JAMIA MILLIA ISLAMIA
JAMIA MILLIA ISLAMIA
(A Central University by an Act of Parliament)
Maulana Mohammed Ali Jauhar Marg, New Delhi-110025

Tel: (O) 26981259, 26981717
Ext. 2410, 2412, 2416
Website: http://jmi.ac.in

Department of Mechanical Engineering
Faculty of Engineering and Technology

12th May, 2016

Minutes of the Meeting of BOS held on 12th May, 2016

A meeting of the members of Board of Studies of the Department of Mechanical Engineering, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi was held on 12th May, 2016 at 3:00 P.M in the office of the Head. Following members were present.

1.	Prof. J.A.Usmani	Chairman and Head of the Department
2.	Prof. S. M. Yahya	Co-opted Member
3.	Prof. Khalid Moin	Nominated Member
4.	Prof. Mohd. Islam	Member
5.	Prof. M. Emran Khan	Member
6.	Prof. M. M. Hasan	Member
7.	Prof. Z. A. Khan	Member
8.	Prof. Z. Mallick	Member
9.	Prof. Mohd Suhaib	Member
10.	Prof. M. N. Karimi	Member
11.	Prof. Abdur Rahim	Member
12.	Prof. Aas Mohd.	Member
13.	Prof. Arshad Noor Siddiquee	Member
14.	Dr. S.M. Muzakkir	Member
15.	Dr. Islam Nawaz	Member
16.	Dr. Sabah Khan	Member
17.	Dr. Ali Hasan	Member
18.	Dr. Mohd Asjad	Member
19.	Dr. A. F. Sherwani	Member
20.	Mr. Mohd. Javaid	Member
21.	Mr. Mohd. Shoeb	Member

Following members were granted leave of absence

1.	Prof. S. G. Deshmukh	Co-opted Member
2.	Prof. Saranjeet Singh	Nominated Member
3.	Prof. Abid Haleem	Member
4.	Mrs. Halima Begum.	Member
5.	Mr. Lokesh Kumar	Member

The meeting started at 3:00 p.m. The chairman welcomed all the members present in the meeting.

Following items were discussed and approved in the meeting.

1. Minutes of the BOS meeting held on 21st April, 2016, were confirmed.

2. Teaching load of faculty members of the department for Odd and Even Semesters for the session 2016-17 for B.Tech. and M.Tech.(Mech.) courses was approved after incorporating suggestions/changes discussed in the meeting. The members authorized the Head of the Department to make changes as per the requirements (Annexure-I).

3. Under any other items, following were discussed and approved:

   i. The revised and updated CBCS course structure was discussed and approved. (Annexure-II)

   ii. The letter of the Dean, Faculty of Engineering and Technology, seeking discussion on the lateral entry Diploma Engineering holders was discussed. The members discussed the matter at length and disapproved the lateral entry of Diploma Engineering holders into the B.Tech. regular Program.

   iii. The members authorized the Head of the Department to appoint paper setters, moderators and paper evaluators for the Ph.D. entrance examination for the session 2016-17.

   iv. The name of B.Tech. (I) semester course Basic Mechanical Engineering has been changed to Elements of Mechanical Engineering and the syllabus of the same has been redesigned which will be communicated to the Head Applied Science Department for further necessary action.

4. The meeting ended at 4: 15 pm with a vote of thanks to the chair.

(Professor J.A.Usmani)
Chairman, BOS

HEAD
MECH. ENGG. DEPTT.
JAMIA MILLIA ISLAMIA
NEW DELHI-110025

Copy to:

1. All the members of the BoS of Mechanical Engineering Department.
2. The Dean, Faculty of Engineering and Technology, JMI.
3. The Registrar, JMI for information and necessary action.
4. P. S. to Vice Chancellor for the kind information of Vice Chancellor, JM.I
5. BOS file.

