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

Board of Studies Meeting

Academic Year 2022-23

8th Board of Studies Meeting

Date: 07.06.2022

Time: 10.00 AM – 12.30 PM

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

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New Horizon College of Engineering, Bangalore

Department of Master of Computer Applications

8th BOS Meeting for the A.Y 2022-23

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BOARD OF STUDIES (2022-23)

S.No.	Academic Board	Structure/Constitution	Functions/Responsibilities	Frequency of Meetings
1	BOS	BOS Constituted with • Head of the Department as Chairman • Faculty members at different level with different specialization • Subject experts from outside the college nominated by academic council • Academic Expert from outside the college nominated by VTU • Representatives from Industry / Corporate sector / allied area related to placements, nominated by academic council • Post Graduate meritorious alumni nominated by Principal • Co-opted members with academic & research expertise.	• Recommendation and approval of curriculum- Scheme and Syllabus • Suggestions for incorporating new technologies /course • Removal of obsolete topics • To bridge the gap between industry and academia with supportive instructions and relevance • Validation and approval of course objectives and outcomes • Module-wise recommendation/ discussion/ suggestion for each proposed course of curriculum • Recommendations and approval of rubrics for evaluation.	Once in a year

- BOS-CHAIRMAN

VTU NOMINATION APPROVAL (2020-22)

Visvesvaraya Technological University

"Jnana Sangama", Belagavi - 590 018

Phone: (0831) 2405468
Fax : (0831) 2405467

REGISTRAR

Ref No. VTU/Aca/A12/2020-21/ 7871 8 Date: 18 JUN 2020

To,
Dr. Pravin Kumar Sinha
Senior Software Engineer,
Hortonworks Data Platform,
Bangalore

Sir,

Sub: Nomination to the Board of studies (Master of Computer Application) of New Horizon College of Engineering, Bengaluru (Autonomous) from 17-6-2020 to 17-6-2022.
Ref: Hon'ble Vice Chancellor's approval dated 17-6-2020

With reference to the above, I am pleased to nominate you as the Nominee of Visvesvaraya Technological University, Belagavi, to the "Board of Studies (Master of Computer Application)" of New Horizon College of Engineering, Bengaluru (Autonomous).

You are requested to accept the same and attend the meetings of the "Board of Studies (Master of Computer Application)" of the college as and when requested by the principal of the college and ensure that the views and guidelines of the University are duly taken into account in the deliberations and decisions of the Board of Studies.

Thanking you,

Yours faithfully,

REGISTRAR

Copy Fwc's to:
The Principal, New Horizon College of Engineering, Bengaluru., with a request to send meeting notices of the Board of studies **Dr. Pravin Kumar Sinha**, from time to time. Please note that the TA/DA/Hospitality of V.T.U Nominee for attending Board of studies (Master of Computer Application) meetings have to be borne by your college.

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List of Members

S.No	Category	Name of the Person
1	Chairman – BOS	Dr. V. Asha, Professor & Head, Department of MCA, NHCE, Bengaluru.
2	Dean Academics	Dr. R.J. Anandhi, Dean Academics, NHCE, Bengaluru.
3	Subject Experts from outside the College nominated by Academic Council (VTU Nominee)	Mr. Pravin Kumar Sinha Lead Data Engineer, VISA, Bengaluru.
4	Representative from Industry/ Corporate Sector / allied area relating to placements nominated by Academic Council	Dr. Balaji Rajendran, Associate Director, C-DAC, Bengaluru.
		Mr. Binod Kumar Singh, Head IIIC & Corporate Relations, NHCE
5	Postgraduate Meritorious alumnus nominated by Principal	Mr. Vipul Kumar, Sr. Consultant Engineer, Open Text, Bengaluru.
		Mr. Vasanthram S, Sr. Program Manager, Network Security, Sophos Technologies, Bengaluru.
5	Subject Experts from outside the College nominated by Academic Council	Dr. Jaidhar C D, Associate Professor & Head, Department of Information Technology, National Institute of Technology, Suratkal.
		Prof. Lakshminarayana, Associate Professor, Department of MCA, BMS College of Engineering, Bengaluru.
6	Faculty members at different levels with different specializations	Dr. K. G. Madhwaraj
		Dr. A. P Nirmala
		Dr. Nithya Ramesh
		Dr. Arpana Prasad
		Prof. S.P. Sreeja
		Prof. C.R. Vishwanatha
		Prof. Jincy C Mathew
		Prof. Binju Saju
7	Co-opted member	Prof. M. Govindaraj

