

**f. Declaration of Closure / Zero Session for a few UG & PG Programmes for Academic Session 2014-15**

It was decided that the programmes which could not attract required number of students should be considered for Zero session at present. The Council also suggested all-out efforts should be made to revive all these programmes to get the required intake during the next academic session.

The Council recommended the matter be placed before the Board of Management for information and directions, if any.

**g. Increased Intake for 2015 Batch**

The proposal to increase intake for 2015 Batch of B Tech programme of Civil Engineering from 120 to 180 along with starting of new course on B Tech (Computer & Communications) with a capacity of 120 students was approved.

**(D-2) FACULTY OF ENGINEERING**

**a. Introduction of Programme Elective on "Bridge Engineering" in 7<sup>th</sup> semester of B Tech Programme of Civil Engineering**

The proposal was approved.

**b. Change in scheme of B. Tech (Mechatronics)**

The proposal was approved.

**c. Introduction of Economics in 1<sup>st</sup> Year Scheme of B. Tech Programme**

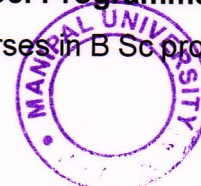
The proposal was not approved by the Council.

It was suggested that the course may be floated as an Open Elective with one or two sections of 60 students each.

**(D-3) FACULTY OF SCIENCE**

**a. Inclusion of Computer Science as One of the Core Courses in B.Sc. Programme**

The proposal for inclusion of Computer Science as one of the core courses in B.Sc. programme was approved.





**DEPARTMENT OF MECHATRONICS ENGINEERING**  
**PROCEEDINGS OF MEETING OF BOARD OF STUDEIS 29 March 2014**

1. The meeting was held in the board room in the first floor of the Building 1A. The following officials participated in the meeting and proceeded with the discussions to review the contents of the syllabi of the programs of B.Tech ~~and M.Tech~~ in Mechatronics Engineering.

- a) Dr. Dharmendar Boolchandani, Professor, Dept. of Electronics & Communication Engineering, MNIT, Jaipur, External Member
- b) Dr. Ajay Kumar, HOD, Department of Mechatronics Engineering
- c) Prof. R.A. Dubey, HOD, Department of Mechanical Engineering
- d) prof. S.K. Jhajharia, HOD, Department of Electrical & Electronic Engineering
- e) Mr. Varun Jurwal, Assistant Prof. I, Department of Mechatronics Engineering
- f) Ms. Nupur Navlakha, Assistant Prof. II, Department of Mechatronics Engineering
- g) Mr. Hemant Kumar, Assistant Prof. II, Department of Mechatronics Engineering
- h) Mr. Satyanarayan Agarwal, Assistant Prof. II, Department of Electrical & Electronic Engineering

**2. Proposals for Revision**

Head of the department of Department of Mechatronics Engineering read out the minutes of the last meeting of Board of Studies held in Aug. 2013. He brought out that all the recommendations have been ratified. The undergraduate course in Mechatronics Engineering commenced in the academic year 2012-13 and the first batch will enter the third year in this academic year. The syllabus was analyzed for the need of any revision in view of the emerging technology and the trends in industry. It was found that revision is required in below mention courses

- a) The following revision and addition was proposed by the Head of the Department in the Syllabus of B.Tech Mechatronics Engineering and is approved by the board.

