



**NEW HORIZON  
COLLEGE OF ENGINEERING**  
Autonomous College Permanently Affiliated to VTU, Approved by AICTE & UGC  
Accredited by NAAC with 'A' Grade, Accredited by NBA  
New Horizon Knowledge Park, Ring Road, Bellandur Post, Bengaluru 560 103

## **DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS**

**9<sup>th</sup> Board of Studies Meeting**

**Minutes of Meeting**

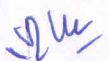
**Academic Year 2023-24**


**Venue: B-308, Sardar Vallabhbhai Patel Block**

**Date: 23-09-2023**

**Time: 10.30AM – 12.30 PM**

NHCE/MCA/2023-24

  
Head of the Department  
Department of Master of Computer Applications  
NEW HORIZON COLLEGE OF ENGINEERING  
Ring Road, Bellandur Post, Bengaluru - 560 103

  
Dr R J Anandhi  
Professor and Dean-Academics  
New Horizon College of Engineering  
Ring Road Bellandur Post  
Bengaluru - 560 103

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### CONSTITUTION OF THE BOARD OF STUDIES (2023-24)

S.No.	Academic Board	Structure/Constitution	Functions/Responsibilities	Frequency of Meetings
1	BOS	<p>BOS Constituted with</p> <ul style="list-style-type: none"> <li>• Head of the Department as Chairman</li> <li>• Faculty members at different level with different specialization</li> <li>• Subject experts from outside the college nominated by academic council</li> <li>• Academic Expert from outside the college nominated by VTU</li> <li>• Representatives from Industry / Corporate sector / allied area related to placements, nominated by academic council</li> <li>• Post Graduate meritorious alumni nominated by Principal</li> <li>• Co-opted members with academic &amp; research expertise.</li> </ul>	<ul style="list-style-type: none"> <li>• Recommendation and approval of curriculum-Scheme and Syllabus</li> <li>• Suggestions for incorporating new technologies /course</li> <li>• Removal of obsolete topics</li> <li>• To bridge the gap between industry and academia with supportive instructions and relevance</li> <li>• Validation and approval of course objectives and outcomes</li> <li>• Module-wise recommendation/ discussion/ suggestion for each proposed course of curriculum</li> <li>• Recommendations and approval of rubrics for evaluation.</li> </ul>	Once in a year

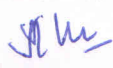

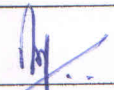



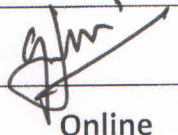

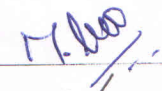


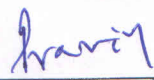

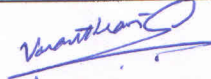

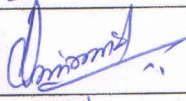
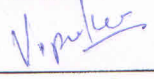

- BOS-CHAIRMAN

## List of Members

S.No	Category	Name of the Person
1	Chairperson – BOS	Dr. V. Asha, Professor & Head, Department of MCA, NHCE, Bengaluru.
2	Special Invitees (one academician from Institution of National Eminence, IIT, NIT, IIM, IISC)	Dr. Manjunatha B Head of the Institution, New Horizon College of Engineering, Bengaluru.
		Dr. Jaidhar C D, Associate Professor & Head, Department of Information Technology, National Institution of Technology, Suratkal
		Dr. R.J. Anandhi, Dean Academics, NHCE, Bengaluru.
3	Subject Experts from outside the College nominated by Academic Council (VTU Nominee)	Dr. Balaji Rajendran, Associate Director, C-DAC, Bengaluru.
4	Representative from Industry/ Corporate Sector / allied area relating to placements nominated by Academic Council	Mr. Pravin Kumar Sinha Lead Data Engineer, VISA, Bengaluru.
		Mr. Melvin Vincent, Senior Customer Support Engineer, Azul Inc. Bengaluru
5	Postgraduate Meritorious alumnus nominated by Principal	Mr. Vipul Kumar, Sr. Consultant Engineer, Open Text, Bengaluru.
		Mr. Vasanthram S, Sr. Program Manager, ARYAKA networks, Bengaluru.
6	Subject Experts from outside the College nominated by Academic Council	Prof. Lakshminarayana, Associate Professor, Department of MCA, BMS College of Engineering, Bengaluru.

