

The National Education Society of Karnataka ®

THE NATIONAL COLLEGE

36th B Cross, 7th Block, Jayanagar, Bangalore-560070

(Autonomous Institution, Affiliated to Bangalore University)



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DEPARTMENT OF COMPUTER SCIENCE

CHOICE BASED CREDIT SYSTEM

(Semester Scheme with Multiple Entry and Exit Option)

Syllabus for BCA and B.Sc Computer Science (NEP)

III & IV Semester

2021- 2022 Onwards

B.o.S Meeting Held on 19th October 2022



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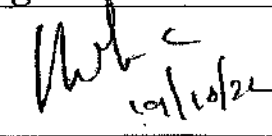
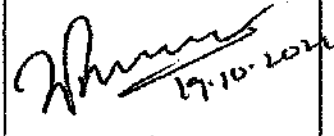
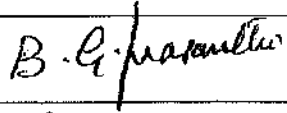


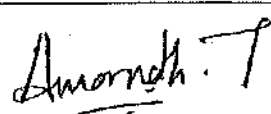

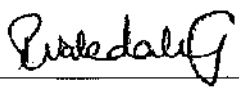
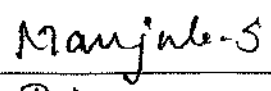
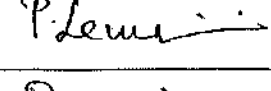
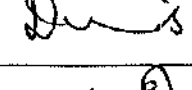
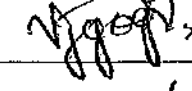

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THE NATIONAL COLLEGE, AUTONOMOUS,
JAYANAGAR, BANGALORE-70

Department of Computer Science

B.C.A/ B.Sc (Computer Science)

Attendance list of the B.o.S Members present on 19th October 2022

Sl.no	Members Name	Address	Signature
1	Prof. Shalini. C Chairperson	Associate Prof. & H.o.D Computer Science, The National College, Jayanagar, Bangalore-70	 19/10/22
2	Dr. Muralidhara B. L University Nominee	Professor & Head, Department of Computer Science & Application, Bangalore University, Jnana Bharathi, Bangalore	 19.10.2022
3	Dr. Prasanthi B. G Subject Expert	Associate Professor, BCA Dept, St. Joseph University, Bangalore.	 B.G. Prasanthi
4	Dr. P. Beulah Soundarabai Subject Expert	Associate Professor, Dept of Computer Science, Christ (Deemed to be University)	
5	Dr. Vishal. C Alumni	Assistant Professor, MCA Dept, RVCE, Bangalore	
6	Mr. Amarnath. T Industrial Representative	Associate Manager Test Engineering, Accenture, Bangalore	 Amarnath. T
7	Prof. Asha T. S Member	The National College, Jayanagar, Bangalore-70	
8	Prof. Varadaraj. R Member	The National College, Jayanagar, Bangalore-70	
9	Prof. Manjula. S Member	The National College, Jayanagar, Bangalore-70	 Manjula-S
10	Dr. DurgaDevi Member	The National College, Jayanagar, Bangalore-70	 P. Lema
11	Prof. Devi. S Member	The National College, Jayanagar, Bangalore-70	
12	Prof. Vyshali J Gogi Member	The National College, Jayanagar, Bangalore-70	
13	Prof. Nagabushan. P Member	The National College, Jayanagar, Bangalore-70	 Nagabushan

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Department of Computer Science

Agenda of the B.o.S – B.C.A/B.Sc Computer Science Meeting held on

- **To approve the syllabus for III and IV semester BCA(Prepared in accordance with Bangalore university BCA NEP Syllabus).**
- **To approve the syllabus for III and IV semester B.Sc(Prepared in accordance with Bangalore University B.Sc Computer Science NEP Syllabus)**
- **To approve Open Elective(OE) Syllabus**

CHAIRMAN

**THE NATIONAL COLLEGE,
AUTONOMOUS,
JAYANAGAR, BANGALORE-70**

(AUTONOMOUS Institution, Affiliated to Bangalore University)

Department of Computer Science – BCA/ B.Sc

Proceedings of the Board of Studies

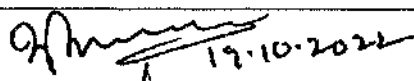

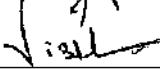
The chairperson welcomed the B.o.S members and briefed them about the syllabus. The Committee discussed the syllabus in detail and approved the Syllabus. The chairperson thanked all the members.