Serial No.	Existing syllabus		Revised syllabus	
	Course code	Course name	Course code	Course name
1	<b>MC1303</b>	<b>Electronics measurement and Instrumentation</b>	<b>MC1303</b>	<b>Electronics measurement and Instrumentation</b>
	Standards: Classification, Mass and length, frequency and time, temperature, luminous intensity, electrical, emf, resistance current, SI Units and Dimensional analysis, Introduction: D'Arsonval Galvanometer and recorder, Moving iron and Rectifier type instruments, Measurement of Resistance, A.C Bridges, Oscilloscopes: Brief idea about CRO, storage oscilloscopes, voltage probes, current probe, Measurement using CRO's, Temperature Measurement: Temperature and heat, Definitions, temperature scales, bimetallic thermometers, filled-bulb and glass stem thermometers, Resistance Temperature Detector (RTD), principle and types, measuring circuits, Linear and Quadratic approximation Thermistors, Thermocouples, optical pyrometers, Pressure Measurement: Manometers, Elastic types, Bell gauges, Electrical types, Differential Pressure transmitters, Dead weight Pressure gauges, Low Pressure Measurement: McLeod gauge, Knudsen gauge, Pirani gauge, Thermal conductivity gauges, Ionization gauges, Flow measurement: Classification of flow meters, orifice meters, venturi meter, variable area flow meters, Laser Doppler Anemometer (LDA), ultrasonic flow meters, Doppler flow meters, V-cone flow meters, purge flow regulators, Measurement of mass flow rate: Radiation, angular momentum.		Standards: Classification, Mass and length, frequency and time, temperature, luminous intensity, electrical, emf, resistance current, SI Units and Dimensional analysis, Basic concepts of measurements: System configuration, calibration - Errors in measurements, Measuring instruments: Permanent magnet moving coil, Moving iron, Electrodynamic type and Rectifier type instruments, Applications - Measurement of Resistance, Inductance & Capacitance: A.C. Bridges Temperature Measurement: Temperature and heat, Definitions, temperature scales, bimetallic thermometers, filled-bulb and glass stem thermometers, Resistance Temperature Detector (RTD), principle and types, measuring circuits, Linear and Quadratic approximation Thermistors, Thermocouples, optical pyrometers, Pressure Measurement: Manometers, Elastic types, Bell gauges, Electrical types, Differential Pressure transmitters, Dead weight Pressure gauges, Low Pressure Measurement: McLeod gauge, Knudsen gauge, Pirani gauge, Thermal conductivity gauges, Ionization gauges	

JAIPUR

2.	PROGRAM ELECTIVES-I      MC1653      SIGNALS and SYSTEMS			
<p><b>Proposed Syllabus</b></p> <p><b>Introduction to signals and systems:</b> Definitions, Overview of specific systems, Classification of signals, Basic operations on signals, Elementary signals and functions, Systems viewed as interconnections of operations, properties of systems;</p> <p><b>Time domain representations for linear time-invariant systems:</b> Introduction, Convolution: Impulse response representation for LTI systems, properties of the impulse response representation for LTI systems, Differential and difference equation representations for LTI systems, Block diagram representations;</p> <p><b>Fourier representation for signals:</b> The discrete-time Fourier series, continuous-time periodic signals: The Fourier series, Discrete-time non-periodic signals: The discrete-time Fourier transform, continuous-time non-periodic signals: The Fourier transform, properties of Fourier representations, Discrete-time periodic signals, Fast Fourier transform;</p> <p><b>Z-transform and its applications:</b> Review of z-transform, unilateral z-transform, solution of difference equations, Analysis of LTI system in z-domain-system function, pole-zero analysis, stability</p> <p><b>Implementation of discrete time systems:</b> Structures for FIR systems – Direct form, cascade form, Frequency sampling and lattice structures. Structures for IIR systems – Direct form, cascade and parallel form, lattice ladder structures.</p> <p><b>Design of IIR filters and digital FIR filters:</b> Classical design by impulse invariance, bilinear transformation and matched Z transform, characteristics and design of commonly used filters – butter worth, Chebyshev and elliptic filters, Spectral transformations, Direct design of IIR filters, General considerations, Linear phase FIR Filters, Symmetric and anti-symmetric impulse response.</p> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. A.V. Oppenheim, A. S. Willsky &amp; A. Nawab, <i>Signals and Systems</i> PHI. /Pearson Education, New Delhi, Second Edition</li> <li>2. S. Haykin &amp; B. V. Veen, <i>Signals and Systems</i>, John Wiley &amp; Sons, New Delhi, Second Edition</li> <li>3. J.G. Proakis, D.G. Manolakis, D. Mimitris <i>Introduction to Digital Signal Processing</i> Prentice Hall, India, Fourth Edition</li> <li>4. A.V. Oppenheim &amp; R.W. Schaffer <i>Discrete Time Signal Processing</i>, Pearson education Third Edition</li> </ol>				
3.	MC1752	MODERN CONTROL SYSTEMS	MC1752	DIGITAL CONTROL SYSTEMS

