

2021-2022

Title	Modules of Syllabus, Classes and Examinations
Session	2021-22 (Even Semester)
Department	B.Sc General in Computer Science
Institution Name	Hiralal Bhakat College, Nalhati, Birbhum, W.B.
Coordinator	Sk Abdul Hanif, SACT in Computer Science

Details of Courses of B.Sc. General under CBCS

Sl.	Course	Credit		Marks
1.	Core Course (12 Papers) 4 core papers each in 3 disciplines of choice	Theory+Practical $12 \times (4+2) = 72$	Theory+Tutorial $12 \times (5+1) = 72$	$12 \times 75 = 900$
2.	Elective Course DSE (6 Papers)	$6 \times (4+2) = 36$	$6 \times (5+1) = 36$	$6 \times 75 = 450$
3	Ability Enhancement Core Course (AECC) AECC-1 (ENVS) AECC-2 (English/MIL)	$4 \times 1 = 4$ $2 \times 1 = 2$	$4 \times 1 = 4$ $2 \times 1 = 2$	100 50
4.	SEC (4 Papers)	$4 \times 2 = 8$	$4 \times 2 = 8$	$4 \times 50 = 200$
	Total Credit:	122	122	1700

B.Sc. Computer Science General Course Structure

Semester	Course Course (CC)	Discipline Specific Elective (DSE)	Ability Enhancement Course	
			AECC (2)	SEC (4)
I	CC1A (Mathematics) CC2A (Physics) CC3A (Computer Sc.)		AECC-1	
II	CC1B (Mathematics) CC2B (Physics) CC3B (Computer Sc.)		AECC-2	
III	CC1C (Mathematics) CC2C (Physics) CC3C (Computer Sc.)			SEC-1 (Mathematics) or SEC-1 (Computer Sc.)
IV	CC1D (Mathematics) CC2D (Physics) CC3D (Computer Sc.)			SEC-2 (Mathematics) or SEC-2 (Computer Sc.)
V		DSE1A (Mathematics) DSE2A (Physics) DSE3A (Computer Sc.)		SEC-3 (Computer Science) or SEC-3 (Physics)
VI		DSE1B (Mathematics) DSE2B (Physics) DSE3B (Computer Sc.)		SEC-4 (Computer Science) or SEC-4 (Physics)

Semester-II

Core Course (CC 3B): Database Management Systems

- Total 75 Marks
- 40 Marks for Semester-end-Examination# (will be organized by University)
- 10+5=15 Marks for Internal Assessment (will be organized by College in general and Department in Particular)
- 10 Marks for Class Test/ Assignment/ Seminar
- 5 Marks for Attendance
 - Attendance: 50% & above but below 60% - 2 Marks
 - Attendance: 60% & above but below 75% - 3 Marks
 - Attendance: 75% & above but below 90% - 4 Marks
 - Attendance: 90% & Above - 5 Marks

Internal Assessment	Component 1 (C ₁)
Weightage	10 Marks
Number of Questions	5
Date	21-04-2022
Time	11.30pm
Syllabus	Introduction to Database Management Systems: Characteristics of database approach, data models, DBMS architecture and data independence. Entity Relationship and Enhanced ER Modeling: Entity types, relationships, SQL- 99: Schema Definition, constraints, and object modeling.
Name Of the Teachers	Sk Abdul Hanif
Number Of Classes	68 (Tentative)

#Component 2 (C₂)

- Whole Syllabus of CC 3B :

Introduction to Database Management Systems: Characteristics of database approach, data models, DBMS architecture and data independence. Entity Relationship and Enhanced ER Modeling: Entity types, relationships, SQL- 99: Schema Definition, constraints, and object modeling.

Relational Data Model: Basic concepts, relational constraints, relational algebra, SQL queries. Database design: ER and EER to relational mapping, functional dependencies, normal forms up to third normal form.
- Theory (**Database Management Systems**) = 40 Marks
 - Answer 05 questions out of 08 carrying 02 marks each = 05 x 02 = 10 marks
 - Answer 02 questions out of 04 carrying 05 marks each = 02 x 05 = 10 marks
 - Answer 02 questions out of 04 carrying 10 marks each = 02 x 10 = 20 marks
- Practical (**Software Lab based on Database Management Systems**) = 20 Marks
 - Laboratory Note Book: 05 Marks
 - Viva- voce: 05 Marks
 - Experiment: 10 Marks
- A project File (Minimum 10 Programs) is to be submitted.

Semester-IV

Core Course (CC 3D) : Computer System Architecture

- Total 75 Marks
- 40 Marks Theory for Semester-end-Examination[#] (will be organized by University)
- 20 Marks Of Practical for Semester-end-Examination[#] (will be organized by University)
- 10+5=15 Marks for Internal Assessment (will be organized by College in general and Department in Particular)
- 10 Marks for Class Test/ Assignment/ Seminar
- 5 Marks for Attendance
 - Attendance: 50% & above but below 60% - 2 Marks
 - Attendance: 60% & above but below 75% - 3 Marks
 - Attendance: 75% & above but below 90% - 4 Marks
 - Attendance: 90% & Above - 5 Marks

Skill Enhancement Course (SEC-2) : HTML Programming

- Total 40 marks *(will be organized by College in general and Department in Particular)
- 10 Marks for Class Test / Assignment/ Seminar (will be organized by College in general and Department in Particular)

