1.1.3 & 1.2.1

Supporting Documents- Mechanical Engineering

Approved MOM of BOS / Academic Council highlighting the name of new course introduced_1.2.1

I K Gujral Punjab Technical University
(Minutes of Meeting)

A meeting of members of the Board of Studies **Mechanical Engineering/Production Engineering/Industrial/Automobile Engineering** was held through online (Google meet) as on **July 30th 2021** at 11:00 AM.

Following members of BOS have attended the meeting:

1. Dr. Neelkanth Grover (Chairman), Professor and Head, IKGPTU Campus Kapurthala
2. Dr. Om Pal Singh, Professor, S. Beant Singh State University, Gurdaspur
3. Dr. Vikas Chawla, Professor, IKGPTU Campus Kapurthala
4. Dr. Paramjit Singh Bilga, Professor, GNDEC, Ludhiana
5. Dr. Manpreet Kaur, Associate Professor, BBSBEC, Fatehgarh Sahib
6. Dr. Balkar Singh, Professor, IKGPTU Campus Kapurthala
7. Dr. Jagdev Singh, Professor, S. Beant Singh State University, Gurdaspur
8. Dr. Davinder Priyadarshi, DAVIET, Jalandhar
9. Dr. Amit Handa, Assistant professor, IKGPTU Campus, Kapurthala
10. Dr. Vivek Aggarwal, Assistant Professor, IKGPTU Campus, Kapurthala
11. Dr. Harmesh Kansal, Professor, UIET, Chandigarh.
12. Chairman/ Nominee BoS EE, Special Invitee, IKGPTU Campus Kapurthala

The BOS has made the following recommendations:

1. The BOS members approved the starting the M. Tech. course from the year 2021 onwards at IK Gujral Punjab Technical University Main Campus, Kapurthala. The name of M. Tech. course has been decided as M. Tech in Mechanical (Manufacturing Engineering and Automation). The scheme of the first semester for M. Tech. course, as approved by BOS members, is attached here with as Annexure-A.
2. The committee also approved the eligibility criteria for B.Sc. (Hons.) Aircraft Maintenance Engineering Course (03 years) for IET Bhaddal Engineering College as per their request.
3. A committee of three members namely, Dr. Vivek Aggarwal, Dr. Jujhar Singh, and Dr. Amit Bansal has been formed to decide the courses for a minor degree in Electricals Vehicles to be offered to the students pursuing B. Tech. Major Degree in Electrical Engineering/ Electrical and Electronics Engineering/ Electronics and Electrical Engineering.
4. The committee approved the conduct of a theory paper for Engineering Graphics and Design for B.Tech.- First year students. The syllabus as approved by BOS members is attached herewith as Annexure-B.

The meeting ended with vote of thanks to the Chairman.

Dr. Amit Bansal (Coordinator) 30/7/2021

Dr. Neelkanth Grover (Chairman)

HOD
Department of Mechanical Engineering
I.K.G. P.T.U. Main Campus
Kapurthala

I.K. Gujral Punjab Technical University

Date: 15/06/2017

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/ Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/ Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on June 15th, 2017 at 11:00 in the conference hall, Department of Academics, G+3 Building, main campus, IK Gujral Punjab Technical University Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was to discuss the scheme & syllabus of B.Tech Mechanical Engg., M.Tech Mechanical Engg., & Production Engg., being run in main campus & affiliated colleges and to discuss any other matter with the permission of Chair.

Following members of the BOS were present and actively participated:

1. Dr.Vikas Chawla	Chairman (Professor)
2. Dr.Harwinder Singh	Member (Professor)
3. Dr. Om Pal Singh	Member (Professor)
4. Dr. Paramjit Singh Bilga	Member (Professor)
5. Dr. Neelkanth Grover	Member (Assoc. Professor)
6. Dr. Dilbag Singh	Member (Assoc. Professor)
7. Dr. Sumit Jain	Member (Assoc. Professor)
8. Dr. Deepak Kumar Goyal	Coordinator (Asstt. Professor)
9. Dr.Jujhar Singh	Member (Asstt. Professor)
10. Dr.Amoljit Singh Gill	Member (Asstt. Professor)

Following members of BOS could not attend the meeting:

1. Dr. S.P. Singh	Member (Outside Expert)
2. Dr. Dinesh Kumar	Member (Outside Expert)
3. Dr. Ajay Batish,	Member (Outside Expert)
4. S. Navdeepak Sandhu.	Member (T&P)

The Board has taken the following decisions:

1. It has been observed that BOG vide its 39th meeting under Agenda item no. 39.3 approved Manufacturing and Material Engineering; Thermal Engineering and Industrial Automation and Robotics as specializations for M.Tech. Programs to be started under

Department of Mechanical Engg., IKGPTU Main campus and not M.Tech. Mechanical Engineering (Manufacturing Engineering) as notified by the university. It has also been noted that this matter has never been brought to or discussed in any earlier BOS meeting/s.