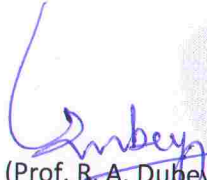


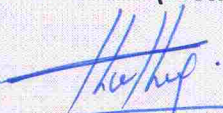


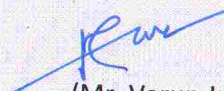
	<p>Introduction to continuous time and discrete time signals: sampling, transfer function of ZOH, Pulse transfer function, Mapping between s-plane and z-plane: Stability criterion in the z-plane, bi-linear transformation, Jury test, stability analysis using root locus and Nyquist plot,</p> <p>State models for continuous-time and discrete-time systems: Solution of state equation for continuous-time systems by time domain &amp; s-domain solutions, state transition matrix, Solution of state equation for discrete-time systems by time domain and z-transform method, discrete-time equivalent of continuous-time systems, Controllability and Observability: Design of continuous time and discrete time systems, Phase lead and phase lag compensation by root locus and by frequency-response methods, pole placement design, Ackermann's formula, design of state observers, Lyapunov stability for continuous-time and discrete-time systems.</p>
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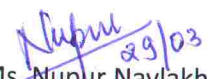
3. There being no other point, the meeting of board of studies was concluded.
4. The Scheme and the detailed contents of the syllabi of the courses mentioned above are enclosed as a part of these minutes.


### Board of studies (Mechatronics Engineering)


  
(Prof. B. A. Dubey)  
HOD, Mechanical Engg.  
29-03-14


  
(Prof. S.K Jhajharia)  
HOD, Electrical & Electronic Engg.


  
(Mr. Varun Jurwal)  
Assistant Prof. Mechatronics Engg

  
(Ms. Nupur Navlakha)  
Assistant Prof. Mechatronics Engg.

  
(Mr. Hemant Kumar)  
Assistant Prof. Mechatronics Engg.

  
(Mr. Satya Narayan Agarwal)  
Assistant Prof. Elect. & Electronics Engg.

  
(Dr. Dharmendar Boolchandani)  
Prof. Electronics & Communication Engineering, MNIT Jaipur  
**External Member**

Chairperson  
  
Dr. Ajay Kumar  
HOD Mechatronics Engineering

Counter Signature  
**MANIPAL**  
UNIVERSITY  
JAIPUR

**13AC (D-2-4) Syllabi of 2<sup>nd</sup> Year B Tech Mechatronics Engineering:**

The Council appreciated the efforts of the department to prepare the syllabus of 2<sup>nd</sup> year B Tech Mechatronics Engineering. However, it was suggested that 2<sup>nd</sup> year syllabi (Revamped) of all Engineering programme be considered in next meeting of the Academic Council along with details of other specializations.

**13AC (D-2-5) Syllabi of B Tech Electronics & Communication Engineering:**

The Council appreciated the efforts of the department to prepare the syllabus of 2<sup>nd</sup> year B Tech Electronics & Communication Engineering. However, it was suggested that 2<sup>nd</sup> year syllabi (Revamped) of all Engineering programme be considered in next meeting of the Academic Council along with details of other specializations.

**13AC (D-2-6) Scheme & Syllabi of B.Tech Electrical & Electronics Engineering:**

The Council appreciated the efforts of the department to prepare the syllabus of 2<sup>nd</sup> year B Tech Electronics & Electronics Engineering. However, it was suggested that 2<sup>nd</sup> year syllabi (Revamped) of all Engineering programme be considered in next meeting of the Academic Council along with details of other specializations.