Note: *Any clarifications and comments on the minutes may kindly be brought to the notice of the chairman, BOS. If no comments are received within a week of the issue, the minutes will be deemed as confirmed.*

Choice Based Credit System COURSE STRUCTURE B. Tech. Mechanical Engineering (III to VIII semester)

Semester	Core Subjects	CBCS	SEC	AECC	Total Paper	Credits
III	**Theory Courses** BM-30 Mechanics of Solid BM -302Manufacturing Processes BM-303Applied Thermodynamics	BM-304 Material Science	BM-305 Mechatronics		3+1+1=5	20
	Lab Courses BM-351Applied Thermodynamics BM-352Mechanics of Solids and Mechatronics BM-353Materials and Manufacturing Processes				3	6
					Total	**26**
IV	**Theory Courses** BM-401 Heat and Mass Transfer BM-402 Fluid MechanicsI BM-403 Production Engineering-I	BM-404 CAD & FEM	BM-405 Instrumentation, Measurementand control.	BM-406 Numeric and Scientific Computing	3+1+1+1=6	24
	Lab Courses BM-451Heat and Mass Transfer Instrumentation, Measurement and control. BM-452 Production Engineering BM-453 Computer Aided Machine Design BM-454Industrial Training (six week) in summer (Audit Course with no credit)				3	6
					Total	**30**
V	**Theory Courses** BM-501Kinematics of Machines BM-502Fluid Mechanics II BM-503Design of Mechanical components	BM-504 Engineering Economy	BM-505 ElectromechanicalEnergy Conversion		3+1+1=5	20
	Lab Courses BM-551 Fluid Mechanics Lab BM-552Design of Mechanical Components Practice BM-553Mechanisms and Kinematics of Machines				3	6
					Total	**26**

VI	**Theory Courses** BM-601Computer Aided Manufacturing BM-602 Design of Mechanical System **Lab Courses** BM-651 Computer Aided Manufacturing BM-652 Refrigeration and Air Conditioning BM-653Design of Mechanical Systems Practice BM-654 Industrial Training (six week) in summer (Audit Course with no credit)	BM-603 Operations Research	BM-604 Refrigeration and Air conditioning	BM-605 IC Engines	2+1+1+1=5 3 **Total**	20 6 **26**
VII	**Theory Courses** BM-701Dynamics of Machines and mechanical vibrations BM-702 Production Engineering-II **Lab Courses** BM-751Dynamics of Machines and mechanical vibrations BM-752 Industrial Engineering Turbo machines and solar energy lab BM-753Minor Project (2 Credits)	BM-703 Turbo Machine	BM-704 Energy Sources	BM-705 Industrial Engineering	2+1+1+1=5 3 **Total**	20 8 **28**
VIII	**Theory Courses** BM-801 Product Design **Lab Courses** BM-851 IC Engine and Automobile Engineering lab BM-852 Seminar on Industrial Training BM-853 Project (4-Credits)	BM-802 Robotics	BM-803 Automobile Engineering	BM-804 Ergonomics	1+1+1+1=4 3 **Total**	16 8 **24**
No. of Theory Papers	14	6	6	4	**30**	
Total Credits Theory Paper	4 x 14 = 56	4 x 6 = 24	4 x 6 =24	4 x 4 = 16		**120**
Total Credits Lab						**40**
Total credits theory and lab						**160**

NOTE:

1. Each theory course will be of 4 credits and each lab course will be of 2 credits except project.
2. For CBCS courses maximum 5 seats are available for the students of other department and will be offered on the basis of first come first served.

Choice Based Credit System Course Structure . M. Tech. (Mech. Engg.) Thermal Approved by BOS, Department of Mechanical Engineering on 12-05-2016

Semester	Core Subjects	CBCS	SEC	AECC	Total Paper	Credits
I	**Theory Courses** **1.** MTT-102 Advanced Fluid Mechanics **2.** MTT-103 Advanced Thermodynamics **3.** MTT-105 IC Engines and Air Pollutions **Lab Courses** 1. MTC-103 Computer Programming and Application 2. MTL-161- Thermal Engg. Lab	MTC-102 Optimization Methods	MTC-101 Advanced Mathematics.		3+1+1=5 2 **Total**	20 4 **24**
II	**Theory Courses** 1. MTT-101-Advanced Heat and Mass Transfer 2. MTT-104-Turbomachineary 3. MTT-107-Utility Engineering **Lab Courses** 1. MTL-261-Advanced Heat and Mass Transfer	MTC-201-Finite Element Methods	MTC-203-Technical Communication	MTC-202-Statitics for Decision Making	3+1+1+1=6 1 **Total**	24 2 **26**
III	**Theory Courses** **1.** MTT-108-Gas Dynamics **2.** MTC-301-Minor Project **Lab Courses** 1. MTC-302-Seminar (2 credits)	MTT-109-Landfill gas: from environment to energy			3 1 **Total**	12 2 **14**
IV	MTC-401-Dessertation				**Total**	**12**
					Total credits theory and lab	**76**

NOTE:

1. Each theory course will be of 4 credits and each lab course will be of 2 credits except project.
2. For CBCS courses maximum 2 seats are available for the students of other department and will be offered on the basis of first come first served.

