VANITA VISHRAM WOMEN'S UNIVERSITY
SCHOOL OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE

BACHELOR OF COMPUTER APPLICATION (B.C.A.)
HONOURS PROGRAMME
under Learning Outcomes-based Curriculum Framework (LOCF)
for Under Graduate (UG) Education

SEMESTER 6
Core Courses (CC),
Discipline Specific Elective (DSE)

Syllabus applicable to the students seeking admission in the following Programme

B.C.A. HONOURS under LOCF
w.e.f. the Academic Year 2022-2023

1. Preamble – VVWU

Vanita Vishram Women's University (VVWU) is the First-ever Women's University of Gujarat approved by the Government of Gujarat under the provisions of the Gujarat Private Universities Act, 2009. It is a university committed to achieve Women's Empowerment through Quality Education, Skill Development, and by providing employment opportunities to its girl students through its model curriculum, integration of technology in pedagogy and best-in-class infrastructure. The focus is on prioritizing practical component and experiential learning supported through academia-industry linkages, functional MoUs, skill development training, internships etc. It aims at providing opportunities to the girl students for holistic development and self-reliance.

VISION

Empowerment of women through quality education and skill development, so as to make them strong pillars of stability in the society.

MISSION

To provide Education & Professional Training to all women for their all-round development, so as to enable them to become economically independent and socially empowered citizens.

2. Introduction of the Programme

Bachelor of Computer Application is a UG program offered by VVWU. This course is of three years duration with two semesters in each year. The course is designed to make sure that students learn from basic computing to latest technologies in Computer Science & IT field. The curriculum offers perfect blend of theory and practical.

3. Programme Specific Objectives (PSOs)

- To educate students regarding computer Fundamentals, logic building and algorithms.
- To impart knowledge of various programming languages and database concepts.
- To expose the students to networking fundamental and graphics applications.
- To provide hands-on experience of IT industry level projects to the students.
- To develop entrepreneurial skills of the students to launch their own start-ups under Digital India mission.

4. Programme Specific Outcomes (PSOs)

The students will be able:

- to understand the underlying programming logic of writing codes, Design and testing.
- to apply the concepts of software engineering
- to create and manage database using the concept of Database Management System.
- to develop applications using programming languages and various application programs.
- to promote personal growth and understanding of self.

5. Structure of the Programme – Credit Structure

B.C.A. HONOURS STRUCTURE AND DISTRIBUTION OF COURSES						
Semester	**CC Total Credits (84)**	**DSE Total Credits (24)**	**GE Total Credits (24)**	**SEC Total Credits (08)**	**AECC Total Credits (08)**	**Total Credits**
1	CCE101	--	GE101	--	AECC101	**84 + 24 + 24 + 08 + 08 = 148**
	CCE102				AECC102	
2	CCE201	--	GE201	--	AECC201	
	CCE202				AECC202	
	CCE301					
3	CCE302	--	GE301	SEC301	--	
	CCE303					
	CCE401					
4	CCE402	--	GE401	SEC401	--	
	CCE403					
5	CCE501	DSE501	--	--	--	
	CCE502	DSE502				
	CCE503					
6	CCE601	DSE601	--	--	--	
		DSE602				

6. Course Structure – Paper Titles of Two Semesters

B.C.A. Honours (SEMESTERS 5 & 6)					
Sem	**Core Course**	**DisciplineSpecific Elective Courses (DSE)**	**Generic Elective Courses (GE)**	**Ability Enhancement Elective – Skill based (SEC)**	**Ability Enhancement Compulsory (AEC)**
5	Software Engineering Computer Graphics Web Development using PHP	DSE-I Elective-I 1. Web Development using Asp.NET 2. Advanced Java Programming DSE-II Elective-II 1. Mobile Application using Android 2. Mobile Application using iOS	--	--	--
6	Software Development Project	DSE-III Cyber Security DSE-IV Digital Marketing	--	--	--

BCA:

Course Highlights	
Course Level	Bachelor
Duration	3 years
Examination Type	Semester System (1 – 6 Semesters)
Intake	386
Eligibility	Candidate must have Passed (10+2) examination with 45% is eligible for admission in BCA program.
Programme Objectives	• To provide advanced and in-depth knowledge of computer science and its applications • To prepare Postgraduates who will achieve peer-recognition; as an individual or in a team; through demonstration of good analytical, design and implementation skills. • To enable students, pursue a professional career in Information and Communication Technology in related industry, business and research. • To impact professional knowledge and practical skills to the students.
Job Positions	Project Manager, IT Manager, System Analyst, Technical Leaders, Software Consultant, Database Designer, Database Administrator, Application Programmer, Network Planning Manager, etc.