7	Faculty members at different levels with different specializations	Dr. A. P Nirmala
		Dr. Nithya Ramesh
		Dr. Arpana Prasad
		Prof. S.P. Sreeja
8	Co-opted member	Mr. Gurcharan Singh
		Mr. Aniz Mirza
		Prof. M. Govindaraj
		Prof. Jincy C Mathew
		Prof. Binju Saju
		Prof. Neethu Tressa

## List of BoS Members Present

Sl. NO	NAME	SIGNATURE	Sl. NO	NAME	SIGNATURE
1.	Dr. V. Asha		12.	Dr. A.P. Nirmala	
2.	Dr. R.J. Anandhi		13.	Dr. Nithya Ramesh	
3.	Dr. Balaji Rajendran		14.	Dr. Arpana Prasad	
4.	Prof. Gurucharan Singh		15.	Prof. S.P. Sreeja	
5.	Dr. C.D. Jaidhar	Online	16.	Prof. Govindaraj M	
6.	Prof. Lakshminarayana		17.	Prof. Jincy C Mathew	
7.	Mr. Pravin Kumar Sinha		18.	Prof. Binju Saju	
8.	Mr. S. Vasanthram		19.	Prof. Neethu Tressa	
9.	Mr. Aniz Mirza				
10.	Mr. Vipul Kumar				
11.	Mr. Melvin Vincent				

## **Welcome Address and Introduction of the Members**

The 9th Board of Studies meeting for Department of Master of Computer Applications was held on 23rd September 2023 at 10.30 am.

At the outset, Chairperson Dr. V. Asha – Professor & Head – Department of Master of Computer Applications, welcomed all the members to the 9th Board of Studies meeting. The Chairperson introduced special invitees from the college and invited academician Dr. Jaidhar C D, Associate Professor & Head, Department of IT, National Institute of Technology, Suratkal.

The Chairperson further expressed special thanks to the subject expert and VTU nominee Dr. Balaji Rajendran, Associate Director C-DAC. Subject expert from outside the college nominated by the academic council Prof. Lakshminarayana from Department of MCA, BMS College of Engineering was also given a warm introduction and welcome by the chairperson.

The chairperson also expressed her gratitude to industrial nominee by Academic Council Mr. Pravin Kumar Sinha from VISA Bengaluru and Mr. Vasanthram S from ARYAKA networks for sparing the time from their busy schedule to attend the meeting. In attendance meritorious alumnus Mr Vipul Kumar, Sr. Consultant Engineer, Open Text and Mr Melvin Vincent, Senior Customer Support Engineer, Azul Inc nominated by the Principal were also introduced and welcomed. The chairperson gave a valued introduction for Mr. Aniz Mirza from Department of HRD, New Horizon College of Engineering. The faculty members at different levels with different specializations and the coopted members from the department were also introduced to the attendees.

## **AGENDA 1: Highlights of MCA Programme**

- Academic strength
- Technical strengths of curriculum
- Industry-Academia Interaction
- Opportunities to demonstrate technical expertise
- Generating and enabling creativity
- Faculty resources
- Learning Infrastructure
- Trending Value-Added Professional Programs



**AGENDA 2: Proposed Scheme and Syllabus for the Academic Year  
2023-24 ( Batch 2022-24, Semester III & IV)**

**MCA DEGREE CURRICULUM – CREDIT DISTRIBUTION TABLE FOR  
THE 2022-24 BATCH ONWARDS (100 CREDITS)  
SEMESTER I TO IV**

SEMESTER	CORE	ELECTIVE	MINI PROJECT / PROJECT WORK	SEMINAR	TOTAL CREDITS
I	25	0	0	0	25
II	17	6	2	0	25
III	9	9	4	2	24
IV	0	3	22	1	26
<b>TOTAL</b>	51	18	28	3	100
<b>% of Distribution</b>	51%	18%	28%	3%	100%

**DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS**  
**SCHEME OF THIRD SEMESTER MCA PROGRAM**  
**AY 2023-24 NEP BATCH**

S N O	BOARD/ COURSE	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				OVERALL CREDITS	CONTACT HOURS WEEKLY (THEORY)	MARKS		
					L	T	P	S			CIE	SEE	TOTAL
1	MCA/PCC	23MCA31	MACHINE LEARNING TECHNIQUES	MCA	3	0	0	0	3	3	50	50	100
2	MCA/PCC	23MCA32	FULL STACK DEVELOPMENT TOOLS	MCA	3	0	0	0	3	3	50	50	100
3	MCA/PEC	23MCA33X	PROFESSIONAL ELECTIVES - 3	MCA	3	0	0	0	3	3	50	50	100
4	MCA/PEC	23MCA34X	PROFESSIONAL ELECTIVES - 4	MCA	3	0	0	0	3	3	50	50	100
5	MCA/PCCL	23MCAL35	MACHINE LEARNING USING PYTHON LAB	MCA	0	0	1.5	0	1.5	3	50	50	100
6	MCA/PCCL	23MCAL36	FULL STACK LAB	MCA	0	0	1.5	0	1.5	3	50	50	100
7	MCA/PROJ1	23MCAL37	PROJECT WORK PHASE-1	MCA	0	0	2	0	2	-	100	-	100
8	MCA/SP	23MCAL38	SOCIETAL PROJECT	MCA	0	0	2	0	2	-	100	-	100
9	MCA/OEC	20NHOPXXX	OPEN ELECTIVE COURSE	MCA	3	-	-	-	3	3	50	50	100
10	MCA/SEM	23MCA39	TECHNICAL SEMINAR-1	MCA	-	-	-	2	2	-	50	50	100
TOTAL					15	0	7	2	24	21	600	400	1000
L -Lecture (1 hour), T- Tutorial (2 hours), P-Practical (2 hours), S-Self Study (hours – Nil) *PCC- Professional Core, PEC-Professional Elective Course, INT – Internship, SP - Societal Project, PROJ- Project Work													

PROFESSIONAL ELECTIVES - 3								
SN O	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	23MCA331	ADVANCED WEB DESIGN TECHNOLOGIES	MCA	3	0	0	0	3
2	23MCA332	CLOUD COMPUTING	MCA	3	0	0	0	3
3	23MCA333	NON-RELATIONAL DATABASES	MCA	3	0	0	0	3
4	23MCA334	INTERNET OF EVERYTHING	MCA	3	0	0	0	3
5	23MCA335	DEEP LEARNING TECHNIQUES	MCA	3	0	0	0	3

PROFESSIONAL ELECTIVES - 4								
SN O	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	23MCA341	DATA SCIENCE	MCA	3	0	0	0	3
2	23MCA342	COMPUTER VISION	MCA	3	0	0	0	3
3	23MCA343	AUGMENTED REALITY AND VIRTUAL REALITY	MCA	3	0	0	0	3
4	23MCA344	MOBILE APPLICATION DEVELOPMENT	MCA	3	0	0	0	3
5	23MCA345	AGILE SOFTWARE DEVELOPMENT	MCA	3	0	0	0	3

OPEN ELECTIVE COURSES								
SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	20NHOP601	BIG DATA ANALYTICS USING HP VERTICA-1	MCA	3	0	0	0	3
2	20NHOP602	VM WARE VIRTUALISATION ESSENTIALS-1	MCA	3	0	0	0	3
3	20NHOP614	BLOCKCHAIN	MCA	3	0	0	0	3
4	20NHOP728A	DATABASE ADMINISTRATION USING DB2	MCA	3	0	0	0	3

**DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS**  
**SCHEME OF FOURTH SEMESTER MCA PROGRAM**  
**AY 2023-24 NEP BATCH**

S NO	BOARD/ COURSE	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				OVERALL CREDITS	CONTACT HOURS WEEKLY	MARKS		
					L	T	P	S			CIE	SEE	TOTAL
1	MCA/PEC	23MCA41X	PROFESSIONAL ELECTIVES - 5	MCA	3	0	0	0	3	3	50	50	100
9	MCA/INT	23MCA42	INTERNSHIP	MCA	(06 weeks Internship to be completed in intervening vacation of Semester II and Semester III)				6	-	50	50	100
3	MCA/SEM	23MCA43	TECHNICAL SEMINAR -2	MCA	-	-	-	1	1	-	50	50	100
4	MCA/PROJ2	23MCA44	PROJECT WORK PHASE - 2	MCA	-	-	16	-	16	-	100	100	200
5	AUD/AEC	23AUD45	BOS RECOMMENDED TWO ONLINE COURSES	Classes and evaluation procedures are as per the policy of the online course providers.									PP
TOTAL					3	-	16	1	26	3	250	250	500
L -Lecture (1 hour), T- Tutorial (2 hours), P-Practical (2 hours), S-Self Study (hours – Nil) *PEC-Professional Elective Course AEC- Ability Enhancement Course, SEM-Seminar, OEC-Open Elective Course, PROJ- Project Work													

PROFESSIONAL ELECTIVES – 5								
SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	23MCA411	PROFESSIONAL ETHICS	MCA	3	0	0	0	3
2	23MCA412	DESIGN THINKING	MCA	3	0	0	0	3
3	23MCA413	SOFTWARE PROJECT MANAGEMENT	MCA	3	0	0	0	3
4	23MCA414	ENTREPRENEURSHIP AND INNOVATION MANAGEMENT	MCA	3	0	0	0	3
5	23MCA415	DIGITAL MARKETING	MCA	3	0	0	0	3

### AGENDA 3: CO, PO, Credit and RBT levels requirements and mapping verification

S.NO	Graduate Attributes	Program Outcomes (POs)
1.	Computational Knowledge	<b>PO1:</b> Apply computing knowledge, mathematical knowledge and domain knowledge to create and develop new models for real world applications.
2.	Problem Analysis	<b>PO2:</b> Identify, formulate, review research literature and analyze complex problems using principles of mathematics, computing sciences and relevant domains.
3.	Design /Development of Solutions	<b>PO3:</b> Design, implement, test and maintain solutions for systems, components or processes that meet specific needs with consideration for public health safety, societal and environmental issues.
4.	Conduct Investigations of Complex Computing Problems	<b>PO4:</b> Use Research-based knowledge to analyse and interpret data to obtain viable conclusions.
5.	Modern Tool Usage	<b>PO5:</b> Use modern tools, techniques and skills to solve complex and critical computing problems with an understanding of their limitations.
6.	Professional Ethics	<b>PO6:</b> Understand and apply ethical principles, cyber regulations and commit to professional computing practice and responsibilities.
7.	Life-long Learning	<b>PO7:</b> Recognize the importance of self-learning for continual Development as a computing professional.
8.	Project management and finance	<b>PO8:</b> Demonstrate the management principles for managing projects as an individual, as a member and as a leader in a team under multidisciplinary environments.
9.	Communication Efficacy	<b>PO9:</b> Recognize the importance of communication within the Computing community and the society at large.
10.	Societal and Environmental Concern	<b>PO10:</b> Understand and assess the local and global influence of software solutions and responsibilities related to Professional computing practice.
11.	Individual and Team Work	<b>PO11:</b> Deliver effectively as an individual and as a member or leader in diverse teams and in multidisciplinary Environments.
12.	Innovation and Entrepreneurship	<b>PO12 :</b> Adopt standardized computer application practices with innovative ideas to succeed as an employee or an entrepreneur.