Internal Assessment	Component 1 (C ₁)	Component 2 (C ₂)
Weightage	10 Marks	10 Marks
Paper	CC	SEC
Number of Questions	5	5
Date	21-04-2022	21-04-2022
Time	12.30pm	11am
Syllabus	Introduction: Logic gates, boolean algebra, combinational circuits, circuit simplification, flip-flops and sequential circuits, decoders, multiplexors, registers, counters and memory units. Data Representation and basic Computer Arithmetic: Number systems, complements, fixed and floating point representation, character representation, addition, subtraction, magnitude comparison.	Introduction, The Head, the Body. Relative Links, Absolute Links. Putting an Image in the Background. Spanning Multiple Columns. Basic Input and Attributes
Name Of the Teachers	Sk Abdul Hanif	Sk Abdul Hanif
Number Of Classes	70 (Tentative)	18 (Tentative)

#Component 3 (C₃)

➤ Whole Syllabus of CC 3D

Introduction: Logic gates, boolean algebra, combinational circuits, circuit simplification, flip-flops and sequential circuits, decoders, multiplexors, registers, counters and memory units. Data Representation and basic Computer Arithmetic: Number systems, complements, fixed and floating point representation, character representation, addition, subtraction, magnitude comparison.
Basic Computer Organization and Design: Computer registers, bus system, instruction set, timing and control, instruction cycle, memory reference, input-output and interrupt. Central Processing Unit: Register organization, arithmetic and logical micro-operations, stack organization, micro programmed control.

➤ Theory (Computer System Architecture) = 40 Marks

Answer 05 questions out of 08 carrying 02 marks each = $05 \times 02 = 10$ marks
Answer 02 questions out of 04 carrying 05 marks each = $02 \times 05 = 10$ marks
Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

➤ Practical (Computer System Architecture Lab) = 20 Marks

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks.

➤ A project File (Minimum 10 Programs) is to be submitted.

*Component 4 (C₄)

➤ Total 40 Marks of SEC paper will be conduct in practical examination.

➤ This 40 marks will be transformed into 2 Marks & 10 Marks Like

Answer 05 questions out of 06 carrying 2 marks each = $05 \times 2 = 10$ marks
Answer 03 questions out of 04 carrying 10 marks each = $3 \times 10 = 30$ marks

Semester-VI

DSE-3B: Computer Networks

Total 75 Marks

- 40 Marks Theory for Semester-end-Examination# (will be organized by University)
- 20 Marks Of Practical for Semester-end-Examination# (will be organized by University)
- 10+5=15 Marks for Internal Assessment (will be organized by College in general and Department in Particular)
- 10 Marks for Class Test/ Assignment/ Seminar
- 5 Marks for Attendance
 - Attendance: 50% & above but below 60% - 2 Marks
 - Attendance: 60% & above but below 75% - 3 Marks
 - Attendance: 75% & above but below 90% - 4 Marks
 - Attendance: 90% & Above - 5 Marks

Skill Enhancement Course (SEC-4) : Programming in Visual Basic

- Total 40 marks *(will be organized by College in general and Department in Particular)
- 10 Marks for Class Test / Assignment/ Seminar (will be organized by College in general and Department in Particular)

Internal Assessment	Component 1 (C ₁)	Component 2 (C ₂)
Weightage	10 Marks	10 Marks
Number of Questions	5	5
Paper	DSE	SEC
Date	21-04-2022	21-04-2022
Time	11.30am	
Syllabus	Basic concepts : Components of data communication, standards and organizations, Network Classification, Network Topologies ; network protocol; layered network architecture; Overview of OSI reference model; overview of TCP/IP protocol suite. Physical Layer : Cabling, Network Interface Card, Transmission Media Devices- Repeater, Hub, Bridge, Switch, Router, Gateway.	GUI Environment: Introduction to graphical user interface (GUI), programming language (procedural, object oriented, event driven), the GUI environment, compiling, debugging, and running the programs. Controls : Introduction to controls textboxes, frames, check boxes, option buttons, images, setting borders and styles, the shape control, the line control, working with multiple controls and their properties, designing the user interface, keyboard access, tab controls, default & cancel property, coding for controls
Name Of the Teachers	Sk Abdul Hanif	Sk Abdul Hanif
Number Of Classes	69 (Tentative)	16(Tentative)

#Component 3 (C₃)

➤ Whole Syllabus of DSE-3B

Basic concepts : Components of data communication, standards and organizations, Network Classification, Network Topologies ; network protocol; layered network architecture; Overview of OSI reference model; overview of TCP/IP protocol suite. Physical Layer : Cabling, Network Interface Card, Transmission Media Devices- Repeater, Hub, Bridge, Switch, Router, Gateway. Data Link Layer : Framing techniques; Error Control; Flow Control Protocols; Shared media protocols - CSMA/CD and CSMA/CA. Transport Layer: Transport services, Transport Layer protocol of TCP and UDP.

➤ Theory (**Computer Networks**) = 40 Marks

Answer 05 questions out of 08 carrying 02 marks each = 05 x 02 = 10 marks

Answer 02 questions out of 04 carrying 05 marks each = 02 x 05 = 10 marks

Answer 02 questions out of 04 carrying 10 marks each = 02 x 10 = 20 marks

➤ Practical (**Computer Networks Lab**) = 20 Marks

Laboratory Note Book: 05 Marks

Viva- voce: 05 Marks

Experiment: 10 Marks.

➤ A project File (Minimum 05 Programs) is to be submitted.

*Component 4 (C₄)

➤ Total 40 Marks of SEC paper will be conduct in practical examination.

➤ This 40 marks will be transformed into 2 Marks & 10 Marks Like

Answer 05 questions out of 06 carrying 2 marks each = 05 x 2 = 10 marks


Answer 03 questions out of 04 carrying 10 marks each = 3 x 10 = 30 marks


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