2. It has been noticed that the specialization Manufacturing and Material Engineering approved by BOG doesn't come under nomenclatures approved by the AICTE in their guidelines.

3. Thus, it has been unanimously decided that M.Tech. Mechanical (Manufacturing and Material Engineering) as approved by BOG or M.Tech. Mechanical (Manufacturing Engineering) as notified by IKGPTU should not be considered as specialization to be started at IKGPTU Main Campus, Kapurthala. Although M.Tech. Mechanical (Manufacturing Engineering) is in tune with the nomenclature of AICTE, but as already M.Tech. Mechanical (Production Engineering) is being offered by the university affiliated colleges and both these specializations are almost similar, thus choice of M.Tech. Mechanical (Manufacturing Engineering) has been phased out.

4. Further, it has been unanimously suggested by all the members of BOS that from the point of view of more employability of students, it will have worth to start M.Tech. Mechanical Engineering at IKGPTU Main Campus on the pattern of IIT Ropar or some other IITs. Also, M.Tech. (Mechanical Engineering) is as per the nomenclature of AICTE. Approval for the same has to be taken from the BOG and Academic Council.

5. Department of Mechanical Engineering, IKGPTU Main Campus shall propose a study scheme and detailed syllabus/ contents of various subjects for M.Tech. (Mechanical Engineering) based on the contents of similar subjects taught in various IIT's. The proposed study scheme and detailed syllabus/ contents of various subjects will be discussed and finalised in the next meetings of BOS.

6. It has been strongly recommended that the study scheme and syllabus of UG and PG programs to be offered at IKGPTU Main Campus and its affiliated colleges/ institutions (except autonomous colleges/institutions as per UGC) should be same if the nomenclature of the program is same. Further, BOS recommended that in case IKGPTU decides to have separate syllabus, then nomenclature of the course/program should be different.

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Most important recommendation based on current observation:

Henceforth, whenever any new program is to be started by university or its affiliated colleges/institutions, it should be brought forward to BOS of the university well in advance so that appropriate recommendations can be given by BOS before any kind of approvals to new program/s. Treat this as most important to avoid any kind of problems at later stages.

Dr.Vikas Chawla

Dr.Harwinder Singh

Dr. Om Pal Singh

Dr.Paramjit Singh Bilga

Dr.Neelkanth Grover

Dr.Dilbag Singh

Dr.Sumit Jain

Dr. Deepak Kumar Goyal

Dr.Jujhar Singh

Dr.Amoljit Singh Gill

I.K. Gujral Punjab Technical University

Date: 10/07/2017

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on July 10th, 2017 at 11:00 in the conference hall, Department of Academics, G+3 Building, main campus, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss the skeleton and syllabus of M.Tech. Mechanical Engineering.
- To discuss and study suggestions regarding the new scheme of B.Tech proposed by Dean Academic Office. The syllabus is likely to be revised for 2018-19.
- To discuss any other matter with the permission of Chair.

Following members of the BOS were present and actively participated:

1. Dr.Vikas Chawla, Chairman (Professor & Head M.E.D., IKGPTU Main Campus)
2. Dr. Buta Singh Sidhu, Special Invitee (Dean P&D, MRSPTU, Bathinda)
3. Dr. S.P. Singh, Member (Professor, M.E.D., IIT Delhi)
4. Dr.Harwinder Singh, Member (Professor, M.E.D., GNDEC, Ludhiana)
5. Dr. Om Pal Singh, Member (Professor, M.E.D., BCET, Gurdaspur)
6. Dr. Paramjit Singh Bilga , Member (Professor, M.E.D., GNDEC, Ludhiana)
7. Dr. Neelkanth Grover, Member (Assoc. Professor, M.E.D., IKGPTU Main Campus)
8. Dr. Dilbag Singh, Member (Assoc. Professor, M.E.D., BCET, Gurdaspur)
9. Dr. Deepak Kumar Goyal, Coordinator (A. P., M.E.D., IKGPTU Main Campus)
10. Dr.Jujhar Singh, Member (A. P., M.E.D., IKGPTU Main Campus)
11. Dr.Amoljit Singh Gill, Member (A. P., M.E.D., IKGPTU Main Campus)

Following members of BOS could not attend the meeting:

1. Dr. Dinesh Kumar, Member (Professor, M.E.D., IIT Roorkee)
2. Dr. Ajay Batish, Member (Professor, M.E.D., Thapar Univ., Patiala)
3. Dr. Sumit Jain, Member (Assoc. Professor, CTIMT,Jalandhar)
4. S. Navdeepak Sandhu, Member (Dy. Director, CR&A, IKGPTU)