List of Members Present

S.NO	NAME	SIGNATURE	S.NO	NAME	SIGNATURE
1.	Dr.V.Asha		10.	Dr.K.G.Madhwaraj	
2.	Dr. R.J. Anandhi		11.	Dr.A.P.Nirmala	
3.	Mr.Pravin Kumar Sinha	Online	12.	Dr. Nithya Ramesh	
4.	Dr. Balaji Rajendran	Online	13.	Dr. Arpana Prasad	
5.	Dr. C.D. Jaidhar	Online	14.	Prof. S.P. Sreeja	
6.	Prof. Lakshminarayana	Online	15.	Prof. Govindaraj M	
7.	Mr.Vipul Kumar	Online	16.	Prof. Vishwanath CR	
8.	Mr. S. Vasanthram	Online	17.	Prof. Mrs. Jincy C Mathew	
9.	Mr. Binod KumarSingh		18.	Prof. Binju Saju	

WELCOME ADDRESS AND INTRODUCTION OF MEMBERS

The Board of Studies meeting was held on Tuesday, 07thJune 2022 at 10:00 AM in the Department of MCA (online).

The Chairman Dr. V. Asha, Professor &Head of the Department, Dept of MCA welcomed all the members of the BOS.

Dr. K.G. Madhwaraj, Professor, MCA department presented the welcome address by introducing all the external experts of the BOS.

The Chairman BOS presented the 2-Year MCA program for Semesters1&2 for 25 + 25credits with its new curriculum structure and detailed autonomous syllabus contents.

Then the forum was open for discussion. Every member contributed enthusiastically to the discussion.

AGENDA 1: Highlights of MCA Programme

1. Academic strength
2. Technical strengths of curriculum
3. Industry-Academia Interaction
4. Opportunities to demonstrate technical expertise
5. Generating and enabling creativity
6. Faculty resources
7. Learning Infrastructure
8. Trending value-added Professional Programs

AGENDA 2: Scheme and Syllabus for 2022-23 Batch

2-YEAR MCA DEGREE CURRICULUM – CREDIT DISTRIBUTION TABLE

FOR THE 2022-23 BATCH ONWARDS (100CREDITS)

SEMESTER I TO IV

SEMESTER	CORE	ELECTIVE	MINI/ PROJECT WORKS	SEMINAR	TOTALCREDITS
I	25	0	0	0	25
II	17	6	2	0	25
III	12	9	2	2	25
IV	0	3	20	2	25
TOTAL	54	18	24	4	100

Scheme of I Semester for 2-Year MCA program (2022-23)

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
SCHEME - FIRST SEMESTER MCA PROGRAM

SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				OVERALL CREDITS	CONTACT HOURS WEEKLY	MARKS		
				L	T	P	S			CIE	SEE	TOTAL
1	22MATC11	COMPUTATIONAL MATHEMATICS	MCA	3	1	0	0	4	5	50	50	100
2	22MCA12	COMPUTER NETWORKS	MCA	3	0	0	1	4	3	50	50	100
3	22MCA13	PROGRAMMING WITH JAVA	MCA	4	0	0	0	4	4	50	50	100
4	22MCA14	OPERATING SYSTEM WITH LINUX PROGRAMMING	MCA	4	0	0	0	4	4	50	50	100
5	22MCA15	WEB PROGRAMMING	MCA	4	0	0	0	4	4	50	50	100
6	22MCAL16	JAVA LAB	MCA	0	0	1.5	0	1.5	3	25	25	50
7	22MCAL17	LINUX PROGRAMMING LAB	MCA	0	0	1.5	0	1.5	3	25	25	50
8	22MCAL18	WEB PROGRAMMING LAB	MCA	0	0	1	0	1	2	25	25	50
9	22HSSC19	LIFE SKILLS FOR PROFESSIONALS -1	HSS	0	0	1	0	1	2	25	25	50
	22MCA110*	PROGRAMMING LOGIC AND DESIGN*	MCA	0	0	0	0	0	3	50	50	100
		TOTAL		18	1	5	1	25	33	400	400	800

L -Lecture (1 hour), T- Tutorial (2 hours), P-Practical (2 hours), S – Self Study (Hours: Nil), CIE – Continuous Internal Assessment, SEE – Semester End Exam

*Mandatory non-credit Bridge Course only for non-computer science students

Scheme of II Semester for 2-Year MCA program (2022-23)

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
SCHEME -SECOND SEMESTER MCA PROGRAM

SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				OVERALL CREDITS	CONTACT HOURS WEEKLY	MARKS		
				L	T	P	S			CIE	SEE	TOTAL
1	22MCA21	DATA STRUCTURES USING C++	MCA	3	0	0	0	3	3	50	50	100
2	22MCA22	ADVANCED JAVA AND ARCHITECTURE	MCA	3	0	0	0	3	3	50	50	100
3	22MCA23	SOFTWARE ENGINEERING AND TESTING	MCA	3	0	0	0	3	3	50	50	100
4	22MCA24	DATABASE MANAGEMENT SYSTEMS	MCA	2	1	0	0	3	4	50	50	100
5	22MCA25X	ELECTIVES-1	MCA	3	0	0	0	3	3	50	50	100
6	22MCA26X	ELECTIVES-2	MCA	3	0	0	0	3	3	50	50	100
7	22MCAL27	DATA STRUCTURES LAB	MCA	0	0	1.5	0	1.5	3	25	25	50
8	22MCAL28	ADVANCED JAVA LAB	MCA	0	0	1.5	0	1.5	3	25	25	50
9	22MCAL29	SOFTWARE TESTING LAB	MCA	0	0	1	0	1	2	25	25	50
10	22MCA210	DATABASE SYSTEMS LAB WITH MINI PROJECT - 1	MCA	0	0	2	0	2	4	25	25	50
11	22HSSC211	LIFE SKILLS FOR PROFESSIONALS -2	HSS	1	0	0	0	1	3	25	25	50
		TOTAL		18	1	6	0	25	34	425	425	850

L -Lecture (1 hour), T- Tutorial (2 hours), P-Practical (2 hours), P-Practical (2 hours), S-Self Study (hours – Nil)

ELECTIVES-1 (BUSINESS ANALYTICS TRACK)								
SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	22MCA251	DATA WAREHOUSING AND DATA MINING	MCA	3	0	0	0	3
2	22MCA252	ROBOTIC PROCESS AUTOMATION	MCA	3	0	0	0	3
3	22MCA253	DIGITAL MARKETING	MCA	3	0	0	0	3
4	22MCA254	BUSINESS INTELLIGENCE AND DATA ANALYTICS	MCA	3	0	0	0	3
5	22MCA255	SEARCH ENGINE OPTIMIZATION	MCA	3	0	0	0	3

ELECTIVES-2 (NETWORK SECURITY TRACK)								
SNO	COURSE CODE	COURSE	BOS	CREDIT DISTRIBUTION				TOTAL
				L	T	P	S	
1	22MCA261	CYBER SECURITY AND CYBER LAW	MCA	3	0	0	0	3
2	22MCA262	DIGITAL FORENSICS	MCA	3	0	0	0	3
3	22MCA263	CRYPTOGRAPHY AND NETWORK SECURITY	MCA	3	0	0	0	3
4	22MCA264	INFORMATION RETRIEVAL AND SECURITY	MCA	3	0	0	0	3
5	22MCA265	SECURITY IN WEB APPLICATIONS	MCA	3	0	0	0	3

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

There are 12 Program Outcomes (POs)MCA program.

S.NO	Graduate Attributes	Program Outcomes (POs)
1.	Computational Knowledge	**PO1:** Apply computing knowledge, mathematical knowledge and domain knowledge to create and develop new models for real world applications.
2.	Problem Analysis	**PO2:** Identify, formulate, review research literature and analyze complex problems using principles of mathematics, computing sciences and relevant domains.
3.	Design /Development of Solutions	**PO3:** 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	**PO4:** Use Research–based knowledge to analyse and interpret datato obtain viable conclusions.
5.	Modern Tool Usage	**PO5:** Use modern tools, techniques and skills to solve complex and critical computing problems with an understanding of their limitations.
6.	Professional Ethics	**PO6:** Understand and apply ethical principles, cyber regulations and commit to professional computing practice and responsibilities.
7.	Life-long Learning	**PO7:** Recognize the importance of self-learning for continual development as a computing professional.
8.	Project management and finance	**PO8:** 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	**PO9:** Recognize the importance of communication within the computing community and the society at large.
10.	Societal and Environmental Concern	**PO10:** Understand and assess the local and global influence of software solutions and responsibilities related to professional computing practice.
11.	Individual and Team Work	**PO11:** Deliver effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.
12.	Innovation and Entrepreneurship	**PO12** : 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 labelled 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.

