2020-21

Title	Modules of Syllabus, Classes and Examinations
Session	2020-21 (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×(4+2)=72	Theory+Tuitorial 12×(5+1)=72	12×75=900
2.	Elective Course DSE (6 Papers)	6×(4+2)=36	6×(5+1)=36	6×75=450
3	Ability Enhancement Core Course (AECC) AECC-1 (ENVS) AECC-2 (English/MIL)	4×1=4 2×1=2	4×1=4 2×1=2	100 50
4.	SEC (4 Papers)	4×2=8	4×2=8	4×50=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	07-04-2021
Time	11.30 pm
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	61 (Tentative)

[#]Component 2 (C_2)

- ➢ 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	07-04-2021	07-04-2021
Time	12.30 pm	11 am
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	68 (Tentative)	21 (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 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 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 x 2 = 10 marks
 Answer 03 questions out of 04 carrying 10 marks each = 3 x 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 (C2)
Weightage	10 Marks	10 Marks
Number of Questions	5	5
Paper	DSE	SEC
Date	To be announced	
Time	To be announced	
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	72 (Tentative)	21(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