The aforementioned POs are mapped with the Course Outcomes in each course (CO) by using the CO-PO table.

The correlated values 3, 2 and 1 refer the degree of correlation of the CO-PO mapping. The enumerated values are labeled as High (3), Medium (2), and Low (1).

The Co's are written using Revised Bloom's Taxonomical (RBT) levels to ensure the attainment.

The course outcomes are well-written in terms of cognitive levels (Level 1 to 6)

- Level 1 –Remember
- Level 2 –Understand
- Level 3 –Apply
- Level 4 –Analyze
- Level 5 –Evaluate
- Level 6 –Create

Every course CO-PO mapping were verified by both the faculty members and expert members of the BOS.

## **AGENDA 4: Suggestions and Recommendations of the BoS Members**

The valuable suggestions by the experts are as follows:

- Subject name for 23MCA334 is 'Internet of Everything,' but syllabus mentions 'Internet of Things' in contents, rectifications may be made accordingly.
- Remove weightage for PO3 'Design and Development of Solutions' from theory courses, include it in laboratory courses only.
- Avoid using 'Tools' and 'Techniques' in course names, use generic terms like 'Full Stack Development' for 23MCA32. Same may be checked for other courses.
- It is suggested that the students take internships after the second semester but before the third semester begins.
- Change 'Online Course' in Semester IV to 'Certified Online Course.'
- Reduce internship credits from 6 to 3 or 4.
- Modify the course name for 23MCAL35 to 'Machine Learning Lab using Python.'
- Keep CO and PO mapping minimalistic.
- Ensure attainment of all Course Outcomes (COs).
- Allow Societal Projects to be done in groups.
- Include SEE for Societal Projects since it is a credited course.
- Include 'Software Project Management' in Semester 3 as a PCC (Professional Core Course) instead of Project Work Phase 1.
- Assign weightage of 2 for PO8- 'Project Management and Finance' for Project courses only.
- Replace Project Work Phase 1 and Phase 2 with a single 'Major Project' in Semester 4 with more credits.
- Equalize credits for Technical Seminar in Semester III and Semester IV. The Chairperson of the BOS welcomed all the suggestions and assured that these suggestions will be taken care while preparing the scheme and syllabus.

## **AGENDA 5: Approval of scheme & syllabus**

The Board of Studies members reviewed the modified draft of the scheme & syllabus with their recommendations/suggestions being incorporated appropriately. Finally, the members approved the draft of the same with the modifications for final implementation.

## **AGENDA 6: Stakeholders Feedback and Considerations**

- Students feedback & exit survey comments, Faculty members course feedback, PTM comments and External expert members comments are incorporated into the BoS decisions to make the curriculum complaint free.
- Student's course feedback – taken every academic semester for all individual courses through feedback link shared from Library & Information Centre, NHCE.
- Exit Survey taken from graduating students while leaving the campus, which recollects about the infrastructure, curriculum, placement opportunities and other facilities.
- Faculty course feedback taken from the individual faculty members who taught the course in the academic semesters. The pros & cons in the content, mode of delivery etc..... were taken and considered.
- PTM meeting is held twice in a year (interim period of odd and even semesters). The faculty coordinator records and minutes the remarks received and taken the same for BoS decisions.




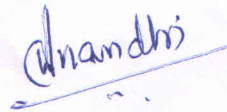
### Vote of thanks

BOS – Chairman consolidated the recommendations proposed by the BOS members. Recommendations were accepted by every member of the BOS.

It was assured that the proposed changes will be incorporated in the syllabus and scheme of A.Y: 2023-24 (3<sup>rd</sup> & 4<sup>th</sup> Semesters).

The vote of thanks was proposed by Dr Arpana Prasad, Associate Professor, MCA Department. She conveyed her heartfelt thanks to all the members of the BoS and stakeholders for their valuable inputs to make this program a value-added program.

  
Head of the Department  
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