![Hindustan Institute of Technology & Science logo]

HINDUSTAN
INSTITUTE OF TECHNOLOGY & SCIENCE
(DEEMED TO BE UNIVERSITY)
— CHENNAI —

DEPARTMENT OF COMPUTER APPLICATIONS

B.C.A-Bachelor of Computer Applications
Specialization in
General/Database Systems/Multimedia and Animations

(3 YEARS)

CURRICULUM and SYLLABUS

Regulation 2018

(Applicable for Students admitted from Academic Year 2018-2019)

DEPARTMENT OF COMPUTER APPLICATIONS

SCHOOL OF COMPUTING SCIENCES

HINDUSTAN INSTITUTE OF TECHNOLOGY & SCIENCE
VISION AND MISSION

Motto:

To Make Every Man a Success and No Man a Failure

Vision:

To be an International Institute of Excellence, providing a conducive environment for education with a strong emphasis on innovation, quality, research and strategic partnership blended with values and commitment to society.

Mission:

- To create an ecosystem that promotes learning and world class research.
- To nurture creativity and innovation.
- To install highest ethical standards and values.
- To pursue activities for the development of the Society.
- To develop national and international collaborations with institutes and industries of eminence.
- To enable graduates to become future leaders and innovators.

Value Statement:

Integrity, Innovation, Internationalization.

DEPARTMENT OF COMPUTER APPLICATIONS

VISION AND MISSION

VISION

The department of Computer Applications aims to transform graduates into software experts with high degree of technical skill and to encourage students towards research.

MISSION

- To establish a strong foundation of industrial, R&D and academic collaborations for training and research.

- To provide strong theoretical foundation complemented with extensive practical training.

- To design and deliver curriculum to meet the changing the needs of industry.

- To promote all round personality development of the students through interaction with alumni, academia and industry.

B.C.A(Bachelor of Computer Applications)

PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

The Program Educational Objectives (PEOs) are defined and developed for each program with the consultation and involvement of various stakeholders such as management, students, industry, regulating authorities, alumni, faculty and parents. Their interests, social relevance and contributions are taken into account in defining and developing the PEOs.

The Program Educational Objectives (**PEOs)** of the **Computer Applications** are listed below:

PEO I   To provide students with a strong foundation in the Mathematical, Scientific and Engineering fundamentals necessary to formulate, solve and analyse engineering problems and to prepare them for graduate studies, R&D.

PEO II   To provide exposure to cutting edge technologies with adequate training and opportunities to work as teams on multidisciplinary projects with effective communication skills, ethics and leadership qualities.

PEO III   To prepare the students for a successful career in IT and ITES industries with effective Institute-Industry Interaction.

PEO IV   To inculcate the desire for lifelong learning and contribute to the society and introduce them the best practices.

PROGRAM OUTCOMES (ALIGNED WITH GRADUATE ATTRIBUTES) (PO)

At the end of this program, graduates will be able to

PO1   **Computer knowledge:** Apply the knowledge of mathematics, computer Fundamentals to IT applications.

PO2   **Design/Development of solutions:** Design solutions for IT applications using latest technologies and develop and implement the solutions using various latest languages.

PO3   **Modern tool usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex IT applications with an understanding of the limitations.

PO4   **Environment and sustainability:** Understand the impact of the IT analyst solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.

PO5   **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO6   **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PROGRAM SPECIFIC OUTCOMES (PSO)

B.C.A- Bachelor of Computer Applications (General)

At the end of this program, graduates will be able to execute the outcomes defined by Professional body.

PSO1: Impart the basic knowledge and conceptual understanding of Computing Systems through mathematical and analytical skills.

PSO2: Analyze a problem, identify the computing requirements and using procedures find a solution

PSO3: Improve the analytical knowledge of the through innovative system design using modern tools and techniques as a team.

PROGRAM SPECIFIC OUTCOMES (PSO)

B.C.A- Bachelor of Computer Applications
Specialization in Database Systems

At the end of this program, graduates will be able to execute the outcomes defined by Professional body.

PSO1: Impart the basic knowledge and conceptual understanding of Computing Systems   through mathematical and analytical skills.

PSO2: Associate the learning from the courses related to Databases, Operating Systems, Data Structures, Programming Languages to arrive at solutions to real world problems

PSO3: Design and develop database systems used for storing digital data in real world applications

PROGRAM SPECIFIC OUTCOMES (PSO)

B.C.A- Bachelor of Computer Applications
Specialization in Multimedia and Animations

At the end of this program, graduates will be able to execute the outcomes defined by Professional body.

PSO1:   Acquire multiple skills that will enhance their employability in different segments of Animation, Gaming and Entertainment industry.