CREDITS STANDARDS

I – Semester (L: T:P:S structure)

- CORE –4:0:0:0 = 4+0+0+0 = 4 credits
- LAB –0:0:1/1.5:0 = 0:0:1/1.5+0 = 1/1.5 credits

II – Semester (L: T:P:S structure)

- CORE -- 3:0:0:0 = 3+0+0+0 = 3 credits
- ELECTIVE -- 3:0:0:0 = 3+0+0+0 = 3 credits
- LAB -- 0:0:1/1.5:0 = 0+0+1/1.5+0 = 1/1.5 credits

Agenda 4: Suggestions and Recommendations of the Board

The suggestions by Dr. Jaidhar C D, Associate Professor & Head, National Institute of Technology, Suratkal, are as follows:

1. *Follow the same pattern/style of writing textbooks and reference book details for all the courses throughout the document.*
2. *Ensure that PSO1 and PSO2 are defined/mentioned in the document.*
3. *For each Table, write Table number with Table caption. For example, instead of writing Table caption as "CIE- Continuous Internal Evaluation: Theory (50 Marks)", write the same as "Table 1 CIE- Continuous Internal Evaluation: Theory (50 Marks)".*
4. *Write Marks row as the last row of the Table instead of the second row. See Page 15*
5. *Before mentioning Text Books details, ensure that entire content of course is available in the prescribed text book else mentioned under reference books subheading*
6. *Mention complete details of text books and reference books such as Author(s) name(s), Title of the book, Publisher Name, Edition Number with year and ISBN (if available).*
7. *Instead of "Introduction to the Shell" write it as "Introduction to the Shell Programming" on Page 209.*
8. *Instead of "Advanced Shell Programming" write as "Shell Programming" on Page 29.*
9. *Instead of Wireless Sensor Networks under ELECTIVES-2 (NETWORK SECURITY TRACK), suggested to replace it with any one of the following: Software Security/ Penetration Testing/Software Security Vulnerability/ Web Application Security etc.*
10. *MCA plan of study of NITK is attached herewith. It provides most of the details of the program on one page except the syllabus of the course. If it is accepted at your end, you may also follow the same style.*
11. *He also suggested that students can take internship after the end of second semester and before the beginning of the third semester.*

The suggestions by Prof. Lakshminarayana, Associate Professor, BMS College of Engineering, Bengaluru are as follows:

1. *CO and PO mapping with the PO weightage*
2. *Mapping all cos to all POs is not logical. With my experience I feel to map one PO with max of 3 COs. The best is one CO with one PO or one CO with 2 or 3 POs*
3. *Max CO for course is 5 and which can be measure though our CIE and SEE, IfCOs are more, then measuring is difficult*
4. *He also suggested that students can take internship after the end of second semester and before the beginning of the third semester.*

The suggestions by Mr. Pravin Kumar Sinha (VTU Nominee), Lead Data Engineer, VISA are as follows:

1. *The syllabus has been prepared having in mind the latest developments in the industry.*
2. *More focus can be given on Swing UI in Programming in Java syllabus.*

The suggestions by Dr. Balaji Rajendran, Associate Director, C-DAC, Bengaluru are as follows:

1. *There is a mention of 1 credit for a seminar in the first semester, but is not accounted in the credit structure (Page 1) and also in Page 8 of the Draft Syllabus document.*
2. *In the credit structure table, the expansion of the abbreviations for S (for Self Study), CIE, and SEE can also be added, as it has been done for L, T, and P.*
3. *The credits for Full Stack Lab could probably be increased. Similarly for Web Programming Lab and Testing lab.*
4. *The course on "Computer Networks" can follow a top-down approach to networking and adopt the text book: Computer Networking: A Top-down Approach by Kurose and Ross; Also NS3 can be considered instead of NS2.*
5. *In "PROGRAMMING WITH JAVA" Module 5 - AWT could be ignored and only Swing can be focused.*
6. *In "OPERATING SYSTEM WITH LINUX PROGRAMMING" - module 1 seems to be overloaded; Process Management and Deadlock and Starvation can be moved to other modules, except for the last module.*
7. *In "DATABASE MANAGEMENT SYSTEMS", PL/SQL is specific to Oracle Databases. If Oracle database is not covered in lab sessions, it is better to replace or distribute the topics from other modules.*
8. *In "CRYPTOGRAPHY AND NETWORK SECURITY" the term "NETWORK SECURITY" in Module 4 can be replaced with "Application Security".*
9. *The course "INFORMATION RETRIEVAL AND SECURITY" can be renamed as "INFORMATION RETRIEVAL" only.*

The suggestions by Mr. Vipul Kumar, Senior Consultant Engineer, Open Text, Bengaluru are as follows:

- *The curriculum is well designed and is backed by a well-balanced approach. Everything looks excellent to me as it covers most of the latest trending topics with flexibility. I am only concerned with "3 22MCA23 DATA STRUCTURES USING C++". For learning Data Structures, the right language is C++, but students might find it challenging. It will be good if C++ basics can be covered before taking up advanced topics in C++ like data structures.*

The suggestions by Mr. Vasanthram S, Senior Program Manager, Network Security, Sophos Technologies, Bengaluru are as follows:

- *One suggestion in **22MCA24: CO3**, Agile is definitely a required topic but that is a philosophy or an idea. It's a better option to include some concepts of Scrum so that students are ready to go and start picking up tasks to work on and understand the process.*

The Chairman of the BOS welcomed all the suggestions and assured that these suggestions will be taken care while preparing the scheme and syllabus.

