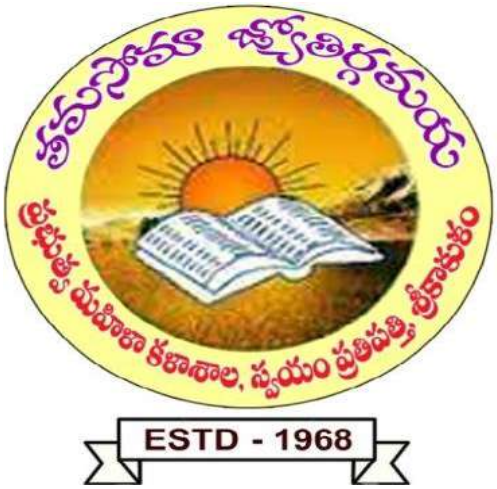
GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
SRIKAKULAM

DEPARTMENT OF
COMPUTER SCIENCE & APPLICATIONS



BOARD OF STUDIES
BCOM(COMPUTER APPLICATIONS) MAJOR
&
SKILL COURSE
SYLLABUS
2023-24

GOVERNMENT COLLEGE FOR WOMEN(AUTONOMOUS)SRIKAKULAM

REACCREDITED BY NAAC WITH 'A' GRADE DURING 3RD CYCLE (CGPA 3.09)

* * * *

From

Dr.K.Surya Chandra Rao,M.A,Ph.D.
Principal
Govt. College for Women (A)
Srikakulam

IV BOARD OF STUDIES MEETING
BOARD OF STUDIES MEETING AGENDA
(FOR 2023-2024, 2022-2023, 2021-2022, 2020-2021 ADMITTED BATCHES)

1. Adaption of CBCS for all semesters
2. Approval of Major subjects and Minor subjects syllabi and Model question papers for 2023-24 admitted batch
3. Approval of syllabi and Model question papers for 2021-22, 2022-23 admitted batches
4. Ratification of semester mode pattern of examination for all students.
5. Approval and ratification of Continuous Assessment System (CAS) for all admitted batches
   a) 60-40 pattern for 2022-23, 2023-24 admitted batches (Blue print)
   b) 75-25 pattern for 2021-22, 2020-21 admitted batches (Blue print)
6. Approval and ratification of Life skill, Multidisciplinary and Skill development courses for 2023-24 admitted batch for all semesters
7. Approval and ratification of Life skill and Skill enhanced courses for 2021-22 & 2022-23 admitted batches
8. Approval and ratification of LSC, SDC for 50 marks external pattern (No Internals)
9. Approval of List of examiners
10. Approval of List of Paper setters
11. Approval of Innovative learning and evaluation techniques
12. Approval of students seminars, workshops, fieldtrips & student centric activities
13. Approval of student projects and student research
14. Approval of ICT Mode of learning
15. Approval of encouragement for students to join extension activities i.e., JKC, NSS etc…
16. Any other matters like Certificate courses, Mou's, outreach programmes etc..
17. Approval and ratification of CSP after second semester, short term internship after IVth semester and long term internship in VIth semester for all admitted students.

Department of Computer Science & Applications
Government College for Women(Autonomous)Srikakulam

Reaccredited by NAAC with 'A' Grade during 3rd Cycle (CGPA 3.09)

* * * *

BOS Meeting 27.09.2023

The Board of Studies meeting is held on 27.09.2023 Time: 10.00 am in the Department of Computer Science & Applications, Government College for Women (Autonomous) , Srikakulam for the Autonomous students i.e., 2023 – 24 under the Chairman ship of Smt.S.Vani Kumari, Head of the Department of Computer Applications of this college as per the UGC Letter No.F22-1/2017 (AC) Date: 28.11.2018 and Dr.B.R.Ambekar University , Srikakulam letter, RC.No.BRAU/F J :Autonomous Status 2019 -20 dated 15.03.2019. The following members attended and discussed the various academic matters of the Computer Science Syllabus and its evaluation.

S.No	BOS Committee	Name & Designation
1.	Chair Person	Name : Smt.S.Vani Kumari Designation :Lecturer in Computer Applications Address :GCW(A),Srikakulam
2.	Subject Expert (University Nominee)	Name : Dr.S. Jhansi Rani Designation: Assoc. Professor, Dept. Of CS&SE Address :Andhra University College of Engineering(A),Vishakhapatnam
3.	Subject Expert (Nominated By Academic Council)	Name : Dr.A.Siva Prasad Designation :Lecturer in Computer Science Address:Dr.V.S.Krishna college(A),Vishakhapatnam
4.	Subject Expert (Nominated By Academic Council)	Name : Smt J.Sharmila Rani Lecturer in Computer Applications GDC, Gajapathinagaram
5.	Member of Industrial	Name : Mr.I.V.Anil Kumar Designation :Principal Team Lead, Zebra Technologies, Banglore
6.	Member of Alumni	Name: Kum.M.GayatriVarshitha Pursuing M.Sc Computer Science Dr.BR.AmbedakarUniversity,Etcherla
7.	Members of Department	1)Smt I.Srilakshmi, Lecturer in Computer Science GCW(A),Srikaulam 2)Smt. S. MadhaviLatha, Lecturer in Computer Applications GCW(A),Srikaulam 3)Smt G. SumaLatha, Lecturer in Computer Science, GCW(A),Srikaulam

CURRICULUM FRAMEWORK

B.Com (Honours)-Computer Applications with Minor																								
Semester	**Major*(4 Cr)**			**Minor(4 Cr)**			**Languages (3 Cr)**			**Multi Disny' (2 Cr)**			**Skill Enhancement Courses (2Cr)**			**OOTC**			**Env. Edn (2 Cr)**			**Total**		
	C	***H***	***Cr***	***C***	***H***	***Cr***	**C**	***H***	***Cr***	***C***	***H***	***Cr***	**C**	***H***	***Cr***	**C**	***H***	***Cr***	**C**	***H***	***Cr***	**C**	***H***	**Cr**
Sem 1*	2	8	8				2	8	6	1	2	2	2	4	4							7	22	20
Sem 2	2	6+4	8	1	4	4	2	8	6				2	4	4							7	24	22
Community Service Project of 180 hours with 4 Credits. Student is eligible for Exit Option-1 with the award of Certificate in respective discipline																								
Sem 3	4	12+8	16	1	4	4				1	2	2	1	2	2							7	24	24
Sem 4	3	9+6	12	2	8	8				1	2	2	1	2	2							7	24	24
Short-Term Internship/Apprenticeship/OJT of 180 hours with 4 Credits. Student is eligible for Exit Option-2 with the award of Diploma in respective major with																								
Sem 5	4	12+8	16	2	8	8													1	2	2	7	26	26
Sem 6	**Semester Internship/Apprenticeship/OJT with 12 Credits. Student is eligible for Exit Option-3 with the award of Degree in respetive major with minor**																							
																			IKS#					
Sem 7	3	9+6	12										2*	6+4	8	1	2	2	1	2	0	6	24	22
Sem 8	3	9+6	12										2*	6+4	8	1	2	2	1	2	0	6	24	22
	21		84	6		24	4		12	3	6	6	10	32	28	2	4	4	2	4	0	47		**160**
20 Additional Credits for 10 month mandatory Internship/OJT/Apprenticeship																								
C Courses				**H** Hours						**Cr** Credits						**OOTC** Open Online Transdisciplinary								
IKS# Indian Knowledge Systems - Audit Course																								

GOVT. COLLEGE FOR WOMEN (AUTONOMOUS): SRIKAKULAM
Programme: B.Com. Computer Applications (Major)
w.e.f. AY 2023-24
COURSE STRUCTURE

Semester	Paper	Title	Hrs	Credits	IA	EA	Total
FIRST YEAR							
I	1	Fundamental of Commerce	4	4	40	60	100
	2	Business Organisation	4	4	40	60	100
II	3	Financial Accounting	3	3	40	60	100
		Financial Accounting Practical Course	2	1	0	50	50
	4	**Office Automation Tools**	**3**	**3**	**40**	**60**	**100**
		Office Automation Tools Practical Course	**2**	**1**	**0**	**50**	**50**
Community Service Project of 180 hrs with 4 credits							
SECOND YEAR							
III	5	Advanced Accounting	3	3	40	60	100
		Advanced Accounting Practical Course	2	1	0	50	50
	6	Income Tax	3	3	40	60	100
		Income Tax Practical Course	2	1	0	50	50
	7	**E Commerce & Web designing**	**3**	**3**	**40**	**60**	**100**
		E Commerce & Web designing Practical Course	**2**	**1**	**0**	**50**	**50**
	8	**Digital Marketing**	**3**	**3**	**40**	**60**	**100**
		Digital Marketing Practical Course	**2**	**1**	**0**	**50**	**50**
IV	9	Corporate Accounting	3	3	40	60	100
		Corporate Accounting Practical Course	2	1	0	50	50
	10	Cost & Management Accounting	3	3	40	60	100
		Cost & Management Accounting Practical Course	2	1	0	50	50
	11	**DBMS with Oracle**	**3**	**3**	**40**	**60**	**100**
		DBMS with Oracle Practical Course	**2**	**1**	**0**	**50**	**50**
Short Term Internship of 180 hrs with 4 credits							