Proceedings of the Board of Studies Meeting held on 19th October 2022 for III and IV Semester BCA/ B.Sc, held in the Board Room of The National College, Jayanagar Campus at 11.00 am

Chairperson

University Nominee

B.o.S Board Member

Member Name	Signature
Prof. Shalini. C	
Dr. Muralidhara B.L	 19.10.2022
Dr. Prashanthi B. G	B. G. Prashanthi
Dr. P. Beaulah Soundarabai	
Dr. Vishal	 Vishal
Mr. Amarnath	Amarnath. T

THE NATIONAL COLLEGE

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AGENDA OF THE B.O.S MEETING TO BE HELD ON

- **To approve the syllabus for III and IV semester BCA(prepared in accordance with Bangalore University BCA NEP syllabus)**
- **To approve the syllabus for III and IV semester BSc.(prepared in accordance with Bangalore University B.Sc.(Computer Science) NEP syllabus)**
- **To approve Open Elective (OE1 and OE2) Syllabus.**
- **To approve BOC/Other Course**

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The BoS approved the following members and suggested to invite only the subject experts.

<u>Sl. No</u>	<u>Members Name</u>	<u>Address</u>
01	Dr. Vishal C	Assistant Professor, Dept. of MCA, RVCE, Bangalore
02	Dr. Vinay C	Assistant Professor, Dept. of MCA, Christ University , Bangalore
03	Dr. Prashanti	Assistant Professor, Dept. of MCA, St. Joseph's College , Bangalore
04	Dr. Azarruddin	Assistant Professor, Dept. of Statistics, Christ University , Bangalore
05	Dr. Beullah	Assistant Professor, Dept. of MCA, Christ University , Bangalore
06	Prof. Kotresh	Assistant Professor, Government College for Women, Mandya.
07	Dr. Uma	Assistant Professor, BMS College, Bangalore
08	Dr. Kendaganna Swamy	Associate Professor, Dept of Electronics RVCE, Bangalore
09	Dr. Jaysimha S R	Associate Professor, Dept. of MCA RVCE, Bangalore
10	Prof. Leena S	Assistant Professor & HoD -Computer Science, Govt. Science College, Bangalore
11.	Dr. Chinmayan	Associate Professor, Dept. of MCA Presidency University, Bangalore
12.	Dr. Nithya R	Associate Professor, Dept. of MCA CMRIT, Bangalore


CHAIRMAN

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Department of Computer Science – BCA/B.Sc

Proceedings of the Board of Studies

Following are the changes recommended by the B.o.S members.

- **Computer Networks:**

In Data Link Layer suggested to add protocols such as stop and wait protocol, stop and wait automatic report protocols, Go back and auto repeat request, selective repeat, piggy backing protocols.

In Unit1 suggested to include line coding schemes & block coding.

- **Computer Networks Lab:**

Line coding & block coding can be experimented.

Chairperson

THE NATIONAL COLLEGE

AUTONOMOUS

Jayanagar, Bangalore – 560 070

BCA REGULAR:

Program Outcomes:

PO1: To work effectively both as an individual and a team leader on multidisciplinary projects.

PO2: Inculcates the ability to analyze, identify, formulate and develop computer applications using modern computing tools and techniques.

PO3: Prepares to create design innovative methodologies for solving complex-real life problems for the betterment of the society.

PO4: To integrate ethics and values in designing computer application.

New Courses Introduced

BCA

BB3-C11T: Computer Networks

BB3-C13T: Python Programming

BB3-C15T: Operating System

BB4-C16T: Software Engineering

BB4-C17T: Design & Analysis Of Algorithm

BB4-C18T: Internet Technologies

BCA(Data Science)

B(DS)3.2: Analysis & Design Of Algorithm

B(DS)3.3: Python programming

B(DS)4.1: Machine Learning-I

B(DS)4.2: Data mining

B(DS)4.3: Web Technologies

L4.1: Tableaux

BCA(IOT)

3BIMUCTT: 8051 Microcontroller

3BINTPTT: Network Protocol

3BIDBMST: DBMS

4BIAMUCT: ARM Microcontroller

4BISAADT: Sensors & Actuating devices

4B11TOTT: Internet Of Things

B.Sc

BSc3-C11T: Java Programming

BSc4-C12T: Operating System