**13AC (D-3) FACULTY OF SCIENCE**

**13AC (D-3-1) Introduction of M.Sc (Materials Science):**

The proposal to offer M.Sc. in Materials Science by Department of Physics as a new programme from Academic Year 2016-17 was recommended by the Council for further consideration and approval of the Board of Management.

The Council approved the Scheme and Syllabi of the programme and advised to clearly define the expected outcome of the programme.

**13AC (D-3-2) Introduction of B.Sc. (Hons) Microbiology:**

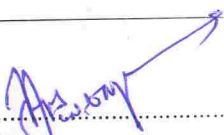

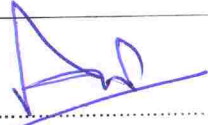
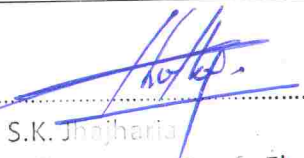
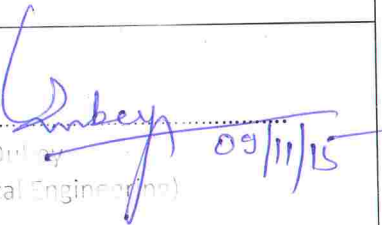
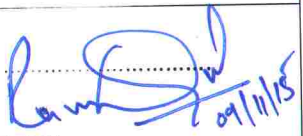

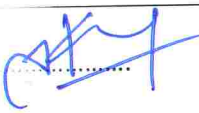
Introduction of B.Sc. (Hons) Microbiology was approved by the Council. It will be offered by the Department of Biosciences from Academic Session 2016-17.

The council suggested that new courses such as Paleobiology, Bioinformatics and related inter disciplinary subjects may also be considered for inclusion in the curriculum. The scheme and syllabi of the programme were approved by the Council.

2. The board having assembled proceeded to discuss the following agenda:
  - I. To propose a revamped course structure as per the recommendations of X Academic Council.
  - II. To recommend B.Tech detailed syllabus pertaining to Department of Mechatronics Engineering.
  
3. Following are the recommendations of BOS meeting:
  - I. The revamped course structure for the batch joining from 2015 onwards is recommended.( annexure 1 attached)
  - II. To propose a new course in Open Elective-II name **Introduction to Robotics (MC1690)** (annexure 2 attached)
  - III. Total credits after the revamp it has reduced to 175 credits from 202 credits.
  
4. There being no other point the meeting of the board of studies was concluded.
5. The detailed contents of the syllabus of B. Tech related with Mechatronics Engineering are enclosed as a part of the minutes.



**Signature of Participants**

Internal	External
<p>I.             .....            Prof. (Dr.) N.N. Sharma            (Director, SAMM)</p>	<p>I.             .....            Dr. Dharmendar Boolchandani            (Professor, Department of Electronics &amp;            Communication Engg. MNIT Jaipur)</p>
<p>II.             .....            Dr. Ajay Kumar            (Chairman BOS &amp; HOD(Mechatronics            Engineering))</p>	
<p>III.             .....            Prof. S.K. Jha            (HOD, Department of Electrical &amp;            Electronic Engineering)</p>	
<p>IV.             .....            Prof R.A. Dahiya            (Mechanical Engineering) 09/11/15</p>	
<p>V.             .....            Dr. Ram Dayal            (Associate Professor            Department of Mechatronics Engg.) 09/11/15</p>	
<p>VI.             .....            Mr. Subrata Ranendu Ghosh            (Associate Professor            Department of Mechatronics Engg.)</p>	
<p>VII.             .....            Mr. Hemant Kumar            (Asst. Prof.)            Member Secretary, BOS Department            of Mechatronics Engineering)</p>	





**B Tech Mechatronics Engineering Scheme**

THIRD SEMESTER											
Course Code	Subject	L	T	P	C	Exam duration (Hrs.)		Relative weightage			
						Theory	Practical	CWS	MTE	PRE	ETE
XX13XX	History	3	0	0	3	3		20	40		40
MA1313	Engineering Mathematics-III	3	0	0	3	3		20	40		40
MC1306	Strength Of Materials	3	1	0	4	3		20	40		40
MC1307	Electronic Measurement & Instrumentation	3	1	0	4	3		20	40		40
MC1308	Analogue System Design	3	1	0	4	3		20	40		40
MC1309	Theory Of Machines	3	1	0	4	3		20	40		40
MC1331	Analogue System Design Lab	0	0	2	1		2	60			40
MC1332	Electronic Measurement & Instrumentation Lab	0	0	2	1		2	60			40
	Total	18	4	4	24						