Following is the scheme of assessment followed by the university -

Scheme of Assessment		
Weightage (%)	**Internal (40%)**	**External (60%)**
100%	[Internal written Theory Exam] **(20%)** + [Assignments/ presentations/Viva/ group discussion in class sessions /Journal/ MCQ/ QUIZ + Attendance] **(20%)**	End Term TheoryExams Whole Syllabus

Course Structure Summary:

Semester No	Total Credit
1	22
2	22
3	28
4	28
5	24
6	24
Total	148

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Teaching and Evaluation Scheme

Course Code	Course Type	Course Name	Teachingper week		Credits	Duration	Examination		Total Marks
			T	P			End Term Marks	Continuous Evaluation Marks	
CS11240	CORE COURSE – XIV	Software Development Project	0	2 hours per week per 5 students	12	5 Hrs.	240	160	400
CS14090	DISCIPLINE SPECIFIC ELECTIVE (DSE) – III	Cyber Security	4	0	4	2:30 Hrs.	60	40	100
CS14100	DISCIPLINE SPECIFIC ELECTIVE (DSE) – III PRACTICAL	Cyber Security - Practical	0	4	2	2:00 Hrs.	60	40	100
CS14110	DISCIPLINE SPECIFIC ELECTIVE (DSE) – IV	Digital Marketing	4	0	4	2:30 Hrs.	60	40	100
CS14120	DISCIPLINE SPECIFIC ELECTIVE (DSE) – IV PRACTICAL	Digital Marketing - Practical	0	4	2	2:00 Hrs.	60	40	100
		TOTAL	8	10	24	--	300	480	800

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Paper No: CS11240 -- CORE COURSE – XIV **L: 2 Hrs.**
Paper Title: Software Development Project **Credit: 12**

Course Code	**CS11240**
Course Title	**Software Development Project**
Credit	12
Teaching per Week	2 Hrs./Week/5 Students (Reporting & Contact Hours)
Minimum weeks perSemester	15 weeks (Including Class work, examination, preparation, holidays etc.)
Review / Revision	June 2023
Purpose of Course	• This course provides students to get hands on experience of software development life cycle. • It provides an opportunity for students to apply the knowledge and skills acquired in the core courses for solving more complex problems and to gain experience in working with development in teams for practical. • There are two options for students. i.e. **IDP (**Industrial Defined Project) **OR UDP (**User Defined Project). • It is desirable that students must have to join an organization **IDP** (through Industry / Software firms / Any other relevant organization / internship in software development organization) or Student will work on in-house project **UDP** assigned and approved by the allotted internal guide at department of university. **UDP (**User Defined Project): 1. Student can develop the project under the allotted internal Guide as In – House. 2. Periodically Students must have to show their work. 3. Internal guide will be allotted. **IDP** (Industrial Defined Project): 1. Students must have to show their work to internal Guide. 2. Periodically Students must have to show their work. 3. Internal guide will be allotted. 4. External Guide from the IT Company or Industry will be allotted by the IT Company or Industry.
Course Objective	• The primary emphasis of the project work is to understand and gain the knowledge of the principles of software engineering practices, and develops good understanding of SDLC. • During the development of the project student should involve in all the stages of the software development life cycle (SDLC) such as