THIRD YEAR							
V	12	Advertisement Corporate Accounting (OR) Advertisement and Media Planning	3	3	40	60	100
		Advertisement Corporate Accounting (OR) Advertisement and Media PlanningPractical Course	2	1	0	50	50
	13	Stock Markets (OR) GST Procedures and Practices	3	3	40	60	100
		Stock Markets (OR) GST Procedures and Practices (Practical Course)	2	1	0	50	50
	14	**Business Analytics (OR) Cyber Security**	**3**	**3**	**40**	**60**	**100**
		Business Analytics (OR) Cyber Security (Practical Course)	**2**	**1**	**0**	**50**	**50**
	15	**Mobile Applications Development (OR) Block Chain Technology**	**3**	**3**	**40**	**60**	**100**
		Mobile Applications Development (OR) Block Chain Technology Practical Course	**2**	**1**	**0**	**50**	**50**
VI	***Semester Internship with 12 Credits***						
FOURTH YEAR							
VII		***Syllabus yet to be released by APSCHE***					
VIII		***Syllabus yet to be released by APSCHE***					

SEMESTER –II

COURSE 4: OFFICE AUTOMATION TOOLS

Theory Credits: 3 3 hrs/week

Course Objectives:

The objective of this paper is to help students to acquire knowledge on the environment of GUI in Ms-Word and its features.To introduce the fundamentals concepts of using Ms-Word and its features to make it more useful and provide hands on use of Word, Excel and PowerPoint.

Learning Outcomes:

The students will be able:

Understand concept of Word Processor and use its features. To use the advanced features of Ms-Word to make day to day usage easier. To work comfortably with Ms-Excel Environment. To create work sheets and user advanced feature of Excel. To create make presentations and inserting multimedia in them.

Unit 1: 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),

Case Study:

1. Create a document to write a letter to the DM&HO of the district complaining about Hygienic conditions in your area.
2. Create a document to share your experience of your recent vacation with family.

Unit 2: 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.

Case Study:

1. Create a document to send a holiday intimation to all the parents at time about Dasara Vacation.
2. Create a document to create Time Table of you class using tables.

Unit 3: Introduction to MS Excel & Its features: MS-Excel: Excel Features, Spreadsheets, workbooks, creating, saving & editinga 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, Functions in Excel - Mathematical functions,Text functons,Statistical Functions,Logical Functions,Date&Time functions,Financial functions

Case Study:

1. Create a worksheet with you class marks displaying total, average, top marks in the classand least marks in the class.

Unit 4: Ms-Excel Advanced Features: Cell referencing (Relative, Absolute, Mixed), Introduction to charts: types of charts, creation of charts, printing a chart, printing worksheet – Sort – Filters – What-if analysis-Subtotals and consolidations-View Menu

Case Study:

1. Prepare a chart with height and weights of you class mates in atleast 3 types of charts.
2. Demonstrate the use of Filter with the attendance data of your class.

Unit 5: 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 cliparts 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.

Case Study:

1. Prepare a presentation with your achievements and experiences in College.

Text Books:

1. Computer Fundamentals–Pradeep.K.Sinha:BPBPublications.
2. Fundamentals of Computers -ReemaThareja, Oxford University Press India

Reference Books:

1. Fundamentals of Computer – V . Rajaraman, Printice Hell of India.
2. Introduction to Computers–Peter Norton McGraw-Hill.

SEMESTER –II

COURSE 4: OFFICE AUTOMATION TOOLS(PRACTICUM)

Practical Credits: 1 2 hrs/week

LIST OF EXPERIMENTS

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 eparatecells 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 professionalwith 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) Create a letter having following specifications
   - Name ofthecompanyonthetopofthepage2withbigfontandgoodstyle 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

usemailmergetocreateletterforselectedpersonsamong10.

8) Create an electronic spread sheet in which you enter the following decimal numbersand convert the mintooctal, Hexa decimal an d binary numbers and vice-versa.

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

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

9) Calculate the net pay of the employees following the conditions below.

	A	B	C	D	E	F	G	H	I
1	Employee	Employee	Basic	DA	HRA	GPF	Gross	Income	Net
2									

DA:-56%ofthebasicpayifBasicpayisgreaterthan20000 orelse44%.
HRA:-15%oftheBasicpaysubjecttomaximumofRs.4000.GPF: -
10%ofthebasicpay. INCOMETAX:-
10%ofbasicifBasicpayisgreaterthan20000. Find who is getting
highest salary & who is get lowestsalary?

10) The ABC Company shows the sales of different product For5years.CreateBARGraph,3D and Pie chart for the following.

A	B	C	D	E	F
S.No.	Year	Pro1	Pro2	Pro3	Pro4
1	1989	1000	800	90	1000
2	1990	800	80	50	900
3	1991	1200	190	40	800
4	1992	400	200	30	1000
5	1993	1800	400	40	1200

11) Create a suitable examination data base and find the sum of the marks (total) ofeach student and respective, class secured by the student.

Pass: if marks in each subject>=35Distinction

:if average>=75

First class :if average>=60but<75
Second class: if average>=50butlessthan60

Third class: if average>=35butlessthan50 Fail: if

marks in any subject<35

12) Enter the following data into the sheet.

Name	Department	Salary
Anusha	Accounts	12000
Rani	Engineering	24000
Lakshmi	Accounts	9000
Purnima	Marketing	20000
Bindu	Accounts	4500
Tejaswi	Accounts	11000
Swetha	Engineering	15000
Saroja	Marketing	45000
Sunitha	Accounts	5600

Sandhya	Engineering	24000
Harika	Marketing	8000

- Extract records for department tin Accounts and Salary > 10000
- Sort the data by salary with the department using “sort commands”.
- Calculate total salary for a ch department using Subtotals

13) Enter the following data in to the sheet..

	Raju	Rani	Mark	Rosy	Ismail	Reshma
English	76	89	43	51	76	87
2ndLang	55	85	78	61	47	33
Maths	65	82	34	58	52	65
Computers	45	91	56	72	49	56
Human Values	51	84	54	64	32	64

Apply the conditional formatting for marks

- 35 below Red
- 35 to 50 Blue
- 51 to 70 Green
- 71 to 100 Yellow

14) Create a presentation using templates.

15) Create a Custom layout or Slide Master for professional presentation.

16) Create a presentation with slide transitions and animation effects.

17) Create a table in PPT and apply graphical representation.

SEMESTER –III

COURSE 7: E-COMMERCE AND WEB DESIGNING

Theory Credits: 3 3 hrs/week

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of fundamental concept of E-commerce & Web Designing. Emphasize the importance of various E-commerce & Web Designing. Developing and implementing efficient algorithms.

Learning Outcomes:

The student will be able to:

Explain how to create an **e-commerce website** from scratch, using PHP and the Bootstrap framework.

Display featured products correctly on a **web** page, using the bootstrap system. Explain howproduct detail models are programmed to be dynamic.

Unit 1: Basics And Definitions: Definition, E-Commerce with 5-C Model, Additional Terms, Business Models Related To E-Commerce, Advantages And Disadvantages, Web 2.0, Technical And Economic Challenges

Frameworks and Architectures: Actors And Stakeholders, Fundamental Sales Process And His 7+1 Process Steps Work, Technological Elements, Typical Applications

Case Study: Identify different E-Commerce websites and write their functionality.

Unit 2: B2C Business: B2c Basics, B2c-Business AndCrm, B2c Software Systems, Customer Relationship Management (Crm)

B2B Business: B2b Basics, Differences Between B2b And B2c, B2b Software Systems, SupplyChain Management

Case Study: Identify B2B and B2C websites in Unit-I Case Study and differentiate theirfunctionality

Unit 3: Security & Compliance Management: Foundations Of Risk Management, Compliance Management, Information Security Management (Ism), Technology

Electronic Payment: Business and Money, the Payment Challenge, Payment Procedures,Receivables Management, Cyber Money

Case Study: Identify different payment methods used in purchasing of goods in Amazon,Flipkart etc.. and write their Pros and Cons of each payment method

Unit 4: Introduction to Web Programming: Introduction, creating a website, History of HTML, Differences between old HTML and HTML5, how to check your HTML code Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, elements, text and block formatting elements, headings, paragraphs, images, tables, lists, blocks, symbols, embedding multi-media components in HTML, HTML forms

Case Study: Create a web page of your department using standard HTML tags, HTML elements and HTML attributes

Unit 5: Cascading Style Sheet (CSS): CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-

height Property, Text Properties, Border Properties,Element Box, padding Property, margin Property,

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Reference Books:

1. Introduction to E-Commerce:Combining Business And Information Technology ByMartin Kutz
2. Lallana, Quimbo, Andam, 4. Cf. Ravi Kalakota and Andrew B. Whinston, Electronic Commerce:A Manager's Guide (USA: Addison Wesley Longman, Inc., 1997), 19-20.
3. Web Programming with HTML5,CSS and JavaScript, John Dean, Jones & Bartlett Learning
4. HTML & CSS: The Complete Reference, 5th Edition, Thomas. A. Powell

SEMESTER –III

COURSE 7: E-COMMERCE AND WEB DESIGNING(PRACTICAL)

Practical	Credits: 1	2 hrs/week

Note: All the questions should be practiced using **Blue Griffon, Google Web Designer, KompoZer and open Element /any related tools.** The students should be taught the usage of appropriate html tags for these questions

In the practical examination the students have to write the procedure for performing the given task in front page followed by the html tags used to perform the task.