(Dr. J.A.Usmani)
Professor and Head

Choice Based Credit System Course Structure . M. Tech. (Mech. Engg.) Machine Design
Approved by BOS, Department of Mechanical Engineering on 12-05-2016

Semester	Core Subjects	CBCS	SEC	AECC	Total Paper	Credits
I	**Theory Courses** 1. MTD-104- Mechanics of Multi-phase Materials 2. MTD-101-Theoritical and Experimental Stress Analysis 3. MTD-103-Advanced Mechanical Engineering Design **Lab Courses** 1.MTC-103 Computer Programming and Application 2. MTL-171- Experimental Stress Analysis and Advanced Mechanical Engineering Design	MTC-102-Optimization Methods	MTC-101-Advanced Mathematics		3+1+1=5 2	20 4
					Total	**24**
II	**Theory Courses** 1. MTD-102-Advanced Mechanism 2. MTD-104-Vibration Engineering 3. MTD-105-Tribological System Design **Lab Courses** 1.MTL-271-Vibration Engineering and Mechanism Lab	MTC-201-Finite Element Methods	MTC-203-Technical Communication	MTC-202-Statitics for Decision Making	3+1+1+1=6 1	24 2
					Total	**26**
III	**Theory Courses** 1. MTD-106-Robotics 2. MTC-301-Minor Project **Lab Courses** 1. MTC-302-Seminar (2 credits)	MTI-103-Design of Experiments			3 1	12 2
					Total	**14**
IV	MTC-401-Dessertation				**Total**	**12**
					Total credits theory and lab	**76**

NOTE:

1. Each theory course will be of 4 credits and each lab course will be of 2 credits except project.
2. For CBCS courses maximum 2 seats are available for the students of other department and will be offered on the basis of first come first served.

(Dr. J.A.Usmani)
Professor and Head

Choice Based Credit System Course Structure . M. Tech. (Mech. Engg.) Production and Industrial Engineering
Approved by BOS, Department of Mechanical Engineering on 12-05-2016

Semester	Core Subjects	CBCS	SEC	AECC	Total Paper	Credits
I	**Theory Courses** 1. MTI-101-Operations Management 2. MTP-102-Modern Manufacturing Methods 3. MTP-101-Computer Integrated Manufacturing **Lab Courses** 1.MTC-103 Computer Programming and Application 2. MTL-151-CIM lab	MTC-102-Optimization Methods	MTC-101-Advanced Mathematics		3+1+1=5 2 **Total**	20 4 **24**
II	**Theory Courses** 1. MTI-109-Reliability Engineering 2. MTP-106-Welding Technology 3. MTP-103/MTD-108-Foundry Technology/Concurrent Engineering **Lab Courses** 1.MTL-251-Ergonomics Lab	MTC-201-Finite Element Methods	MTC-203-Technical Communication	MTC-202-Statitics for Decision Making	3+1+1+1=6 1 **Total**	24 2 **26**
III	**Theory Courses** 1. MTD-106-Robotics 2. MTC-301-Minor Project **Lab Courses** **1.** MTC-302-Seminar (2 credits)	MTI-103-Design of Experiments			3 1 **Total**	 12 2 **14**
IV	MTC-401-Dessertation				**Total**	**12**
					Total credits theory and lab	**76**

NOTE:

1. Each theory course will be of 4 credits and each lab course will be of 2 credits except project.
2. For CBCS courses maximum 2 seats are available for the students of other department and will be offered on the basis of first come first served.

(Dr. J.A.Usmani)
Professor and Head

Course Structure of
M. Tech. (Mechanical) Machine Design/Thermal Engg./Production & Industrial Engg.

MECHANICAL ENGINEERING DEPARTMENT, Faculty of Engineering & Technology, *Jamia Millia Islamia*

M. Tech. (Mechanical) I SEMESTER (Machine Design)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**ASC-901 Advanced Mathematics**	**PC (CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-901 Optimization Methods**	**PC**	**4**	**3**	**1**	**0**	4
3	**MEC-902 Technical Communications**	**PC**	**4**	**3**	**1**	**0**	4
4	**MED-901 Theoretical and Experimental Stress Analysis**	**PC**	**4**	**3**	**1**	**0**	4
5	**MED-902 Advanced Mechanical Engineering Design**	**PC**	**4**	**3**	**1**	**0**	4
6	***MED-903 Mechanics of Multi-phase Materials**	**PE**	**4**	**3**	**1**	**0**	4
i	**MED-904 Experimental Stress Analysis and Advanced Mechanical Engg. Design Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
ii	**MEC-903 Computer Applications & Programming Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**28**	**18**	**6**	**8**	**32**