FOURTH SEMESTER											
Course Code	Subject	L	T	P	C	Exam duration (Hrs.)		Relative weightage			
						Theory	Practical	CWS	MTE	PRE	ETE
XX14XX	Economics	3	0	0	3	3		20	40		40
MA1410	Engineering Mathematics-IV	3	0	0	3	3		20	40		40
XX14XX	Open Elective-I	3	0	0	3	3		20	40		40
MC1405	Design Of Machine Elements	3	1	0	4	3		20	40		40
MC1406	Digital System Design	3	1	0	4	3		20	40		40
MC1407	Fluid Mechanics And Machines	3	1	0	4	3		20	40		40
MC1430	Computer Aided Drawing Lab	0	0	2	1		2	60			40
MC1431	Integrated Electronics Lab	0	0	2	1		2	60			40
	Total	18	3	4	23						







**17AC (D-1-7) Maximum Number of Attempts for Pre-Synopsis Presentation:**

The Council directed that if DRC is not satisfied by the quality of Pre synopsis, the scholar needs to present / attempt it again incorporating all suggestions / comments till it gets approved.

**17AC (D-1-8) Tenure of Faculty Boards:**

The Council approved the duration of tenure of members of the Faculty Boards for a period of 03 (Three) years like statutory bodies and recommended that the matter be placed before the Board of Management for consideration and approval.

**17AC (D-1-9) Renaming of Schools of Faculty of Design:**

The Council deferred the proposal.

**17AC (D-1-10) Offering of B Des Interior Design (4 year):**

The Council deferred the proposal.

**17AC (D-1-11) Verification and Non-retention of Students' Academic and Personal Testimonials and Remittance and Refund of Fees**

The Council recommended to comply with UGC guidelines and seek legal opinion in this matter for further action. The Council also recommended to increase the caution money for professional programmes to Rs. 15,000 (Fifteen thousand) and Rs.10,000 (Ten thousand) for other programmes from next academic year.

The Council further suggested to take a separate undertaking from the student to return all equipment / book / laptop etc., at the time of withdrawal if it is done before completion of the programme.

**17AC (D-2) FACULTY OF ENGINEERING**

**17AC (D-2-1) Revamped Scheme of 5<sup>th</sup> and 6<sup>th</sup> Semester B Tech Programmes:**

The Council approved the revamped schemes of B Tech (ECE, EEE, CSE, CCE, IT, Mechanical Engineering, Mechatronics Engineering, Automobile Engineering, Chemical Engineering) of 5<sup>th</sup> and 6<sup>th</sup> Semester students, admitted in academic year 2015-16 and onwards.







**17AC (D-2-2) Syllabi of B Tech Electrical & Electronics Engineering Programme:**

The Council approved the proposed syllabi of 5<sup>th</sup> and 6<sup>th</sup> Semester of B Tech Electrical & Electronics Engineering Programme students, admitted in academic year 2015-16.

**17AC (D-2-3) Syllabi of B Tech Electrical Engineering Programme:**

The Council approved the proposed syllabi of 3<sup>rd</sup> and 4<sup>th</sup> Semester of B Tech Electrical Engineering Programme students, admitted in academic year 2016-17 and onwards.

**17AC (D-2-4) Syllabi of B Tech Electronics & Communication Engineering Programme:**

The Council approved the proposed syllabi (except open elective) of 5<sup>th</sup> and 6<sup>th</sup> semesters of B Tech Electronics & Communication Engineering Programme students, admitted in academic year 2015-16 and onwards.