PSO2:   Develop competence in the fields of Computer Graphics assets creation, Visual Effects, Gaming and Graphic designing

PSO3:   Apply acquired knowledge in the field of multimedia in practice and independently continue to expand knowledge in this field.

B.C.A- Bachelor of Computer Applications -Curriculum and Syllabus									
(110 CREDIT STRUCTURE)									
SEMESTER - I									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	ELA4104	English -1	3	0	0	3	0	3
2	BS	MAA1101	Applied Mathematics	3	0	0	3	0	3
3	BS	BCB2101	Computer Concepts & Problem Solving	3	1	0	4	0	4
4	BS	BCB2102	Introduction to Digital Logic Fundamentals	3	1	0	4	0	4
5	PC	BCB2103	Programming in C	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2131	Computer Concepts and Problem Solving Laboratory	0	0	2	1	0	2
7	PC	BCB2132	C Programming Laboratory	0	0	2	1	0	2
Total				**15**	**2**	**4**	**19**	**0**	**21**
L – Lecture; T – Tutorial; P – Practical; S- Self Study; C – Credit; TCH -Total Contact Hour									

SEMESTER - II									
SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	BS	ELA4116	English –II	3	0	0	3	0	3
2	BS	GEA1116	Business Statistics	3	1	0	4	0	4
3	PC	BCB2116	Data Structures	3	1	0	4	0	4
4	PC	BCB2117	Microprocessors	3	0	0	3	0	3
5	BS	GEA2117	Introduction to Accounting	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2141	Data Structures Lab	0	0	2	1	0	2
7	BS	GEA1146	Accounting Laboratory	0	0	2	1	0	2
Total				**15**	**2**	**4**	**19**	**0**	**21**
L – Lecture; T – Tutorial; P – Practical; S- Self Study; C – Credit; TCH -Total Contact Hour									

SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
SEMESTER - III									
1	PC	BCB2201	Web Designing	3	0	0	3	0	3
2	PC	BCB2202	PC Hardware & Networking	3	0	0	3	0	3
3	PC	BCB2203	Software Engineering	3	0	2	4	0	5
4	PC	BCB2204	Object Oriented Programming	3	0	0	3	0	3
5	PC	BCB2205	Computer Organization	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2231	Object Oriented Programming Laboratory	0	0	2	1	0	2
7	PC	BCB2232	Web Designing Laboratory	0	0	2	1	0	2
Total				15	0	6	18	0	21
L – Lecture ; T – Tutorial ; P – Practical ; S- Self Study; C – Credit; TCH -Total Contact Hour									

SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
SEMESTER - IV									
1	PC	BCB2216	Web Programming using PHP	3	0	2	4	0	5
2	PC	BCB2217	Operating Systems	3	0	0	3	0	3
3	PC	BCB2218	Computer Networks	3	0	0	3	0	3
4	PC	BCB2219	Database Management Systems	3	0	0	3	0	3
5	PC	BCB2220	Enterprise Resource Planning	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2241	Relational Database Management Systems Laboratory	0	0	2	1	0	2
7	PC	BCB2242	Operating Systems Laboratory	0	0	2	1	0	2
Total				15	0	6	18	0	21
L – Lecture ; T – Tutorial ; P – Practical ; S- Self Study; C – Credit; TCH -Total Contact Hour									

SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
SEMESTER - V									
1	PC	BCB2301	Multimedia Systems	3	0	0	3	0	3
2	PC	BCB2302	Introduction to java programming	3	0	0	3	0	3
3	PC	BCB2303	Introduction to python programming	3	0	0	3	0	3
4	DE	******	E1 Elective – I	3	0	0	3	0	3
5	DE	******	E2 Elective – II	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2331	Multimedia Systems Laboratory	0	0	2	1	0	2
7	PC	BCB2332	Java Programming laboratory	0	0	2	1	0	2
Total				15	0	4	17	0	19
L – Lecture ; T – Tutorial ; P – Practical ; S- Self Study; C – Credit; TCH -Total Contact Hour									

SL. NO	COURSE CATEGORY	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
SEMESTER - VI									
1	PC	BCB2316	Computer Graphics	3	0	0	3	0	3
2	PC	BCB2317	Data Warehousing and Data Mining	3	0	0	3	0	3
3	DE	******	E3 Elective – III	3	0	0	3	0	3
4	DE	******	E4 Elective – IV	3	0	0	3	0	3
5	DE	******	E5 Elective – V	3	0	0	3	0	3
PRACTICAL									
6	PC	BCB2346	Project Work	0	0	8	4	0	8
Total				15	0	8	19	0	23
L – Lecture ; T – Tutorial ; P – Practical ; S- Self Study; C – Credit; TCH -Total Contact Hour									