Department of Mechanical Engineering
I.K.G.P.T.U. Main Campus
Kapurthala

The Board has taken the following decisions:

1. The skeleton of M.Tech. Mechanical Engineering was discussed and finalised. The same is attached herewith. Further, it has been recommended to adopt the same for the session 2017-2018.
2. The task of designing the detailed syllabus of various courses of 1st semester of M.Tech. Mechanical Engineering have been assigned to following members:

Subject	BOS Members
Advanced Engineering Materials	Dr. Buta Singh Sidhu Dr. Vikas Chawla Dr. Jujhar Singh
Finite Element Analysis	Dr. S.P.Singh Dr. Neel Kanth Grover
Advanced Design of Mechanical Systems	Dr. S.P.Singh Dr. Harwinder Singh Dr. Amoljit Singh Gill
Operations Management	Dr. Om Pal Singh Dr. Dilbag Singh Dr. Deepak Kumar Goyal
Advanced Thermodynamics	Dr. Paramjit Singh Bilga Dr. Neel Kanth Grover

The members are requested to complete the given task within one week.

3. It has been suggested that if a student selects all the three elective subjects from the same group of electives and also completes his/her project and dissertation in the same field, he/she may be awarded a separate/ additional certificate indicating the more concentration in particular field e.g. Manufacturing, Industrial, Design or Thermal Engineering of his/her M.Tech. degree.
4. Regarding the proposed new study scheme of B.Tech. for the session 2018-19, it has been recommended that the new study scheme should be as per the UGC guidelines related to the same for the session 2018-19.

Dr.Vikas Chawla | Dr. Buta Singh Sidhu | Dr. S.P. Singh

Dr.Harwinder Singh | Dr. Om Pal Singh | Dr.Paramjit Singh Bilga

Dr.Dilbag Singh | Dr.Neelkanth Grover | Dr. Deepak Kumar Goyal

Dr.Jujhar Singh | Dr.Amoljit Singh Gill

Study Scheme of M.Tech. Mechanical Engineering
(2017 Admission Batch Onwards)

SEMESTER 1st		Contact Hours/Week			Maximum Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
XXXX	Advanced Engineering Materials	4	0	0	50	100	150	4
XXXX	Finite Element Analysis	3	1*	0	50	100	150	4
XXXX	Advanced Design of Mechanical Systems	3	1*	0	50	100	150	4
XXXX	Operations Management	4	0	0	50	100	150	4
XXXX	Advanced Thermodynamics	4	0	0	50	100	150	4
	Total	18	2	0	250	500	750	20

Total Contact Hours/Week = 20

*Tutorials involve problems solving sessions including practice on relevant software

SEMESTER 2nd		Contact Hours/Week			Maximum Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
XXXX	Research Methodology	3	1*	0	50	100	150	4
XXXX	Tribology	4	0	0	50	100	150	4
XXXX	Modern Manufacturing Processes	4	0	0	50	100	150	4
XXXX	Computational Fluid Dynamics	3	1*	0	50	100	150	4
XXXX	Elective -I	4	0	0	50	100	150	4
	Total	18	2	0	250	500	750	20

Total Contact Hours/Week = 20

*Tutorials involve problems solving sessions including practice on relevant software

SEMESTER 3rd		Contact Hours/Week			Maximum Marks			Credits
Subject Code	Subject Name	L	T	P	Int.	Ext.	Total	
XXXX	Elective-II	4	0	0	50	100	150	4
XXXX	Elective-III	4	0	0	50	100	150	4
XXXX	Project	-	-	12	50	50	100	6
XXXX	Seminar	-	-	4	100	--	100	2
	Total	8	0	16	250	250	500	16

Total Contact Hours/Week = 16

SEMESTER 4th	Contact Hours/Week			Evaluation Criteria	Credits
Subject Name	L	T	P		
Dissertation	0	0	28	Satisfactory/Unsatisfactory	14

Total Credits for the Programme: 70

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List of Electives (Manufacturing & Industrial Engineering)

1. Advanced Welding Technology
2. Advanced Metal Forming Processes
3. Automation and Robotics
4. Advanced Material Characterization Techniques
5. Rapid Prototyping
6. Advanced Metal Cutting
7. Advanced Casting Processes
8. Maintenance and Reliability Engineering
9. Supply Chain Management
10. Quality Assurance
11. Computer Integrated Manufacturing
12. Product Design and Development

List of Elective (Design)