	requirements analysis, systems design, software development/coding, testing and documentation, with an overall emphasis on the development of reliable software systems. • Ideally done in a group. Concepts and tools (or similar) learnt in the course will need to be implemented/incorporated. • The students will undergo full semester of project work based on the concepts studied in a subject of their choice. • The objective is to train the students for the industry by exposing them to prototype development of real-world software. 1. To understand concepts of Project Management. 2. To know how various tools for development and management of software projects are used to carry out various tasks involved. 3. To learn the importance of project documentation.
Pre- requisite	Knowledge of Operating System, Computer Networking, Software Engineering, Database, Application Development Tools, Web Designing Related Tools, Computer Languages etc.
Course Out come	• Project based study enables the students to go through rich experience in developing large projects with Industrial Experience along with full time project development experience. • It will enhance their skill, compatibility and real time experience. • On successful completion of this course, a student will be able to: 1. Develop a project plan based on informal description. 2. Implement the project & utilization of the time effectively. 3. Write a report on the project work carried out by the team and defend the work done by the team collectively. 4. It will prepare the students for analysing and programming for industrial problem and large projects work in future. 5. Working with teammates and generating substantial output of the efforts. 6. Present the work done by the team to the evaluation committee.
Teaching Methodology	• Group Discussions & Presentations by group of students. • The project will be in-house or Industry-oriented. • Duration of the Project Work should be minimum eight weeks. • The project work will start with the beginning of the semester. • All the students will have to submit following reports to their respective examination centers. 1. The Joining Report (Once). 2. Project Title Report (Once). 3. Progress Reports (Fortnightly) signed by the guide (internal faculty) & submitted to the Head/Project Coordinator in person. 4. Project Completion Certificate issued from the College. 5. The student shall not be allowed to appear for the Final Examination if the student fails to submit the above-mentioned documents. 6. Project Viva-voce will be conducted at the end of the semester. 7. The project report in form of soft-copy can be accepted along with the required documents/reports in form of hardcopy.

Evaluation Method	40% Internal assessment 60% External assessment **Internal Evaluation:** Faculties should be nominated by the Head of the Department or the senior most faculty in absence of the Head to evaluate the performance of the students' presentation. **External Evaluation:** The evaluation should be as per the following break up: **Criteria for Evaluation of Software Projects** • Project Definition: 10% • Related project Study Analysis: 20 % • Design & Development: 40% • Implementation & Testing: 10% • Creation of Project Report and Presentation: 20%

Note:

1. Group of Students will develop a full-scale project and submit progress report to their concerned internal guides every week. One hour load will be considered per every four students/week for Project work.
2. Project assigned and approved by the allotted internal guide.
3. Students are required to report to their internal guide regularly.
4. Students are required to submit the project report softcopy at the end of the project work. Students are required to demonstrate the project/presentation of project at the time of external project viva exams.

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Paper No: **CS14090 - DISCIPLINE SPECIFIC ELECTIVE (DSE) – III** **L: 4 Hrs.**
PaperTitle: **Cyber Security** **Credit: 4**

Course Code	**CS14090**
Course Title	**Cyber Security**
Credit	4
Teaching per Week	4 Hrs.
Minimum weeks perSemester	15 (Including Class work, examination, preparation, holidays etc.)
Last Review / Revision	March 2023
Purpose of Course	The essential technology and applications of cybersecurity will be covered in this course. This course will introduce the most recent research that can help organisations transition from "patch and pray" defences to security "by default" by examining security concerns in hardware, software, and cryptography. Additionally, this course will look at the policy implications affecting the field and utilise case studies to show the influence of developing technology.
Course Objective	• Understanding the fundamentals of cyber security and forensics, raising awareness through easy-to-implement advice, and teaching students how to prevent being victims of cybercrime are all goals. • To comprehend the key ideas in forensics and cyber security, to raise awareness among students about how to prevent becoming a victim of cybercrime, and to do all of this by teaching them simple, useful tips and tricks. • To develop experience conducting independent research and study in the area of cyber forensics and security.
Pre-requisite	Basic fundamental knowledge of Networking, Web Application, Mobile Application and Relational Database Management System
Course Out come	• Protect IT assets by creating an architecture, tactics, and rules for cyber security. • Plan, develop, and monitor cyber security systems using experimental, computational, theoretical, and practical research techniques. • Use cutting-edge techniques to find, examine, and fix computer security flaws. • Analyse and assess an organization's needs for cyber security; carry out a risk analysis of cyber security; monitor performance concerns; and troubleshoot cyber security systems.

Teaching Methodology	Class Room Teaching, Discussion and Assignment
Evaluation Method	40% Internal Assessment 60% External Assessment

Course Content:

Unit	Content	Hours	Weightage in %
1	**Unit 1. Introduction to Cybercrime** 1.1 Introduction to Cyber Crime 1.2 Classifications of Cybercrimes 1.2.1 E-Mail Spoofing 1.2.2 Spamming 1.2.3 Hacking 1.2.4 Online Frauds 1.2.5 Pornographic Offenses 1.2.6 Software Piracy 1.2.7 Password Sniffing 1.2.8 Credit Card Frauds and Identity Theft	**12**	**25%**
2	**Unit 2. Cyber Offenses** 2.1 Categories of Cyber Crimes 2.1.1 Active Attacks 2.1.2 Passive Attacks 2.2 Cyber Stalking 2.3 Cyber Cafe 2.4 Botnets	**12**	**25%**
3	**Unit 3. Cyber Ethics** 3.1 The Legal Perspectives 3.2 Indian Perspectives 3.3 Indian IT Acts 2000/2001	**12**	**15%**
4	**Unit 4. Tools and Methods Used in Cybercrime** 4.1 Password Cracking 4.2 Keyloggers and Spywares 4.3 Virus and Worms 4.4 Trojan Horses and Backdoors 4.5 DoS and DDoS Attacks 4.6 SQL Injections	**14**	**25%**
5	**Unit 5. Computer Forensics** 5.1 Introduction and Historical Background of Cyber forensics 5.2 Digital Forensics Science 5.3 The Need for Computer Forensics	**10**	**10%**

Reference Books / Teaching Methodology / Evaluation Method:

Reference Books:	**Main Reading** 1. Nina Godbole, Sunit Belpure, "Cyber Security Understanding Cyber Crimes, Computer Forensics and Legal Perspectives", Wiley, 2011 2. Anti-Hacker Tool Kit (Indian Edition) by Mike Shema, Publication Mc Graw Hill **Supplementary reading:** 1. James Graham, Richar Howard,Ryan Olson, "Cyber Security Essentials", CRC Press, Tailor and Francis Group, 2011 2. Dafydd Stuttard , The Web Application Hacker′s Handbook: Finding and Exploiting Security Flaws Paperback – Wiley, 2nd Edition
Teaching Methodology	Class Work, Discussion, Self-Study, Project and/or Assignments, Case Studies
EvaluationMethod	40% Internal Assessment 60% External Assessment

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Paper No: **CS14100 - DISCIPLINE SPECIFIC ELECTIVE (DSE) – III PRACTICAL** **P: 4 Hrs.**

PaperTitle: **Cyber Security** **Credit: 2**

Practical shall be conducted for the Paper CS14090 - Cyber Security

Course Code	**CS14100**
Course Title	**Cyber Security**
Credit	2
Teaching per Week	4 Hrs.
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)
Review / Revision	March 2023
Purpose of Course	Practical based on **CS14090 (Cyber Security)** • The field of cyber security is developing quickly. This Cyber security course that strives to be cutting edge must have a companion advanced programme that strikes a fair balance between theoretical and practical elements, analytical techniques and system designs, and theoretical concepts and business practises.
Course Objective	To help learners to • To shape each student into a professional in cyber security. • To provide the disciplinary and/or multidisciplinary technical knowledge and skills necessary to defend against vulnerabilities in computer systems, identify and address security breaches, and deal with all forms of cyberthreats. • Knowledge acquired during the programme can be utilised to execute risk assessments for cyber security, solve performance problems, and provide information assurance that can be employed right away in the student's workplace or field of study, namely.
Pre-requisite	Basic Knowledge of Operating System, Various applications and Firewall
Course Out come	After completion of the course, the student will be able to • Protect IT assets by creating an architecture, tactics, and rules for cyber security. • Plan, develop, and monitor cyber security systems using experimental, computational, theoretical, and practical research techniques. • Use cutting-edge techniques to find, examine, and fix computer security flaws. • Analyse and assess an organization's needs for cyber security; carry out a risk analysis of cyber security; monitor performance concerns; and troubleshoot cyber security systems.

Course Content	Practical based on Course: **Cyber Security**
Reference Book	As per paper number: **CS14090 (Cyber Security)**
Teaching Methodology	Lab Work
Evaluation Method	40% Internal Assessment 60% External Assessment

Cybersecurity Practical

Practical Number	Practical
1	Checklist for reporting cybercrime at Cybercrime Police Station.
2	Checklist for reporting cybercrime online.
3	Reporting phishing emails.
4	Demonstration of email phishing attack and preventive measures.
5	Basic checklist, privacy and security settings for popular Social media platforms.
6	Reporting and redressal mechanism for violations and misuse of Social media platforms.
7	Configuring security settings in Mobile Wallets and UPIs.
8	Checklist for secure net banking
9	Wi-Fi security management in computer and mobile.
10	Installation and configuration of computer Anti-virus.
11	Managing Application permissions in Mobile phone.
12	Setting and configuring two factor authentications in the Mobile phone.
13	Installation and configuration of Computer Host Firewall.
14	Setting, configuring and managing three password policy in the computer (BIOS, Administrator and Standard User).
15	Security patches management and updates in Computer and Mobiles.