LIST OF EXPERIMENTS

1. Create a web page to display a hyperlink which when clicked directs you to Amazon website.
2. Create a web page to demonstrate your college name aligned with the logo of your college.
3. Create a web page to demonstrate definition lists taking various applications of ecommerce as an example.
4. Create a web page which asks for mode of payment which includes the options: Creditcard/Debit card/Online transfer (use radio buttons)
5. Create a web page which asks the user to enter his credit card details. Use textboxes, drop downbuttons.
6. Create a web page to display definition list which defines the terms: B2B, B2C, C2B, C2C.
7. Create a web page which displays four buttons containing text B2B, B2C, C2B, C2C. Also whena button is clicked details about the clicked subject should appear on a separate page.
8. Create a web page to display the text “Digital Marketing” which scrolls randomly.
9. Create a web page to scroll the text “E-Commerce” for exactly 5 times from left to right of thescreen.
10. Create a web page to insert an image which when clicked redirects you to your college website.
11. Create a web page to display the name of your college in h6 size with blue as font color and background color yellow separated by a thick line and below which a paragraph about the facilities offered by your college is described.
12. Create a web page to demonstrate a pull-down menu. The menu should contain the list of your favorite south Indian dishes.
13. Create a web page with name of your college as text. The text should scroll, alternate and slide.
14. Create a web page to display an image surrounded by text on all the four sides.
15. Create a web page to display 3 images which are aligned left, right and center respectively. Create a web page with 4 paragraphs of about 5 lines each describing about E-Marketing, E- Shopping, E-banking and E-Learning. The paragraphs should be aligned left, right, center and justified respectively.
16. Create a web page with name of your college as Text in h6 size, font as verdana, blue as font color followed by a copyright symbol and trademark symbol.
17. Create a login page asking the user to enter his username and password followed by a submit button.
18. Create a web page using a form which collects data about student rollno, name and marks in various subjects followed by submit and reset buttons.
19. Create a web page using a form titled as Feedback form which takes the feedback of faculty teaching a particular subject in your college. The form should have fields student name, rollno followed by 5 check boxes labeled Excellent, Very Good, Good, Average, Bad respectively.
20. Create an unordered list of popular B2C ecommerce web sites.

SEMESTER –III
COURSE 7: DIGITAL MARKETING

Theory	Credits: 3	3 hrs/week

Course Objectives:
The course aims to identify the impact of digital space and digital marketing in reaching out to customers. Understand the importance of Search Engines and explain the working of Search Engines. Able to Define email Marketing and have knowledge on how Social Media Marketingis to be used by marketers?

Learning Outcomes:
The Students will be able to:
Use digital media for the creation of products and services and relate Search Engines in the digital marketing ecosystem. Use Search Engine Marketing for advertisements and know the Social Media platforms like Face book, Twitter, YouTube & LinkedIn for Marketing. Outline email Marketing and strategy to craft email marketing campaign.

Unit 1: Digital Marketing: Introduction to Digital Marketing. Traditional Vs. Digital Marketing, Technology behind Digital Marketing, Characteristics of Digital Marketing, DigitalMarketing Strategy, Understanding Digital Consumer**.**
Case Study: Analyze the change in ranking of your Web Promotion Page

Unit 2: Online Advertising: Introduction, Objective, Where to Advertise, Online AdFormat, Search Engine Ad, Network Advertising, Affiliate Programs, Landing Pages
Case Study: Create Google Add for your college

Unit 3: Email Marketing: Introduction, Types of Email, Email Marketing Campaign Process, Email marketing Tools, Advantages and Disadvantages, Opt-in Email Advertising, Email tracking
Case Study: Analyse the impact of your E-Mail Campaign

Unit 4: Social Media Marketing (SMM):
What is Social Media Marketing, Seven Myths of SMM, Characteristics of Successful Social Media Marketer, Social Media Marketing plan, Social Media marketing Tools, Publishing Blogs, Podcast and Webinars, Social Media Monitoring, Social Media: Face book, Twitter?
Case Study:
1. Analyze the performance of your Facebook and Instagram Page
2. Analyze the performance of your YouTube Video

Unit 5: Search Engine Optimization (SEO): Understanding SEO, Search Engine Optimization Process – Goals, On-Page Optimization, Off-Page Optimization and Analyze, Search Engine Result Process (SERP), SEO Tools.
Case Study: Analyse the impact of your Twitter Campaign

Text Books:

1. Digital Marketing by Seema Gupta, McGraw Hill Education
2. Fundamentals of Digital Marketing by Punit Singh Bhatia, Pearson

References:
Basics of Digital Marketing - Course (swayam2.ac.in)

SEMESTER –III
COURSE 7: DIGITAL MARKETING(PRACTICAL)

Practical Credits: 1 2 hrs/week

LIST OF EXPERIMENTS

1. Digital Marketing Implementation in Business Scenario
2. Create the Digital Marketing Webpage
3. Conducting the Search Engine Optimization and Search Engine Marketing
4. Using Google Analytics to analyze website performance
5. Creating Promotional banner through Canva
6. Face book Promotion using banners
7. Creating YouTube Channel for Marketing
8. Twitter Marketing
9. Instagram Marketing
10. Email Marketing

SEMESTER –IV

COURSE 8: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Theory	Credits: 3	3 hrs/week

Course Objectives:

The course aims to help the Students will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering. The Students will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies and research. Theyl continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession.

Learning Outcomes:

An ability to apply Knowledge of computing and mathematics in Computer Science &Engineering. They will analyze a problem, identify and define the computing requirements appropriate to its solution. An ability to design, implement and evaluate a computer-based system to meet desired needs with appropriate societal considerations. The will have knowledge on to conduct investigations, interpret data and provide conclusions in investigating complex problems related to Computer Science & Engineering. An ability to engage in continuingprofessional development and life-long learning.

Unit 1: Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; types of data models, Concepts of Schema, Instance and dataindependence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Case Study:

1. Describe the differences between Database systems and File based systems
2. Study about database models and their advantages and dis-advantages

Unit 2: Entity Relationship Model: Entity-Relationship Model: Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modeling.

Case Study:

1. Draw an ER Model for a data base and reduce the model to tables

Unit 3: Relational Model: Introduction to relational model, Codd's rules, concepts of domain, attribute, tuple, relation, constraints (Domain, Key constraints, integrity constraints) and their importance , concept of keys (super key, candidate key, primary key, surrogate key, foreign key) , relational Algebra

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency(1NF, 2NF and 3 NF), Boyce-codd normal form(BCNF)

Case Study**:**

Describe Relational model and normalization for database design

Unit 4: SQL:

BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, aggregation, grouping, ordering.

Advanced SQL :

Nested queries/ sub queries, implementation of different types of joins, SQL functions(Date, Numeric, String, Conversion functions), Creating tables with relationship, implementation of key and integrity constraints, views, relational set operations , Transaction Control Language: commit, Rollback, Savepoint , DCL :Grant, Revoke

Case Study:

1. Examine issues in data storage and query processing using SQL.
2. Create, maintain and manipulate a relational database using SQL

Try to convert some sample data to information and show how it can you be used in decision making.

Unit 5: PL/SQL: PL/SQL: Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, , Control Structure, Steps to Create a PL/SQL, Program, Procedure, Function, Cursors ,Database Triggers, Types of Triggers.

.

Suggested Text Books

- Database Management Systems, 3rd Edition ,Raghurama Krishnan, Johannes Gehrke,TMH
- Database System Concepts,5th Edition ,Silberschatz, Korth, TMH

SEMESTER –IV

COURSE 8: DATABASE MANAGEMENT SYSTEM WITH ORACLE(practicum)

Practical Credits: 1 2 hrs/week

LIST OF EXPERIMENTS

SQL:

Cycle-I: Aim: The marketing company wishes to computerize its operations by using thefollowing tables.