**17AC (D-2-5) Syllabi of B Tech Automobile Engineering Programme:**

The Council approved the proposed syllabi of 5<sup>th</sup> and 6<sup>th</sup> semesters of B Tech Automobile Engineering Programme students, admitted in academic year 2015-16 and onwards.

**17AC (D-2-6) Syllabi of New Programme and Open Elective Courses:**

The Council approved the proposed syllabi of Department of Mechatronics Engineering as under:

- a) New Programme elective - Manufacturing Process-I MC1654 [4 0 0 4], (III Year), applicable to students admitted from 2014-15.
- b) Open Elective-II - Engineering Aspects of Intellectual Property Rights MC1691 [3 0 0 3], (III Year) and Reliability Engineering MC1692 [3 0 0 3], (III Year) applicable to students admitted from 2014-15.
- c) Open Elective-I - Introduction to Mechatronics System MC1493 [3 0 0 3], (II Year) applicable to students admitted from 2015-16 & onwards.

**17AC (D-2-7) Modification in Relative Weightage of B Tech & M Tech Programmes:**

The Council decided to retain existing evaluation scheme as 60-40. It was decided that weightage for CWS+MTE will remain 60 whereas weightage for ETE will have 40.



MINUTES OF MEETING OF THE BOARD OF STUDIES OF MECHATRONICS DEPARTMENT ASSEMBLED AT 10:00 AM ON 3<sup>rd</sup> DECEMBER 2016 IN THE BOARD ROOM OF ACADEMIC BLOCK 1-AB, MANIPAL UNIVERSITY JAIPUR

1. The following participated in the meeting:

S.NO.	Internal	External
I.	Dr. Ram Dayal HoD & Chairman BOS, Department of Mechatronics Engineering	Dr. Dharmendar Boolchandani, Professor, Malaviya National Institute of Technology, Jaipur
II.	Prof. (Dr.) N.N. Sharma Dean FoE & Director SAMM, Manipal University Jaipur	
III.	Dr. Ajay Kumar, Professor Department of Mechatronics Engineering	
IV.	Prof. R.A. Dubey Professor, Department of Mechanical Engineering	
V.	Dr. Subrata Bandhu Ghosh, Associate Professor, Department of Mechatronics Engineering	
VI.	Dr. S. K. Jhajharia Professor, HOD & Coordinator First Year B. Tech. Program	
VII.	Dr. Vandana Suhag, Registrar, Manipal University Jaipur	

2. The board having assembled and proceeded to discuss the following agenda items:

1. Items applicable to old scheme and syllabus for batch 2014-2018:

- Introduction of the new Program Elective **Manufacturing Process-I, MC1654 [4 0 0 4]**.
- Introduction of the new Open Elective-II Courses name **Engineering Aspects of Intellectual Property Rights, MC1691 [3 0 0 3]** and **Reliability Engineering MC1692 [3 0 0 3]**.

2. Items applicable to new scheme and syllabus for batch 2015-2019 onwards.

- Revamped Scheme for the B.Tech Mechatronics 3<sup>rd</sup> Year.
- Introduction of new open elective-I, **Introduction to Mechatronics System, MC1493 [3 0 0 3]** for Batch 2015-2019 onwards.





## **21 AC (D-2) FACULTY OF ENGINEERING**

### **21AC (D-2-1) Revamped Scheme for 7<sup>th</sup> and 8<sup>th</sup> Semester B Tech Programmes:**

The Council approved the revamped schemes of B Tech (Computer Science & Engineering, Information Technology, Electronics & Communication Engineering, Chemical Engineering, Civil Engineering, Mechanical Engineering, Mechatronics Engineering) of 7<sup>th</sup> and 8<sup>th</sup> Semester.

This will be effective for the students admitted in Academic Year 2015-16 & onwards.

### **21AC (D-2-2) Revamped Syllabi for 7<sup>th</sup> and 8<sup>th</sup> Semester B Tech Programmes:**

The Council approved the revamped syllabi of B Tech (Computer Science & Engineering, Information Technology, Electronics & Communication Engineering, Chemical Engineering, Civil Engineering, Mechanical Engineering, and Electrical & Electronics Engineering) of 7<sup>th</sup> and 8<sup>th</sup> Semester.