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Paper No: **CS14110 - DISCIPLINE SPECIFIC ELECTIVE (DSE) – IV** **L: 4 Hrs.**
Paper Title: **Digital Marketing** **Credit: 4**

Course Code	**CS14110**
Course Title	**Digital Marketing**
Credit	4
Teaching per Week	4 Hrs.
Minimum weeks perSemester	15 weeks (Including Class work, examination, preparation etc.)
Review / Revision	March 2023
Purpose of Course	To engage with prospects and customers, brands and marketers must think about alternate methods and tactics. What worked a few years ago-or even in a few months-might not work anymore. In recent years, digital marketing has established itself as a key element of many marketing strategies. To stay relevant in the always-on, always-connected client lifecycle, it is increasingly essential to combine numerous marketing channels and disciplines.
Course Objective	Learners can learn various marketing strategies and various Learners can also set the benchmark against their competitors to ensure that they are more effective.
Pre-requisite	Basic knowledge about marketing is required. Fluency in English Speaking and writing is required.
Course Out come	Learners will learn following: Digital Marketing Fundamentals, Website Planning and Structure, Facebook Marketing for Business, Search Engine Optimization (SEO), Google AdWords
Evaluation Method	40% Internal assessment 60% External assessment

Course Content

Unit	Content	Hours	Weightage in %
1	**Unit 1. Digital Marketing Fundamentals** 1.1 Introduction of Digital Marketing 1.2 Difference between Traditional Marketing and Digital Marketing 1.3 Benefits of Digital Marketing using digital media 1.4 Digital marketing Framework POEM: (Paid, Owned, and Earned Media) 1.5 Components of Digital Marketing (Email, Forum, Social network, Banner, Blog)	12	25%
2	**Unit 2. Digital Marketing Strategy** 2.1 The Digital users in India 2.2 Digital Advertising Market in India 2.3 Skills in Digital Marketing 2.4 Digital marketing Plan	10	20%
3	**Unit 3. Content Marketing** 3.1 Introduction of Content Marketing 3.2 Goals of Content Marketing 3.3 Types Of Contents 3.4 Email Marketing 3.4.1 Email Machine – The Strategy 3.4.2 Email Frequency 3.5 Email Example 3.5.1 Topic Email 3.5.2 Intro Email 3.5.3 Product Email	14	20%
4	**Unit 4. Digital Marketing Platforms** 4.1 Mobile Marketing 4.1.1 Introduction of Mobile Marketing 4.1.2 Objectives of Mobile Advertising 4.1.3 Creating a Mobile Marketing Strategy 4.2 Online Marketing Types 4.2.1 Basics of Affiliate Marketing 4.2.2 Viral Marketing 4.2.3 Influencer Marketing 4.2.4 Referral Marketing 4.3 Online Advertising 4.3.1 Advantages of Online Advertising 4.3.2 Paid versus Organic - Pay Per Click (PPC) Model	14	25%
5	**Unit 5. Web Analytics and Webmaster Tool** 5.1 Introduction of Web Analytics 5.2 Types of Web Analytics (On-site, Off-site) 5.3 Importance of Web Analytics	10	10%

Reference Books / Teaching Methodology / Evaluation Method:

Reference Books:	**Main Readings:** • Digital Marketing by Seema Gupta, McGraw Hill Education • Fundamentals of Digital Marketing by Punit Singh Bhatia, Pearson • Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation by Damian Ryan, Kogan Page Publisher • Digital Marketing: Cases from India by Rajendra Nargundkar and Romi Sainy, Notion Press, Inc
	Supplementary Reading: • The Art of Digital Marketing: The Definitive Guide to Creating Strategic, Targeted, and Measurable Online Campaigns by Ian Dodson, Wiley Publisher • Marketing 4.0: Moving from Traditional to Digital by Philip Kotler, Publisher Wiley
Teaching Methodology	Class Work, Discussion, Self-Study, Project and/or Assignments, Case Studies
Evaluation Method	40% Internal Assessment 60% External Assessment

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Paper No: **CS14120 - DISCIPLINE SPECIFIC ELECTIVE (DSE) – IV PRACTICAL** **P: 4 Hrs.**
Paper Title: **Digital Marketing** **Credit: 2**