Table Name: Client Master

Description: Used to store client information

Column Name	Data Type	Size	Attribute
CLIENT_NO	Varchar2	6	Primary key
NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESSS	Varchar2	30	
CITY	Varchar2	15	
PINCODE	Varchar2	8	
STATE	Varchar2	15	
BAL_DUE	Number	10,2	

Table Name: Product Master

Description: Used to store product information

Column Name	Data Type	Size	Attribute
PRODUCT_NO	Varchar2	6	Primary key
DESCRIPTION	Varchar2	15	Not null
PROFIT _PERCENT	Number	4,2	Not null
UNIT_MEASUE	Varchar2	10	
QTY_ON_ HAND	Number	8	
REORDER_LVL	Number	8	
SELL_PRICE	Number	8,2	Not null, cannot be 0
COST _PRICE	Number	8,2	Not null,cannot be 0

Table Name: Salesman master

Description: Used to store salesman information working for the company.

Column Name	Data Type	Size	Attribute
SALESMAN_NO	Varchar2	6	Primary key
SALESMAN_NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESS2	Varchar2	30	
CITY	Varchar2	20	
PINCODE	Number	8	
STATE	Vachar2	20	
SAL_AMT	Number	8,2	Not null, cannotbe0
TGT_TO_GET	Number	6,2	Not null, cannotbe0
YTD_SALES	Number	6,2	Not null
REMARKS	Varchar2	20	

Table Name: SALES_ORDER

Description: Used to store client orders

Column Name	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key
CLIENT_NO	Varchar2	6	Foreign Key
ORDER _DATE	Date		
DELY_ADDRESS	Varchar2	25	
SALESMAN_NO	Varchar2	6	Foreign Key
DELY_TYPE	Char	1	Delivery:part(p)/full(f)anddefault‘F’
BILL_YN	Char	1	
DELY_DATE	Date		Can’tbe lessthanorderdate
ORDER _STATUS	Varchar2	10	Values(“InProcess”,“Fulfilled”, “Back Order”, “Cancelled)

Table Name: SALES_ORDER_DETAILS

Description:Used to store client's order with details of each product ordered.

ColumnName	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key references SALES_ORDER table
PRODUCT_NO	Varchar2	6	Foreign Key references SALES_ORDER_table
QTY_ ORDERED	Number	8	
QTY_ DISP	Number	8	
PRODUCT_RATE	Number	10,2	Foreign Key

Solve the following queries by using the above tables.

1. Retrieve the list of names, city, and the state of all the clients.
2. List all the clients who are located in 'Mumbai' or 'Bangalore'.
3. List the various products available from the product_mastertable.
4. Find the names of salesmen who have a salary equal to Rs.3000.
5. List the names o fall clients having 'a' as the second letter in their names.
6. List all clients whose Baldue is greater than value 1000.
7. List the clients who stay in a city whose first letter is 'M'.
8. List all information from the sales-order table for orders placed in the month of July.
9. List the products whose selling price is greater than 1000 and less than or equal to3000.
10. Find the products whose selling price is greater than 1000 and also find the newselling price as the original selling price of 0.50.

Cycle-II Supplier

Aim: A manufacturing company deals with various parts and various suppliers supply theseparts. It consists of three tables to record its entire information. Those are as follows.

Supplier (Supplier_No, Sname, City, status) Part(Part_no, pname, color, weight, city, cost)

Shipment (supplier No, Part_no, city) JX (project_no, project_name, city)

SPJX (Supplier no, part_no, project_no,city)

1. Get supplier numbers and status for suppliers in Chennai with status>20.
2. Get project names for projects supplied by supplier 'S'.
3. Get colors of parts supplied by supplier S'.
4. Get part numbers for parts supplied to any project in Mumbai.
5. Find the id's of suppliers who supply a red or pink parts.

Cycle–III Employee Database

Aim: An enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describe the automation schemas.

Emp(Empno, Ename, Job, Mgr, Hiredate, Sal, Comm, Deptno)

Dept(Deptno, Dname, Loc)

1. List the details of employees who have joined before the end of September ’81.
2. List the name of the employee and designation of the employee, who does not reportto anybody.
3. List the name,salary and PF amount of all the employees(PF is calculated as10%ofsalary)
4. List the names of employees who are more than 2 years old in the organization.
5. Determine the number of employees, who are taking commission.
6. Update the employee salary by 20%,whose experience is greater than 12 years.
7. Determine the department does not contain any employees.
8. Create a view, which contains employee name and their manager names working insales department.
9. Determine the employees, whose total salary is like the minimum salary of any department.
10. List the department numbers and number of employees in each department.

PL/SQL PROGRAMS

1. Writea PL/SQL program to check the given string is palindrome ornot.
2. The HRD manager has decided to raise the employee salary by 15% write a PL/SQL block to accept the employee number and update the salary of that employee.Display appropriate messages based on the existence of the record in the Emp table.
3. Write a PL/SQL program to display the top 10 rows in the Emp table based on their job and salary.
4. Write a PL/SQL program to raise the employee salary by 10% for department number 30 people and also maintain the raised details in the rais table.
5. Create a procedure to update the salaries of Employees by 20%, for those who are not getting commission
6. Write a PL/SQL procedure to prepare an electricity bill by using following table. Table used: Elect

Name	Null?	Type
MNNO	NOT NULL	NUMBER(3)
CNAME		VARCHAR2(20)
CUR_READ		NUMBER(5)
PREV_READ		NUMBER(5)
NO_ UNITS		NUMBER(5)
AMOUNT		NUMBER(8,2)
SER_TAX		NUMBER(8,2)
NET_AMT		NUMBER(9,2)

7. Create a trigger to avoid any transactions(insert, update, delete) on EMP table on Saturday & Sunday.

SEMESTER –V
COURSE 14: BUSINESS ANALYTICS

Theory	Credits: 3	3 hrs/week

Course Objectives:

The course aims to help learners to acquire knowledge on Business Analytics and explain why Business Analytics is important. State some typical examples of Business Applications and differentiate between OLAP and OLTP. Explain the concepts of Business Intelligence and understand different types of Analytics Differentiate between Data Mining and Machine Learning Concepts

Learning Outcomes:

After Completing this course, the students will be able to
Understand business analytics and develop business intelligence. Analyze data using statistical and data mining techniques for business intelligence. Understand case studies for predictive models. Expertise in OLAP Tools. Apply different Analytic Techniques

Unit 1: Business Analytics: definition, Components of Business Analytics, Types of Business Analytics methods, Benefits of Business Analytics, Business Analytics Tools, Applications of Business Analytics, Trends in Business Analytics

Case Study:
1. Retail Analytics
2. Marketing Analytics

Unit 2: Descriptive Analytics, Statistics: Types of Statistics, Types of Data, Measure of Central Tendency: Mean, Median, Mode, Standard Deviation, Variance

Case Study:
1. Financial Analytics
2. Social Media and Web Analytics

Unit 3: OLAP, OLAP Operations: Roll Up, Drill Down, Slice and Dice, Pivot, Types of OLAP, OLAP Tools, OLTP, Characteristics of OLTP, OLTP advantages and disadvantages,

Case Study: Working with any one of the OLAP Tools

Unit 4: Architecture and Components of Business Intelligence, Business Intelligence for Management, Operational BI,What is Business Intelligence, Benefits of BI, Roles and Responsibilities of BI, Overview of Popular BI Tools in Market

Case Study: Real-Time Credit and Debit Card Fraud Detection, an HPE Shadowbase

Unit 5: Data Mining Concept, Concepts of data mining model with itsdevelopment and deployment in business scenario, Types of Data Mining Models, Machine Learning: definition, How ML works, Features and Importance of ML, Machine Learning Concepts: Classification of ML

Case Study: Healthcare Analytics

Text Books:

1. Module 5, Business Data Analytics by IBM
2. Essentials of Business Analytics: An introduction to the methodology and itsapplications by Bhima sankaram P, Sridhar S

SEMESTER –V

COURSE 14: BUSINESS ANALYTICS(PRACTICAL)

Practical | Credits: 1 | 2 hrs/week

LIST OF EXPERIMENTS

1. Draw the diagram showing the types of Variables with examples.
2. Differentiate between Numerical and Categorical Variables.
3. What are Named variables? Using Ms-Excel, create a list of 10 named variables and addthe numbers automatically.
4. What is a Ratio Variable? State the importance of Ratio Variable in Data Analytics.
5. Explain the Data Table in Excel. Create a One Variable Data Table in Excel.
6. What is a two Variable Data Table? Write steps to create a Two Variable Data Table.
7. Write steps for analyzing a Data Table with Multiple Formulas in Excel.
8. How do you Create, Rename, Recode, and Merge Variables in R?
9. Write steps to create Your Name, Age, Class, and College Name in R.
10. Draw a Chart for R- Variables.
11. Find the Average Price of given items using MS-Excel.