This will be effective for the students admitted in Academic Year 2015-16 & onwards.

### **21 AC (D-2-3) Scheme and Syllabi of 7<sup>th</sup> and 8<sup>th</sup> Semester of B Tech (CCE) Programme:**

The Council approved the scheme and syllabi of 7<sup>th</sup> and 8<sup>th</sup> Semester of B Tech (Computer & Communication Engineering).

This will be offered to the students admitted in Academic Year 2015-16 & onwards.

### **21 AC (D-2-4) Syllabi of 5<sup>th</sup> and 6<sup>th</sup> Semester of B Tech (EE) Programme:**

The Council approved the syllabi of 5<sup>th</sup> and 6<sup>th</sup> semester of B Tech (Electrical Engineering) Programme.

This will be offered to the students admitted in Academic Year 2016-17 & onwards.

### **21 AC (D-2-5) Syllabi of New Programme Elective:**

The Council approved the inclusion of program elective "IT1655: Parallel Programming" in 6<sup>th</sup> Semester of B Tech (IT) and its syllabus.

This will be offered to the students admitted in Academic Year 2016-17 & onwards.

### **21 AC (D-2-6) Syllabi and Integration of Lab with Two Theory Courses in B. Tech First Year:**

The Council deferred the proposal for one year. It was suggested that in next revision of academic curriculum the proposal will be duly considered.






**MINUTES OF MEETING OF THE BOARD OF STUDIES OF MECHATRONICS  
DEPARTMENT ASSEMBLED AT 11:00 AM ON 25 NOVEMBER 2017 IN THE  
BOARD ROOM OF ACADEMIC BLOCK 1-AB, MANIPAL UNIVERSITY JAIPUR**

1. The following participated in the meeting:

S.NO.	Internal	External
I.	Dr. Ram Dayal HoD & Chairman BOS, Department of Mechatronics Engineering, Manipal University Jaipur	Dr. B. Ravindra Associate Professor & HOD, Department of Mechanical Engineering, IIT Jodhpur (Communication through E-mail: refer attachment)
II.	Dr. G. L. Sharma Director SAMM, Manipal University Jaipur	
III.	Dr. Ajay Kumar, Professor Department of Mechatronics Engineering, Manipal University Jaipur	
IV.	Dr. Amit Soni Professor & HOD, Department of Electrical Engineering, Manipal University Jaipur	
V.	Dr. Manish Rawat Assistant Professor, Department of Mechatronics Engineering, Manipal University Jaipur	
VI.	Mr. Anil Sharma Assistant Professor, Department of Mechatronics Engineering, Manipal University Jaipur	
VII.	Dr. Vandana Suhag Registrar and Ex Officio Member, Manipal University Jaipur	

2. The board assembled and proceeded to discuss the following agenda:

1. Recommendations for the **Revamped Scheme of 4<sup>th</sup> Year B.Tech. Mechatronics Engineering** for Batch 2015-2019 onwards. The detailed Scheme of 4<sup>th</sup> Year B.Tech. Mechatronics engineering is attached.
2. Discussion on the **recommendations and suggestions received from external member of BOS**. A copy of the communication has been attached.
3. Discussion on the **evaluation process of the MOOC Based Course**.

  
 HoD, Department of Mechatronics Engineering  
 SAMM, MUJ

### **22AC (A-6) Provision of Thesis Evaluation by Foreign Examiner**

The Council deliberated upon the process of adjudication of Ph D thesis and suggested the following:

- a) Supervisor / Co-supervisor to submit a panel of the ten external experts (preferably from outside the state) to adjudicate the Ph D thesis.
- b) Foreign examiner be included in the panel if Supervisor / Co-supervisor desires.
- c) Thesis will be adjudicated by two external experts. One of them to be invited as examiner for final viva voce.
- d) Supervisor / Co-supervisor will also be considered as one of the examiners during Ph D final viva voce.

