials/
10. https://www.w3schools.com/java/
11. https://www.javatpoint.com/java-tutorial
12. https://www.tutorialspoint.com/java/index.html

Practical Component: @ 2 hours/week/batch

21. Write a program to implement command line arguments.
22. Write a program to read Student Name, Reg.No, Marks and calculate Total, Percentage, and Result. Display all the details of students .
23. Write a program to perform String Operations.
24. Java program to implement Addition of two N X N matrices.
25. Java program to implement bubble sort.
26. Java program to demonstrate the use of Constructor.
27. Calculate area of the following shapes using method overloading.
a.Rectangle b. Circle c. Square
28. Implement multilevel inheritance
29. Java program for to display Serial Number from 1 to 5 by creating two Threads
30. 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.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT (W.E.F. 2023-24)

II BBCA 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.GOVT. COLLEGE (AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
MODEL BLUE PRINT

II BBCA **SEMESTER-IV** **(W.E.F. 2023-24)**

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	2	2	30
Total No. of questions	6	7	
Total Marks Including choice			95

P.R.GOVT.COLLEGE (AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

MODEL PAPER (W.E.F. 2023-24)

II BBCA Semester -IV

SUBJECT: OBJECT ORIENTED PROGRAMMING through JAVA **PAPER-IV**

Time : 2 Hrs. **SEMESTER-IV** **Max. Marks: 50**

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

27. Explain the features of Java?.
28. What is an operator? Explain types of operators?.
29. Explain different Loop statements available in Java.

Part-B

30. What is Inheritance? Explain Different types of Inheritance in Java.
31. What is a package? Explain the process of creating and using packages?
32. Explain how exceptional handling is done in java.

SECTION-II

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

33. What are the data types supported by Java?
34. What are the applications of OOPs?
35. What is the difference between break and continue statements in java.
36. List and explain any five String class methods in java
37. Explain about access specifiers in java?
38. Explain about thread priority?
39. Define local and remote applets.

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															
CO 2															
CO 3															
CO 4															
CO 5															

B.A

Course Code	**Computing Basics and its Applications**	**II B.A SEM-III 2023-24**			
Teaching	Hours Allocated: 60	L	T	P	C
Pre-requisites:	Internet, URL, Data, Database, E-type writing, Word processing	4	0	2	3

Course Outcomes:

1. *Understand the characteristics and generations of computers.*
2. *Understand the URL and websites.*
3. *Understand the role of a database management system in an organization.*
4. *Understand basic database concepts, including the structure and operation of the relational data model.*
5. *Get the Knowledge in MS-Word components.*

Course Outcomes :

On Completion of the course, the students will be able to-		Cognitive Domain
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.	Remembering
CO2	Students would learn about *Understand the characteristics and generations of computers and operating system concepts also.*	Explains (Understanding)
CO3	Students would learn about the URL, websites, web pages and home pages.	Analysis and Evaluation
CO4	Students would learn about implement of MS-Word components.	Creativity

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA
DEPARTMENT OF COMPUTER APPLICATIONS
II B.A / Semester- III (W.E.F. 2023-2024)
Computing Basics and its Applications

PAPER- II **Marks: 50M**

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.

Proposed activities:

Skill development: Practical's based on computational techniques in Oracle 10 G Edition.

Employability : visiting any software company which uses Oracle as backend.

TEXT BOOKS:

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/
2. http:// www.tutorialspoint.com/
3. https://byjus.com/govt-exams/microsoft-word/
4. https://rckochi.nios.ac.in/page/e-typewriting.htm

RECOMMENDED CO-CURRICULAR ACTIVITIES:

MEASURABLE

- Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabuscontent. Shall be individual and challenging)
- 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)
- Field studies (individual observations and recordings as per syllabus content andrelated areas (Individual or team activity)

 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 Informatic centers to know about networking concepts.

RECOMMENDED ASSESSMENT METHODS

Some of the following suggested assessment methodologies could be adopted;

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

P R GOVT COLLEGE(AUTONOMOUS), KAKINADA

DEPARTMENT OF COMPUTER APPLICATIONS

II B.A / Semester- III (W.E.F. 2023-2024)

Computing Basics and its Applications

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**

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. 2023-2024)
II B.A / Semester- III
Computing Basics and its Applications

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	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. 2023-2024)
MODEL PAPER
Computing Basics and its Applications

Time: 2 Hrs **SEMESTER-III**
Max.Marks: 50

SECTION-I

Answer Any Three Questions. At least One question from each part (3x10=30M)

Part-A

1.Explain about Basic Components of PC.
2.Write about Generations of Computer.
3.What is Internet? Explain about IP Addresses, Hyperlinks and Web pages.

Part-B

4.Explain about Word Processing?
5.Explain about Components of Data base system
6.What is meant by DBMS and explain advantages of DBMS.

SECTION-II

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

7.Write the Characteristics of a Computer.
8.Explain briefly about URL and Components of URL
9.Explain about different Data Base users?
10.Explain the method of speed calculations.
11.Write the Advantages and Limitations of Word Processing.
12.What are the objectives of DBMS?
13.Explain about hardware components of a computer

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															
CO 2															
CO 3															
CO 4															
CO 5															