Rice Bag Ashirwad	1450
Rice Bag India Gate	1200
Sona's Sona Masurie	1300
Kohinoor Rice	1100
Aabida Basmati Rice	1400
Indian Valley	1250
Mannat Rice	1200
Shaalimaar Rice	1425

12. Using Ms-Excel, find the Median Value of the following items.

Items	**Status**	**Amount Rs.**
Banana	Delivered	758
Apple	Cancelled	258
Cherry	In-transit	587
Banana	Delivered	495
Banana	Cancelled	687
Apple	Delivered	258

Cherry	Delivered	684

13. Find the most frequently ordered Quantity from a supermarket store in MS-Excel.

Products	**Quantity**	**MRP (Rs.)**
Tang Orange Flavour	5	1050
Rasna Orange	6	1200
RoohAfza	5	1800
Tang Apple	10	1200
Rasna Green Apple	5	1700
Tang Cocktail	5	1400
Jaljeera	15	120

14. Find the Highest and Lowest Marks of Students obtained in English using Ms-Excel.

Himabindu	85
Karthik	15
Renuka	78
Mallika .S	15
Ashok Jaiswal	100
Billu Yadav	75
Girish J.	50
Sarika	05

15. Find the Geometric and Harmonic Mean Wages from the following data using Ms-Excel.

Job	**Wages (Rs.)**
Electrician	200
Nurse	500
Sales Manager	540
Manufacturing Engineer	540
Celebrity	450

Beautician	480
Data entry operator	350
Plumber	240

16. Using Ms-Excel, calculate Standard Deviation of total sales from the given data.

Total Sales (Rs.)	**Branch**
258000	Delhi
485220	Mumbai
875010	Kolkata
235461	Hyderabad
875212	Indore
785223	Surat
345621	Pune

17. Find Q1 and Q3 and also Quartile Deviation from the following information in Ms-Excel.

S. No.	**Value**
1	145
2	254
3	156
4	354
5	253
6	253
7	245
8	892
9	242
10	268

18. Find the Quartiles from the following data in Ms-Excel.

Height (in inches)	58	59	60	61	62	63	64	65	66

No. of Persons	2	3	6	15	10	5	4	3	1

19. Compare and find the Range of 10 Students' marks in Mathematics and Statistics usingMs-Excel.

Maths	25	40	30	35	21	45	23	33	10
Statistics	30	39	23	42	2	40	25	30	18

20. Calculate Variance from the following data in MS-Excel.

    X: 10, 11, 17, 25, 7, 13, 21, 10, 12, 14

SEMESTER -V

COURSE 14: CYBER SECURITY

Theory | Credits: 3 | 3 hrs/week

Course Objectives:

The aim of this course is to help the learner to understand key terms and concepts in cyber security. The Learner will learn to secure clean and corrupted systems, protect personal data, and secure computer networks. The Learner will be able to examine secure software development practices and gain an understanding of cryptography, how it has evolved, and some key encryption techniques used today.

Learning Outcomes:

The students will be able to:

Analyze and evaluate the cyber security needs of an organization. Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation. Measure the performance and troubleshoot cyber security systems. Implement cyber security solutions and use of cyber security, information assurance, and cyber / computer forensics software/tools. The Learner will develop an understanding of security policies (such as confidentiality, integrity, and availability) and protocols to implement such policies and will gain familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.

Unit 1: Cyber Security Fundamentals: Network Security Concepts: Information Assurance Fundamentals, Basics of Cryptography: Symmetric and Asymmetric, DNS, Firewalls, Virtualization, Radio-Frequency Identification Microsoft Windows Security Principles: Windows Tokens, Window Messaging, Windows Program Execution, Windows Firewall

Case Study: Install any Virtualization Software and perform various tasks

Unit 2: Attacker techniques and motivations: Anti forensics, Tunneling Techniques, Fraud Techniques, and Threat Infrastructure

Case Study: Working with Free and commercial proxies available from web-hack.ru.

Unit 3: Exploitation: Techniques to gain a Foothold, Misdirection, Reconnaissanse, and Disruption Methods

Case Study: Working with SQL Injection attacks and DDoS attacks

Unit 4: Malicious Code: Self-Replicating Malicious Code, Evading Detection and Elevating Privileges, Stealing Information and Exploitation.

Case Study: Identify latest Malwares and differentiate different types of malwares

Unit 5: Defense and Analysis Techniques: Memory Forensics, Honeypots, Malicious Code Naming, Automated Malicious Code Analysis Systems, Intrusion Detection Systems

Case Study: Identify latest Anti-Virus Softwares in the market and compare the functionality of each Anti-Virus

Text Books:

1. Cyber Security Essentials by James Graham, Richard Howard, Ryan Olson, CRC Press
2. Introduction to Cyber Security by Jeetendra Pandey
3. Cryptography and Network Security by William Stallings

References:

Cyber Security for Beginners by Heimdal® Security - Proactive Cyber Security Software (heimdalsecurity.com)

SEMESTER -V

COURSE 14: CYBER SECURITY(PRACTICAL)

Practical Credits: 1 2 hrs/week

Assignment 1:

1. What is the command used for finding host/domain name and IP address?
2. What is the command will display the assigned IP address of ETHERNET adapter?
3. What is the command used for checking the network connectivity?
4. What is the command used for finding all the ip addresses of a given domain name?
5. What is the command used for finding connection to and from the host?
6. What is the command used to view user information, user's login name, real name terminal name and write status ?
7. What is the command used for mapping name to IP addresses?
8. What is the command used for connecting to a host on a particular port?
9. What is the command used to make a connection to a remote machine and execute programs as if one were physically present ?
10. What are the text based web browsers available through command line?

Assignment 2:

1. What is the command used for downloading a website for off-line view ?
2. What is the command used for displaying or manipulating the ARP (Address Resolution Protocol) information on a network device or computer. ?
3. What is the command used for checking/starting/stopping networking services, users, messaging, configuration and so on...?
4. What is the command a packet filtering configuration program used for manipulating netfilter kernel based firewall?
5. What is the command used for showing network statistics?
6. What is the command used for displaying and manipulating routing table ?
7. What is the command used to monitor access control for supported services ?
8. What is the command used to view network traffic?
9. What is the command used to change your hostname ?
10. What is the command used for an interface IP address ?

Assignment 3:

1. What is the command used for controls access to daemons at the application level, ratherthan at the IP level?
2. What is the command used for connecting to a host with encryption?
3. In what is the file, we can find the local look up server used by the browser. 4. Commandused to find out the intermediate nodes between the host and the server is.
5. What is the command used to find out the intermediate domain name nodes between thehost and the server?
6. Command used to follow all the information a DNS server has about a particular domain
7. The command get documents/files from or send documents to a server
8. How to check if a particular interface is up and running?
9. This command used to list info about machines that respond to SMB name queries (for example windows based machines sharing their hard disks).

10. This command used to look up the contact information from the “who is” databases, the servers are only likely to hold major sites. Note that contact information is likely to be hiddenor restricted as it is often abused by crackers and others looking for a way to cause malicious damage to organizations.
11. It allows you to send and receive files between two computers.
12. Another part of the ssh package. This command similar to ftp but uses an encryptedtunnel to connect to an ftp server and is therefore more secure than just plain ftp.
13. Part of the ssh package. Allows you to copy files from one computer to another computer.
14. nfs - nfsfstab format and options
15. where to look to find out the services What is the are available to the system .
16.where to look to find out the list of protocols What is the are available to the system alongwith their port numbers .
17. To listing the iptables of your linux system.
18. How to know if a service is running or not.
19. How to Enable IP Forwarding in Linux

Assignment 4:

1. Study of Wireshark Manual.

Assignment 5 :

Perform the following using Wireshark

1. Identify the first 2 packets (i.e. their packet numbers) containing HTTP GET request.
2. What webpage was visited in the above 2 packets?
3. What version of HTTP was used?
4. What is the destination IP address in the above packets?
5. List the source and destination ports of the packets travelling from the client to this serverin the above packets?
6. In the HTTP server’s response, look at the information sent about the server. What server software was used?
7. What are the IP addresses of the server?

Assignment 6:

Perform the following using Wireshark.

1. What are the MAC addresses of the client and server?
2. How many WebPages (not websites) have been opened?
3. What is the time difference between first HTTP GET and the first HTTP response (OK)?
4. Count the total number of HTTP GET requests.
5. What is the time difference between the first and last HTTP GET requests? Hint: Followa similar procedure as mentioned previously.
6. How may packets were exchanged between the server (corresponding to the both IP addresses) and the client?

(Note: Their sum must be equal to the total no. of packets)

7. Find the total no. of HTTP requests sent by the host spongebob.wikia.com.

Assignment 7:

1. SQL Injection Implementation and Execution.

Assignment 8:

1. Give a short note on OSSEC?
2. What are the components of OSSEC
3. List the few key features of OSSEC.
4. What are the types of agent in OSSEC?
5. What are the roles of Manager (server) and an Agent in OSSEC?
6. What is Syscheck in OSSEC?
7. What is LIDS and HIDS?