### **22AC (A-7) Amendment in Procedure to Grant Provisional Certificate (PhD)**

The proposal pertaining to award of Provisional PhD Certificate was deliberated upon and following were suggested:

- a) After successful completion of Ph D final viva voce, a notification to be issued on the same date from office of Controller of Examination, certifying that "The candidate has successfully defended his / her Ph D thesis and will be awarded the degree in the next convocation".
- b) MAHE guidelines may be referred.

## **B. AGENDA FOR RATIFICATION**

### **22AC (B-1) Confirmation of the minutes of the 21<sup>st</sup> Academic Council Meeting held on 20<sup>th</sup> March, 2018.**

The Minutes of the 21<sup>st</sup> meeting of Academic Council held on March 20, 2018 were confirmed.

### **22AC (B-2) Action taken on the Minutes of the Previous Meeting**

The Council noted and ratified the action taken in the 21<sup>st</sup> meeting of the Academic Council. Further, the Council suggested the following:

#### **a) Introduction of the Course Module for Consumer Affairs at UG Level**

Faculty of Arts & Law was entrusted to offer an open Elective course on Consumer Affairs at the UG level from Academic Year 2018-19.

Course structure be framed in consultation with Faculty of Management & Commerce.

#### **b) Minor Specialization**

The Council suggested to consider the proposal of offering minor specialization during major academic revamp 2019.

### **22AC (B-3) Faculty of Engineering**

The Council approved the following:

- 3.1 Revamped Scheme & Syllabi of M Tech Mechanical Engineering from 2018 admission.
- 3.2 **Revamped Syllabus of 7<sup>th</sup> and 8<sup>th</sup> Semester of Department of Mechatronics Engineering for batch 2015-2019.**




**MINUTES OF MEETING OF THE BOARD OF STUDIES OF MECHATRONICS  
DEPARTMENT ASSEMBLED AT 11:00 AM ON 08 JUNE 2018 IN THE BOARD  
ROOM OF ACADEMIC BLOCK 1-AB, MANIPAL UNIVERSITY JAIPUR**

1. The following participated in the meeting:

S.NO.	Internal	External
I.	Dr. Ram Dayal HoD & Chairman BOS, Department of Mechatronics Engineering, Manipal University Jaipur	Dr. B. Ravindra Associate Professor & HOD, Department of Mechanical Engineering, IIT Jodhpur (Communication through E-mail: refer attachment)
II.	Dr. G. L. Sharma Director SAMM, Manipal University Jaipur	
III.	Dr. Ajay Kumar, Professor Department of Mechatronics Engineering, Manipal University Jaipur	
IV.	Dr. Amit Soni Professor & HOD, Department of Electrical Engineering, Manipal University Jaipur	
V.	Dr. Manish Rawat Assistant Professor, Department of Mechatronics Engineering, Manipal University Jaipur	
VI.	Mr. Anil Sharma Assistant Professor, Department of Mechatronics Engineering, Manipal University Jaipur	
VII.	Dr. Vandana Suhag Registrar and Ex Officio Member, Manipal University Jaipur	

2. The board assembled and proceeded to discuss the following agenda:

1. Recommendations and approval on the **Syllabus of 4th Year B.Tech. Approved Scheme of Mechatronics Engineering** for Batch 2015-2019 onwards. As per the recommendation by the BOS members, the following changes are suggested :
  - Use the “**Production and Operation Management**” in place of “**Production, Planning and Control**” of the course code MC1761.
  - Removed the “**Human Resource and Marketing Strategies**” and introduced the **new open elective course** against the course code MC1791.
2. The detailed syllabus of **4th Year B.Tech. Approved Scheme of Mechatronics Engineering** is attached.
3. Approval of self-study course i.e. “**MC3101 Microfabrication**” in PhD mechatronics engineering degree.
4. Discussion on the **recommendations and suggestions received from external member of BOS**. A copy of the communication has been attached.

  
HoD, Department of Mechatronics Engineering,  
SAMM, MUJ