M. Tech. (Mechanical) II SEMESTER (Machine Design)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**MEC-906 Finite Element Methods**	**PC (CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-907 Statistics For Decision Making**	**PC**	**4**	**3**	**1**	**0**	4
3	**MED-905 Advance Mechanism**	**PC**	**4**	**3**	**1**	**0**	4
4	**MED-906 Vibration Engineering**	**PC**	**4**	**3**	**1**	**0**	4
5	***MED-907 Tribological System Design**	**PE**	**4**	**3**	**1**	**0**	4
i	**MED-908 Vibration Engineering and Mechanisms Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**22**	**15**	**5**	**4**	**24**

***The course may be opted from the list of Elective courses given at the end.**

M. Tech. (Mechanical) III SEMESTER (Machine Design)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	***MED-909 Robotics**	PE (CBCS)	4	3	1	0	4
2	*** MED-910 Design of Experiments**	PE	4	3	1	0	4
3	**MEC-910 Project**	PC	4	0	0	8	8
4	**MEC-911 Seminar**	PC	2	0	0	4	4
		Total	14	6	2	12	20

M. Tech. (Mechanical) IV SEMESTER (Machine Design)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	MEC-912 Dissertation	PC	12	0	0	24	24
		Total	12	0	0	24	24

***The course may be opted from the list of Elective courses given at the end.**

Program Electives							
S. No.	COURSE NO.	COURSE NAME	Credit	L	T	P	HRS
1	MED-903	Mechanics of Multi-phase Materials	4	3	1	0	4
2	MED-907	Tribological System Design					
3	MED-909	Robotics					
4	MED-910	Design of Experiments					
5	MED-911	Mechatronics					
6	MED-912	Concurrent Engineering					
7	MED-913	Innovative Product Design					
8	MED-914	Fracture Mechanics					
9	MED-915	Artificial Intelligence and Robotics					
10	MED-916	Machinery Fault Diagnostics & Signal Processing					
11	MED-917	Vehicle Dynamics					
12	MED-918	Modal Analysis					
13	MED-919	Introduction to Human Body Mechanics					

Course Structure of
M. Tech. (Mechanical) Machine Design/Thermal Engg./Production & Industrial Engg.

MECHANICAL ENGINEERING DEPARTMENT, Faculty of Engineering & Technology, *Jamia Millia Islamia*

M. Tech. (Mechanical) I SEMESTER (Thermal Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**ASC-901 Advanced Mathematics**	**PC(CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-901 Optimization Methods**	**PC**	**4**	**3**	**1**	**0**	4
3	**MEC-902 Technical Communication**	**PC**	**4**	**3**	**1**	**0**	4
4	**MET-901 Advanced Fluid Mechanics**	**PC**	**4**	**3**	**1**	**0**	4
5	**MET-902 Advanced Thermodynamics**	**PC**	**4**	**3**	**1**	**0**	4
6	*** MET-903 I. C. Engines and Air Pollution**	**PE**	**4**	**3**	**1**	**0**	4
i	**MET-904 Thermal Engg. Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
ii	**MEC-904 Computer Applications & Programming Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**28**	**18**	**6**	**8**	**32**

M. Tech. (Mechanical) II SEMESTER (Thermal Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**MEC-906 Finite Element Methods**	**PC (CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-907Statistics For Decision Making**	**PC**	**4**	**3**	**1**	**0**	4
3	**MET-905 Advanced Heat and Mass Transfer**	**PC**	**4**	**3**	**1**	**0**	4
4	**MET-906 Turbo-Machinery**	**PC**	**4**	**3**	**1**	**0**	4
5	*** MET-907 Utility Engineering**	**PE**	**4**	**3**	**1**	**0**	4
i	**MET-908 Advance Heat and Mass Transfer Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**22**	**15**	**5**	**4**	**24**

***The course may be opted from the list of Elective courses given at the end.**

M. Tech. (Mechanical) III SEMESTER (Thermal Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	*MET-909 Landfil Gas: from Environment to Energy	PE(CBCS)	4	3	1	0	4
2	*MET-910 Gas Dynamics	PE	4	3	1	0	4
3	MEC-910 Project	PC	4	0	0	8	8
4	MEC-911 Seminar	PC	2	0	0	4	4
		Total	14	6	2	12	20