Assignment 9:

1. What is the type of log used by pflogsumm?
2. What is the type of log used by webalizer?
3. What are the different types of logs used by AWStats?
4. Pflogsumm analyzes is a mail/weblog or both?
5. Webalizer analyzes is a mail/weblog or both?
6. Command line option used for increment log analysis, mention domain name and squidlog file with webalizer.
7. AWStats tools written in What is the language?

Assignment 10:

1. Steps for setting up Cyber Security in organization.

References for All Assignments:

1. http://www.ossec.net/
2. www.linuxmanpages.com/man1/pflogsumm.1.php
3. www.webalizer.org/
   http://www.computersecuritystudent.com/SECURITY_TOOLS/DVWA/

SEMESTER-V

COURSE 15: MOBILE APPLICATON DEVELOPMENT USING ANDROID

Theory Credits: 3 3 hrs/week

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of understanding Android SDK . To help students to gain a basic understanding of Android application development and instill working knowledge of the Android Studio development tool

Course Outcomes:

The student will be able to:

Identify various concepts and features of Android operating system. Configure Android environment and development tools. Develop rich user Interfaces by using layouts and controls. Use User Interface components for android application development. Create Android application using database. Publish Android applications.

Unit 1: Introduction to Android: - Overview, History, Features of Android, The Android Platform, Understanding the Android Software Stack – Android Application Architecture –The Android Application Life Cycle – The Activity Life Cycle, Creating Android Activity -Views- Layout Android SDK, Android Installation, Building you First Android application, Understanding Anatomy of Android Application, Android Manifest file.

Case Study:

1. Give a brief description of Android Architecture and its parts.
2. List out the challenges we face while using Android?
3. List the new features of Android in the latest version.

Unit 2: Android Application Design Essentials: Anatomy of an Android applications, Android terminologies, Creating User Interfaces with basic views- Application Context, Activities, Services, Intents, linking activities with Intents,, Receiving and Broadcasting Intents, Android Manifest File and its common settings, Using Intent Filter, Permissions.

Case Study:

1. Present an idea that you would like to convert it into an application in the future.

Unit 3: Android User Interface Design Essentials: User Interface Screen elements, Designing User Interfaces with Layouts, Drawing and Working with Animation. Layouts, Recycler View, List View, Grid View and Web view

Input Controls: Buttons, Checkboxes, Radio Buttons, Toggle Buttons, Spinners, Input Events,Menus, Toast, Dialogs, Styles and Themes, Creating lists, and Custom lists.

Case Study:

1. Present detail report on the features of Check Boxes, Radio Buttons and Toggle Buttons.

Unit 4: Testing Android applications: Publishing Android application, Using Android preferences, Managing Application resources in a hierarchy, working with different types of resources.

Case Study:

1. List out the special features of Android with its counterparts.

Unit 5: Using Common Android APIs: Internal Storage, External Storage, SQLite Databases, Managing data using Sqlite, Sharing Data between Applications with Content Providers, Using Android Networking APIs, Using Android Web APIs, JSON Parsing, Using Android TelephonyAPIs, Deploying Android Applications to the World. Google Maps, Using GPS to find the current location, Sensors, and Bluetooth / Wi-Fi Connectivity.

Case Study:

1. List out the points to keep in mind to make you application more attractive.
2. List the controls that make you application attractive.

REFERENCE BOOKS:

1. Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd
2. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd
3. "Android Application Development All in one for Dummies" by Barry Burd, Edition: I
4. "Android", Dixit, Prasanna Kumar Vikas Publications, New Delhi 2014, ISBN: 9789325977884
5. Maclean David, Komatineni Satya,Allen Grant , "Pro Android 5", ApressPublications2015ISBN: 978-1-4302-4680-0
6. " Android Programming for Beginners" by Hortan, John, Packet Publication, 2015ISBN:978-1-78588-326-2
7. Lauren Darcey and Shane Conder, "Android Wireless Application Development",Pearson Education, 2nd ed. (2011)

ONLINE READING / SUPPORTING MATERIAL:

1. http://www.developer.android.com
2. http://developer.android.com/about/versions/index.html
3. http://developer.android.com/training/basics/firstapp/index.htmlhttp://docs.oracle.com/javase/tutorial/index.htm (Available in the form of freedownloadable ebooks also).
4. http://developer.android.com/guide/components/activities.html
5. http://developer.android.com/guide/components/fundamentals.html
6. http://developer.android.com/guide/components/intents-filters.html.
7. http://developer.android.com/training/multiscreen/screensizes.html Syllabus of BCA (Honours) under CBCS 33 9. http://developer.android.com/guide/topics/ui/controls.html
8. http://developer.android.com/guide/topics/ui/declaring-layout.html
9. http://developer.android.com/training/basics/data-storage/databases.html

SEMESTER-V

COURSE 15: MOBILE APPLICATON DEVELOPMENT USING ANDROID

Practical | Credits: 1 | 2 hrs/week

LISTOFEXPERIMENTS:

1. Develop a program to implement frame layout, table layout and relative layout.
2. Develop a program to implement Text View and Edit Text.
3. Develop a program to implement Auto Complete Text View.
4. Develop a program to implement Button, Image Button and Toggle Button.
5. Develop a program to implement login window using the above U1 controls.
6. Develop a program to implement Checkbox.
7. Develop a program to implement Radio Button and Radio Group.
8. Develop a program to implement Progress Bar.
9. Develop a program to implement List View, Grid View, Image View and Scroll View.
10. Develop a program to implement Custom Toast Alert.
11. Develop a program to implement Date and Time Picker.
12. Develop a program to create an activity. Develop a program to implement new activityusing explicit intent and implicit intent.
13. Develop a program to implement content provider.
14. Develop a program to implement service.
15. Develop a program to implement broadcast receiver.
16. Develop a program to implement sensors.
17. Develop a program to build Camera.
18. Develop a program for providing Bluetooth connectivity.
19. Perform CRUD operations using SQLite.
20. Develop a program for JSON parsing.

SEMESTER-V

COURSE 15: BLOCK CHAIN TECHNOLOGY

Theory | Credits: 3 | 3 hrs/week

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of Block Chain Technology. To Understand Security systems in Block Chain Technology. To acquire knowledge to applications of Block Chain Technology.

Learning Outcomes:

The students will be able:

Identify various types of Software Architecture and understand types of Cryptography. Improve knowledge in understanding underlying technologies in Block Chain Technologies. Understand the storage methods and advantages and have knowledge on the applications of Block Chain

Unit 1: Layers of a Software System, Integrity, A Payment System, Types of Software Architecture, Purpose of the Blockchain, Peer-to-Peer system: Definition, Architecture, Link between Peer-to-Peer and Blockchain, Integrity Threats in Peer-to-Peer Systems, Four ways of Defining Blockchain, The purposeof the Blockchain, Blockchain Properties

Case Study: Identify Different Crypto Payments and Differentiate Them

Unit 2: Foundations of Ownership, Security Related concepts in Block chain, Purpose and Properties of a Ledger, Double Spending Problem, Designing and Developing a Software System, Documenting Ownership, Integrity of the Transaction History

Case Study: Study about Harbor, Ubitquity, Propy that are used in Real Estate

Unit 3: Hash Function in Block chain, Patterns of Hashing Data, Uses of Hash Values, Cryptography: Activities, Types of Cryptography, Digital Signatures

Case Study: Differentiate between various Blockchain Techniques used in Medical Field such as Ambrosus, Connecting Care, Farma Trust, MedRec

Unit 4: Transforming Book into Blockchain Data structure, Chaining Blocks of Data, Protecting the Data Store, Distributing the Data Store among Peers, Verifying and Adding Transactions

Case Study: How we Apply Blockchain Technology in Elections and Voting

Unit 5: Choosing a transaction History, Paying for Integrity, Technical Limitations of Blockchain, Conflicting Goals of the Blockchain, Characteristics of the Blockchain, Blockchain Applications, Blockchain Platforms

Case Study: Identify various Blockchain Technologies used in Entertainment

Text Books:

1. Blockchain Basics by: A Non-Technical Introduction in 25 Steps by DanielDrescher, APress
2. Blockchain: Cybrosys Limited Edition

Web References:

1. 10 Blockchain Use Cases in Real Practical World | GoLinuxCloud
2. 33 Top Blockchain Applications to Know for 2023 | Built In
3. 15+ Practical Blockchain Use Cases in 2022 - 101 Blockchains
4. 30+ Real Examples Of Blockchain Technology In Practice (forbes.com)

SEMESTER-V

COURSE 15: BLOCK CHAIN TECHNOLOGY(PRACTICAL)