AGENDA 5: List of Approved Examiners for the Academic Year 2022-23

The BoS members approved the following list of examiners for the academic year 2022-23.

Sl.No.	Name/Designation/Complete Address
1	Prof. Lakshmi Narayan B N, Asst. Professor/ Nitte Meenakshi Instituteof Technology, Bangalore
2	Prof. Diwakar/ Asst. Professor/ Cambridge Institute of Technology K.R. Puram, Bangalore – 560036
3	Prof. Vasanth C Bhagawat, Assoc. Prof., AMC Engineering College, Dept. of MCA,18th K.M. Bannerghatta Main Road, Bengaluru, Karnataka 560083
4	Prof. Vijayalakshmi, Asst. Professor/ Cambridge Institute of Technology K.R. Puram, Bangalore – 560036
5	Prof. Divya TL, Assistant Professor,Department of MCA/RV College of Engineering, Mysore Road, Bengaluru
6	Prof. S.P. Srikanth, Assistant Professor/Department of CSE, Sambhram Institute of Technology, Bengaluru
7	Prof. Bhavana K/ASC Degree College, Department of BCA, Bangalore
8	Prof. Dharamvir, Assistant Professor, The Oxford College of Engineering, Bommanahalli, Hosur Road, Bengaluru- 560 068
9	Prof. Rajesh, Assistant Professor, AMC Engineering College, Bannerghatta Road, Bengaluru - 560 083

10	Dr. G. Komarasamy / Associate Professor / Department of CSE, School of Engineering and Technology, Jain University, Bangalore- 562112
11	Dr. Mouleeswaran / Associate Professor / Department of CSE, Dayananda sagar University, Kudlu gate, Hongasandra village, Hosur main Road, Bangalore- 560068
12	Prof. Sindhu S,Assistant Professor, Department of MCA, Cambridge Institute of Technology, Jai Bhuvaneshwari Layout Rd, SR Layout, Chikkabasavanapura, Krishnarajapura, Bengaluru, Karnataka 560036
13	Prof. V.L. Helen Josephine, Department of Computer Science, Christ University, Bangalore 560037
14	Prof. Mariyan Richard A,, Department of MCA, Nitte Meenakshi Insitute of Technology, Bangalore
15	Prof. Vibha M B, Asst.Prof. Dayananda Sagar College of Engineering, ShavigeMalleshwara Hills, 1st Stage, Kumaraswamy Layout, Bengaluru

AGENDA 6: Approval for Digital Initiative

I. SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)–

- ONE NPTEL MOOC course will be made mandatory for II semester students (2022-24Batch)

II. V-Labs (Virtual Labs): used for additional learning for core & elective courses. (https://www.vlab.co.in/broad-area-computer-science-and-engineering)

III. NATIONAL DIGITAL LIBRARY OF INDIA (NDL INDIA) – All faculty members of department are registered with NDL for accessing additional teaching/learningresources.

IV. VIDWAN: All faculty members of the department are registered with Vidwan portal. The same id is used for applying for funded projects andproposals.

V. NIRF: NHCE has been Ranked 114 amongst the Top Engineering Colleges across India, as per the National Institutional Ranking Framework (NIRF 2020) Rankings, announced by MHRD, Govt. ofIndia.

AGENDA 7: 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 andconsidered.
- 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 BoSdecisions.

Vote of thanks

BOS – Chairman consolidated the recommendations proposed by the BOS members.

It was assured that the proposed changes will be incorporated in the syllabus and scheme of A.Y: 2022-23 (1st&2nd Semesters).

Recommendations were accepted online by every member of the BOS.

The vote of thanks was proposed by Prof. S.P. Sreeja, Senior Assistant 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.

Annexure-1: Detailed syllabus and scheme of 1st&2nd Semester (2022-23) after incorporating the recommendations made by the Board.

Annexure-2: Percentage of syllabus change as compared to last BOS (2021-22).