M. Tech. (Mechanical) IV SEMESTER (Thermal Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	MEC-912 Dissertation	PC	12	0	0	24	24
		Total	12	0	0	24	24

***The course may be opted from the list of Elective courses given at the end.**

Program Electives							
S. No.	COURSE NO.	COURSE NAME	Credit	L	T	P	HRS
1	MET-903	I. C. Engines and Air Pollution	4	3	1	0	4
2	MET-907	Utility Engineering					
3	MET-909	Landfil Gas: from Environment to Energy					
4	MET-910	Gas Dynamics					
5	MET-911	Non-Conventional Energy Sources					
6	MET-912	Environmental Pollution and Abatement					
7	MET-913	Theory of Combustion and Emission					
8	MET-914	Nuclear Power Generation and Supply					
9	MET-915	Computational Fluid Dynamics					
10	MET-916	Fuels and Combustion					
11	MET-917	Cryogenics					
12	MET-918	Design of Pump, Blowers and Fans					
13	MET-919	Fluid Controls					

Course Structure of
M. Tech. (Mechanical) Machine Design/Thermal Engg./Production & Industrial Engg.

MECHANICAL ENGINEERING DEPARTMENT, Faculty of Engineering & Technology, *Jamia Millia Islamia*

M. Tech. (Mechanical) I SEMESTER (Production & Industrial Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**ASC-901 Advanced Mathematics**	**PC(CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-901 Optimization Methods**	**PC**	**4**	**3**	**1**	**0**	4
3	**MEC-902 Technical Communication**	**PC**	**4**	**3**	**1**	**0**	4
4	**MEP-901 Operations Management**	**PC**	**4**	**3**	**1**	**0**	4
5	**MEP-902 Modern Manufacturing Methods**	**PC**	**4**	**3**	**1**	**0**	4
6	*** MEP-903 Computer Integrated Manufacturing**	**PE**	**4**	**3**	**1**	**0**	4
i	**MEP-904 Computer Integrated Manufacturing Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
ii	**MEC-905 Computer Applications & Programming Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**28**	**18**	**6**	**8**	**32**

M. Tech. (Mechanical) II SEMESTER (Production & Industrial Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	**MEC-906 Finite Element Methods**	**PC(CBCS)**	**4**	**3**	**1**	**0**	4
2	**MEC-907Statistics For Decision Making**	**PC**	**4**	**3**	**1**	**0**	4
3	**MEP-905 Reliability Engineering**	**PC**	**4**	**3**	**1**	**0**	4
4	**MEP-906 Welding Technology**	**PC**	**4**	**3**	**1**	**0**	4
5	*** MEP-907 Foundry Technology**	**PE**	**4**	**3**	**1**	**0**	4
i	**MEP-908 Ergonomics Laboratory**	**PC Lab**	**2**	**0**	**0**	**4**	4
		Total	**22**	**15**	**5**	**4**	**24**

***The course may be opted from the list of Elective courses given at the end.**

M. Tech. (Mechanical) III SEMESTER (Production & Industrial Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	*MED-909 Robotics	PE (CBCS)	4	3	1	0	4
2	* MED-910 Design of Experiments	PE	4	3	1	0	4
3	MEC-910 Project	PC	4	0	0	8	8
4	MEC-911 Seminar	PC	2	0	0	4	4
		Total	14	6	2	12	20

M. Tech. (Mechanical) IV SEMESTER (Production & Industrial Engg.)

S. No.	COURSE NO. & NAME	COURSE TYPE	Credits	L	T	P	HRS
1	MEC-912 Dissertation	PC	12	0	0	24	24
		Total	12	0	0	24	24

***The course may be opted from the list of Elective courses given at the end.**

Program Electives							
S. No.	COURSE NO.	COURSE NAME	Credit	L	T	P	HRS
1	MEP-903	Computer Integrated Manufacturing	4	3	1	0	4
2	MEP-907	Foundry Technology					
3	MEP-909	Robotics					
4	MEP-910	Design of Experiments					
5	MEP-911	Rapid Prototyping Technology					
6	MEP-912	Advanced Material Science					
7	MEP-913	Metrology					
8	MEP-914	Tool Design					
9	MEP-915	Human Factors Engineering					
10	MEP-916	Supply Chain Management					
11	MEP-917	Total Quality Management					
12	MEP-918	Creative Problem Solving					
13	MEP-919	Project Management					