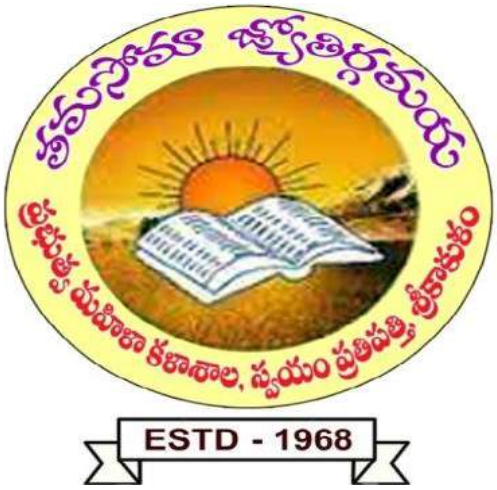
Practical | Credits: 1 | 2 hrs/week

LIST OF EXPERIMENTS

1. Creating and Building Up Crypto Token
2. Ethereum Smart Contract
3. Creating and Building Up Bitcoin Wallet
4. Introduction to Hyperledger
5. Creating a Business Network using Hyperledger
6. Creating a Business Network using Hyperledger- II
7. Building and Deploying multichain private Blockchain

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)
SRIKAKULAM

DEPARTMENT OF
COMPUTER SCIENCE & APPLICATIONS



BOARD OF STUDIES
SKILL COURSE SYLLABUS
2023-24

GOVT. COLLEGE FOR WOMEN (AUTONOMOUS): SRIKAKULAM
SKILL COURSE
w.e.f. AY 2023-24
COURSE STRUCTURE

Semester	Paper	Title	Hrs	Credits	IA	EA	Total
III	3-3	Information and Communication Technology	2	2	0	50	50
IV	4-2	Digital Marketing	2	2	0	50	50

SKILL COURSE

w.e.f. AY 2023-24
SEMESTER-III
INFORMATION AND COMMUNICATION TECHNOLOGY

Theory Credits: 2 2 hrs/week

Objectives:

This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

Course outcomes: After completion of the course, student will be able to;

1. Understand the literature of social networks and their properties.
2. Explain which network is suitable for whom.
3. Develop skills to use various social networking sites like twitter, flickr, etc.
4. Learn few GOI digital initiatives in higher education.
5. Apply skills to use online forums, docs, spreadsheets, etc for communication,collaboration and research.
6. Get acquainted with internet threats and security mechanisms.

SYLLABUS:

UNIT-I: (08 hrs)

Fundamentals of Internet: What is Internet?, Internet applications,Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser
–Types of Browsers,Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp .

UNIT-II:(08 hrs)

E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, MessageComposition, Mail Management.

G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-III:(10 hrs)

Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues.

What are GOI digital initiatives in higher education? (SWAYAM, SwayamPrabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e- acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES: (04 hrs)

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

1. Assignments(in writing and doing forms on the aspects of syllabus content andoutside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
1. Quiz andGroup Discussion
3. Slip Test
4. Try to solve MCQ's available online.
5. Suggested student hands on activities :

a. Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
b. Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
c. Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registration form for your college campus placement through Google forms.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e –byRaymond Greenlaw and Ellen Hepp, Publishers : TMH
2. Internet technology and Web design, ISRD group, TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, KunaiSen and Cathleen Morin, TMH.

SKILL COURSE

w.e.f. AY 2023-24
SEMESTER-IV
DIGITAL MARKETING

Credits: 2 2 hrs/week

Course Objective:

With the popularity of digital marketing rising steadily, the interest of individuals is also being awakened in this field. The course is aimed at creating awareness and knowledge application of various Digital Marketing tools to individuals from multidisciplinary background.

Learning Outcomes:

The learner is able to:

1. Know the emerging trends in digital marketing and applicable knowledge of variousdigital marketing tools.
2. Build a functional website with the help of WordPress and exposure to Search EngineOptimization tools;
3. Understand the different types of Social Media Marketing Techniques;

Unit I: Introduction to Digital Marketing: (8 Hrs)

Concept, Components of Digital Marketing, Need and Scope of Digital Marketing, Benefits of Digital Marketing; Digital Marketing Platforms: Website Marketing, Search Engine Marketing, Online Advertising, Email Marketing, Blog Marketing, Social Media Marketing, Audio, Video and Interactive Marketing, Online Public Relations, Mobile Marketing; Migrating from Traditional Channels to Digital Channels; Digital Marketing Trends.

Unit II: Website Design and Development: (12 Hrs)

Basics of website design and development, Elements of a good website, Responsive web design and its importance; Understanding the functionality of WordPress: Add content, Install and Activate plugins, Functionality of different plugins; Understanding user experience and user interface design. Search Engine Optimization (SEO): Importance of SEO, understanding Web Search – keywords, HTML tags, Inbound Links, Display Ads - choosing a Display Ad Format, Landing Page and its importance.

Unit III: Social Media Marketing: (10 Hrs)

Understanding Social Media, Social Networking with Facebook, LinkedIn, Blogging as a social medium, Microblogging with Twitter / X, Social Sharing with YouTube, Social Media for Customer Reach, Acquisition and Retention. Measurement of Digital Media: Analyzing Digital Media Performance, Analyzing Website Performance, Analyzing Advertising Performance.

Curricular Activities:

1. Explain emerging trends in digital marketing and critically assess the use of digital marketing tools by applying relevant marketing theories and frameworks.
2. Blog Creation: This involves setting up a website on WordPress and creating a blog populated with pages, posts, and plugins.
3. SEO : This involves performing SEO on your blog or conducting an SEO audit of a website
4. Social Media Marketing: Here, you will run a 5-day campaign on Facebook Ads manager to drive traffic to either your blog/ a website or create engagement for your Facebook page. You will learn how to run the campaign from end to end from setup to optimization.
5. Google Analytics 4: Learners will analyze their blog using Google Analytics 4. They will generate, read and present insights from Google Analytics reports.

Reference Books

1. Michael Miller, B2B Digital Marketing, 1e, Pearson, 2014.
2. Vandana Ahuja, Digital marketing, Oxford University Press 2015
3. Michael R Solomon, Tracy Tuten, Social Media Marketing, Pearson, 1e, 2015.
4. Judy Strauss & Raymond Frost, E-Marketing, Pearson, 2016
5. Richard Gay, Alan Charles worth and Rita Esen, Online marketing – A customer ledapproach Oxford University Press 2007.
6. Chuck Hemann& Ken Burbary, Digital Marketing Analytics, Pearson, 2019
7. The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns 1st Edition, Kindle Edition by Ian Dodson (Author) Format: Kindle Edition
8. Fundamentals Of Digital Marketing, 2e Kindle Edition by Bhatia (Author) Format: Kindle Edition
9. Digital Marketing: Strategy & Tactics | IM | e by Jeremy Kagan et al.

E- Learning Reference:

1. https://www.bluehost.com/cs/special/wordpresscampaigns?utm_campaign=wordpress_PPC&utm_source=googleads&utm_medium=genericsearch&utm_affiliate=bluehost_PPC&irpid=101&clickid=P61C101S570N0B5578A2D4499E0000V110&pb=signup_searchgenericpromo&channelid=P61C101S570N0B5578A2D4499E0000V110&utm_source=google&utm_medium=genericsearch&gclid=CjwKCAjww7KmBhAyEiwA5PUSvRfsUqR5d7VlwKNJ5i5CiFPGCpFkBH8upqIAzrkT6KvhoiewDp-jBoCtHsQAvD_BwE&gclsrc=aw.ds
2. https://swayam.gov.in/nc_details/NPTEL

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM
DEPARTMENT OF COMPUTER APPLICATIONS
INTERNAL EXAM PATTERN FIRST YEAR 2023-24

SECTIONS	MID I 35MARKS TIME: 2 HOURS	MID II 30 MARKS TIME:2 HOURS	OTHER (NCC/NSS/SEMINARS/QUIZ/ETC.,) 15 MARKS	EVALUATION 40 M
SECTION A: ESSAY	1 X 8 = 8 M	1 X 8 = 8 M		
SECTION B: SHORT	3 X 4 =12 M	3 X 4 =12 M		
SECTION C: V.SHORT	5 X 2 = 10 M	5 X 2 = 10 M		
SECTION D: MCQ	5 X 1 = 5 M	----		
TOTAL	35 M+30 M+15 M = 80 M			80/2 = 40 M

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM
DEPARTMENT OF COMPUTER APPLICATIONS
INTERNAL EXAM PATTERN SECOND YEAR 2022-23

SECTIONS	MID I 35MARKS TIME: 2HOURS	MID II 30 MARKS TIME:2 HOURS	OTHER (NCC/NSS/SEMINARS/QUIZ/ETC.,) 15 MARKS	EVALUATION 40 M
SECTION A: ESSAY	1 X 8 = 8 M	1 X 8 = 8 M		
SECTION B: SHORT	3 X 4 =12 M	3 X 4 =12 M		
SECTION C: V.SHORT	5 X 2 = 10 M	5 X 2 = 10 M		
SECTION D: MCQ	5 X 1 = 5 M	---		
TOTAL	35 M+30 M+15 M = 80 M			80/2 = 40 M

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM
DEPARTMENT OF COMPUTER APPLICATIONS
INTERNAL EXAM PATTERN THIRD YEAR 2021-22