Practical shall be conducted for the Paper CS14110 – Digital Marketing

Course Code	**CS14120**
Course Title	**Digital Marketing**
Credit	2
Teaching per Week	4 Hrs.
Minimum weeks perSemester	15 weeks (Including Class work, examination, preparation etc.)
Review / Revision	March 2023
Purpose of Course	Practical based on **CS14110 (Digital Marketing)** • Create a digital marketing strategy that takes typical marketing issues into account. • Clearly state the benefits of integrating SEO, paid search, social, mobile, email, display media, and marketing analytics into marketing efforts. • Improve return on investment for any digital marketing plan by recognising key performance indicators. • Start a new career path in digital marketing or advance an existing one.
Course Objective	To help learners to • The course's major objective is to teach participants the terminology and concepts of digital marketing while also assisting them in creating, analysing, and directing their own digital marketing plans. Getting hands-on experience running digital marketing initiatives is a side objective.
Pre-requisite	Internet, Web Searching, Basics of E-Commerce
Course Out come	After completion of the course, the student will be able to • Students will acquire background knowledge in the business to competently sell and support brand success • Students will learn how to evaluate an experiment scientifically and qualitatively in order to gauge the success of business decisions in general and online advertising in particular. • Through certification in Google's Ad tool and HubSpot, a social media management tool, students will also learn how to plan and carry out digital campaigns.
Course Content	Practical based on Course: **Digital Marketing**
Reference Book	As Per Paper number: **CS14110 (Digital Marketing)**
Teaching Methodology	Lab Work

Evaluation Method	40% Internal assessment 60% External assessment

Practical List for Digital Marketing:

Practical Number	Practical
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 analyse website performance
5	Creating Promotional banner through Canva
6	Facebook Promotion using banners
7	Creating YouTube Channel for Marketing
8	Twitter Marketing
9	Instagram Marketing
10	Email Marketing
11	Digital Marketing Final Analysis and Report

8. Teaching Methodology

A teaching method comprises the principles and methods used by teachers to enable student learning. In order to achieve its objective of focused process-based learning and holistic development, the teacher/faculty may use a variety of knowledge delivery methods:

8.1 Lectures/Class works:

Lectures should be designed to provide the learners with interesting and fresh perspectives on the subject matter. Lectures should be interactive in a way that students work with their teachers to get new insights in the subject area, on which they can build their own bridges to higher learning. Classwork has the ability to enhance relationships between teachers and students. Create goal-oriented tasks for students to prepare and enable self-learning.

8.2 Discussions/ Seminars/Presentation:

Discussions / seminars / presentation are critical components of learning and can be used as a platform for students to be creative and critical with old and new ideas. Besides developing critiquing skills, arriving at consensus on various real-life issues and discussion groups lead to innovative problem-solving and ultimately to success.

8.3 Case Studies/ Self-Study:

Real case studies, wherever possible, should be encouraged in order to challenge students to find creative solutions to complex problems of individual, community, society and various aspects of knowledge domain concerned. Technology is transforming higher Education learning and teaching though various case studies to improve overall standards.

8.4 Practical/Problem sheet:

Practical ability is the essential requirement for computer science undergraduates' ability structure, and it emphasizes that computer science undergraduates should have a good grasp of theory from practice and then apply the theory to practice, improving them own software developing skills and employ ability.

8.5 Assignments:

Computer science assignments not only help students overcome their fear and

stress but also help them learn more interesting facts about the subjects of computerscience which are part of their syllabus and also out of curriculum.

8.6 Industrial Tours:

Computer Science students have to know the things practically through interaction, working methods and employment practices. Moreover, it gives exposure from academic point of view. Main aim industrial visit is to provide an exposure to students about practical working environment.

8.7 Team Work:

Teamwork based projects challenge the student to apply the technical knowledge they gain in college to solve meaningful and complex problems. Positive collaboration in the form of team work is critical in the classroom environment, for which it is necessary to transcend one's prejudices and predilections so as to achieve the desired outcomes. In the process of team work, learners will acquire the skills of managing knowledge acquisition and other collaborative learners, thereby understanding how to incorporate and balance personalities.

9. Keywords

- Bachelor of computer Application (B.C.A) Honours
- Basics Of Computers
- Office Automation
- Operating System
- Web Development
- Programming Concept
- Database-backend tool
- Web Designing
- Statistical analysis
- Internet
- Algorithms
- Software analysis, coding, design, testing
- Mobile Computing
- Cyber Security
- IT Projects
- Network fundamentals
- Framework
- Frontend tools
- Animation
- Graphics fundamentals