SECTIONS	MID I 20 MARKS TIME: 1 HOUR	MID II 15 MARKS TIME:1 HOUR	OTHER (NCC/NSS/SEMINARS/QUIZ/ETC.,) 15 MARKS	EVALUATION 25 M
SECTION A: ESSAY	1 X 10 = 10 M	1 X 8 = 8 M		
SECTION B: SHORT	2 X 5 =10 M	3 X 4 =12 M		
TOTAL	20 M+15 M+15 M = 50 M			50/2 = 25 M

Government College for Women(Autonomous),Srikakulam
I B.Com(Computer Applications
Semester-II Blue Print
Office Automation Tools

Subject: Office Automation Tools **Paper: 4**
Time: 3 hrs **Marks: 60 M**

Model Blue print for the question paper setter

Chapter name	Essay Questions 8 Marks	Short Questions 4 Marks	Marks allotted to the chapter
UNIT-I	2	2	24
UNIT-II	2	2	24
UNIT-III	2	2	24
UNIT-IV	2	2	24
UNIT-V	2	2	24
Total no. of questions	10	10	--
Total Marks Including Choice	80	40	120

Note:

1. The question paper setter are requested to kindly adhere to the format given in the above table.

2. The question paper setter are also requested to set the questions in the following way:

a. 70 % of questions – Remembering and Understanding type questions

b. 30 % of questions – Applying, Evaluating, Analyzing and Creating type questions

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM

I Year UG Program Courses – Under CBCS

Semester – I

Model Question Paper

(w.e.f. 2023 -24 Admitted Batch)

BLUE PRINT

Time : 3.00 Hours **Max. Marks : 60**

SECTION – A

Easy Question Answer All Question **5 X 8 = 40**

1) **UNIT – I (Either or Type)**
2) **UNIT –II (Either or Type)**
3) **UNIT –III (Either or Type)**
4) **UNIT –IV (Either or Type)**
5) **UNIT –V (Either or Type)**

SECTION – B

Answer any Five of the following Question **5 X 4 = 20**

6)
7)
8)
9)
10)
11)
12)
13)
14)
15)

Government College for Women(Autonomous),Srikakulam
SEC - Blue Print

Time: 2 hrs **Marks: 50 M**

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**	**3**	**35**
UNIT-II	**2**	**3**	**35**
UNIT-III	**1**	**2**	**20**
Total no. of questions	**5**	**8**	**--**
Total Marks Including Choice	**50**	**40**	**90**

Note:

1. The question paper setter are requested to kindly adhere to the format given in the above table.
2. The question paper setter are also requested to set the questions in the following way:

a. 70 % of questions – Remembering and Understanding type questions

b. 30 % of questions – Applying, Evaluating, Analyzing and Creating type questions

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS), SRIKAKULAM

I Year UG Program Courses – Under CBCS

SEC

Model Question Paper

(w.e.f. 2023 -24 Admitted Batch)

BLUE PRINT

Time : 2.00 Hours **Max. Marks : 50**

SECTION – A

Easy Question Answer any 3 Questions **3 X 10 = 30**

1) **UNIT – I**
2) **UNIT –I**
3) **UNIT –II**
4) **UNIT –II**
5) **UNIT –II**

SECTION – B

Answer any Four of the following Question **4 X 5 = 20**

6)
7)
8)
9)
10)
11)
12)
13)

GOVT. COLLEGE FOR WOMEN (AUTONOMOUS): SRIKAKULAM

Subject: ComputerApplications **Department: Computer Science& Applications**

List of Experts

S.No	Name	Address	Mailing Address
1.	Ravi Kiran Kumar.M	Government Degree College, SeethamPeta, Manyam District	ravikirameduri@gmail.com
2.	Dr.A.Siva Prasad	Dr. VSK Government Degree College (A), Visakhapatnam	
3.	Mr.RaghavaSwamy Dora	Government Degree College, Vijayanagram	swamyraghava@gmail.com
4.	S.A.V.S.Sambha Murthy S,	Government Degree College, Paderu, Visakhapatnam District	sivakutimurthy45@gmail.com
5.	Raghuram Battini,	Government Degree College(M), Srikakulam District	raghu.battini@gmail.com
6.	Aruna Padma D	Government Degree College(W), Visakhapatnam	arunapadma.b@gmail.com
7.	Sridhar Namballa	Government Degree College (A), Tuni, E.G.District,	sridhar.namballa@gmail.com
8.	Garapati B V Padmanadh,	PR Government Degree College (A), Kakinada, E.G.District	padmanadh@gmail.com
9.	Suneel Kumar Duvvuri,	Government Degree College (A), Rajahmundry, E.G.District	scientist.sun@gmail.com
10.	Naga Subrahmanyeswari N	ASD Government Degree College for Women (A), Kakinada, E.G.District	eswari.velugu@gmail.com
11.	G Krishna Vasudeva Rao	Government Degree College, Ponduru, Srikakulam District	g.vasu1215@gmail.com
12.	Padmavathi Vaka	Government Degree College for Women (A). Nellore	padmavaka527@gmail.com
13.	J.Sharmila Rani	Government Degree College ,Gajapathi Nagaram	sharmilarani.j@gmail.com
14.	P.Jyothi	PR Government Degree College (A), Kakinada, E.G.District	jyothi.ponukumati@gmail.com
15.	V.Phani Kumar Rayudu	PR Government Degree College (A), Kakinada, E.G.District	rvpk.116@gmail.com
16.	Grandhi Satya Suneetha	Government Degree College for Women (A), Kovvuru, E.G.District	satyasuneetha10@gmail.com
17.	Subhashini Undrajavarapu	Government Degree College, Ravulapalem, E.G.District	subhau7@gmail.com

Government College for Women(Autonomous)Srikakulam

Reaccredited by NAAC with 'A' Grade during 3rd Cycle (CGPA 3.09)

RESOLUTIONS/MINUTES OF BOARD OF STUDIES MEETING HELD ON 27TH SEPTEMBER,2023

1. It is resolved to adopt CBCS for all semesters
2. It is resolved to approve Major subjects syllabi and Model question papers for 2023-24 admitted batch and modification suggested by BoS members have been incorporated in the Syllabi (details enclosed Annexure-I)
3. It is resolved to ratify syllabi and Model question papers for 2021-22, 2022-23 admitted batches
4. It is resolved to ratify semester mode pattern of examination for all students.
5. It is resolved to ratify Continuous Assessment System (CAS) for all admitted batches
   a.60-40 pattern for 2022-23, 2023-24 admitted batches (Blue print)
   b.75-25 pattern for 2021-22, 2020-21 admitted batches (Blue print)
6. It is resolved to ratify Life skill, Multidisciplinary and Skill development courses for 2023-24 admitted batch for all semesters
7. It is resolved to ratify Life skill and Skill enhanced courses for 2021-22 & 2022-23 admitted batches
8. It is resolved to ratify SEC for 50 marks external pattern (No Internals)
9. It is resolved to approve List of examiners
10. It is resolved to approve List of Paper setters
11. It is resolved to approve Innovative learning and evaluation techniques
12. It is resolved to approve students seminars, workshops, fieldtrips & student centric activities, student projects and student research
13. It is resolved to approve ICT Mode of learning
14. It is resolved to encourage students to join extension activities i.e., JKC, NSS etc…
15. It is resolved to encourage students for Certificate courses, Mou's, outreach programmes etc..
16. It is resolved to approve CSP after second semester, short term internship after IVth semester and long term internship in VIth semester for all admitted students.

Member Present

S.No	BOS Committee	Name & Designation	Signature
1.	Chair Person	Name : Smt. S.Vani Kumari Designation :Lecturer in Computer Applications Address :GCW(A),Srikakulam	
2.	Subject Expert (University Nominee)	Name : Dr.S. Jhansi Rani Designation: Assoc. Professor, Dept. Of CS&SE Address :Andhra University College of Engineering(A),Vishakhapatnam	
3.	Subject Expert (Nominated By Academic Council)	Name : Dr.A.Siva Prasad Designation :Lecturer in Computer Science Address:Dr.V.S.Krishna college(A),Vishakhapatnam	
4.	Subject Expert (Nominated By Academic Council)	Name : Smt J.Sharmila Rani Lecturer in Computer Applications GDC, Gajapathinagaram	
5.	Member of Industrial	Name : Mr.I.V.Anil Kumar Designation :Principal Team Lead, Zebra Technologies, Banglore	
6.	Member of Alumni	Name: Kum.M.GayatriVarshitha Pursuing M.Sc Computer Science Dr.BR.AmbedakarUniversity,Etcherla	
7.	Members of Department	1)Smt I.Srilakshmi, Lecturer in Computer Science GCW(A),Srikaulam 2)Smt. S. MadhaviLatha, Lecturer in Computer Applications GCW(A),Srikaulam 3)Smt G. SumaLatha, Lecturer in Computer Science, GCW(A),Srikaulam	