1. Computer Aided Engineering
2. Engineering Design Optimization
3. Advanced Vibration Engineering
4. Robot Manipulators: Kinematics, Dynamics and Control
5. Mechatronics
6. Dynamics of Rotating Machines
7. Experiential Stress Analysis
8. Sustainable Design and Manufacturing
9. Vibration and Noise Control
10. Composite Materials
11. Instrumentation and Control Engineering
12. Modelling and Simulation of Dynamic Systems

List of Elective (Thermal)

1. Design of Internal Combustion Engines
2. Advanced Internal Combustion Engines
3. Design of Steam Turbine
4. Convective Heat Transfer
5. Advanced Fluid Mechanics
6. Combustion Engineering
7. Conductive & Radiative Heat Transfer
8. Solar Energy Utilization
9. Alternative Refrigeration and Air Conditioning Techniques
10. Design of HVAC systems
11. Design and Optimization of Thermal Systems
12. Advanced Heat and Mass Transfer

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Kapurthala

I.K. Gujral Punjab Technical University

Date: 15/12/2017

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on December 15th, 2017 at 11:00 in the conference hall, Department of Academics, G+3 Building, main campus, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss and finalise the syllabus of M.Tech Mechanical Engineering 2nd semester onwards.
- To discuss the syllabus of B.Tech 1st year subjects related to Mechanical Engineering for the coming session.
- To discuss any other matter with the permission of Chair.

Following members of BOS and special invitees were present and actively participated:

1. Dr. Vikas Chawla, Professor & Head, Department of Mechanical Engg., IKGPTU, Kapurthala
2. Dr. Om Pal Singh, Professor, Department of Mechanical Engg, BCET, Gurdaspur
3. Dr. Neelkanth Grover, Assoc. Prof. Department of Mechanical Engg. IKGPTU,Kapurthala
4. Dr. Deepak Kumar Goyal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
5. Dr. Jujhar Singh, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
6. Dr. Amoljit Singh Gill, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
7. Er. Navdeepak Sandhu, Dy. Director CR&A, IKGPTU, Kapurthala
8. Dr. Manoj Mittal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
9. Dr. Vivek Aggarwal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
10. Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni)
11. Dr. Amit Bansal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)

Following members of BOS and special invitees could not attend the meeting:

1. Dr. Buta Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)*
2. Dr. S.P. Singh, Professor, IIT, Delhi*
3. Dr. Dinesh Kumar, Professor, IIT, Roorkee
4. Dr. Ajay Batish, Professor, Thapar University
5. Dr. Harwinder Singh, Professor, Department of Mechanical Engg, GNDEC, Ludhiana*
6. Dr. Paramjit Singh Bilga, Professor, Department of Mechanical Engg, GNDEC,Ludhiana
7. Dr. Dilbag Singh, Asso. Prof. Department of Mechanical Engg, BCET, Gurdaspur*
8. Dr. Sumit Jain, Assoc. Prof., Department of Mechanical Engg, CTIMT, Jalandhar
9. Er. Sumit Bansal, BHEL, Goindwal Sahib (Special invitee from industry)*

*The comments sent by BOS members has been incorporated in the syllabus.

15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17

Department of Mechanical Engineering
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Kapurthala

The Board has taken the following decisions:

1. The scheme of M.Tech. Mechanical Engineering was discussed and list of elective subjects has been revised. Revised and finalised list of elective subjects is attached herewith. (Annexure-I)
2. The syllabus of M.Tech. Mechanical Engineering 2nd semester onwards was discussed and finalised (Details are attached as Annexure II).
3. It was suggested that the scheme of 1st year as per AICTE Model Curriculum issued in November 2017 for the first year undergraduate Degree Courses in Engineering & Technology (B.Tech.) to be adopted by the university w.e.f. session 2018-2019 for the admission batch 2018-19 onwards.
4. The syllabus of Mechanical Engineering subjects offered in B.Tech. 1st year was discussed and the task of designing the detailed syllabus of Engineering Graphics & Design is assigned to the team of Dr. Vikas Chawla, Dr. Amoljit Singh and Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni). The team will submit the same by 15th January, 2018.

15/12/17 Dr. Vikas Chawla	15/12/17 Dr. Om Pal Singh	Dr. Neelkanth Grover
15/12/17 Dr. Deepak Kumar Goyal	15/12/17 Dr. Jujhar Singh	15/12/17 Dr. Amoljit Singh Gill
15/12/17 Er. Navdeepak Sandhu	Dr. Manoj Mittal	15/12/17 Dr. Vivek Aggarwal
15/12/17 Dr. Amit Bansal	15/12/17 Er. Sewa Singh	

Mechanical Engineering
PTU Main Campus
Kapurthala

Annexure - I

List of Elective Subjects for M. Tech. Mechanical Engineering

List of Electives (Manufacturing & Industrial Engineering)

1. Advanced Welding Technology
2. Automation and Robotics
3. Advanced Material Characterization Techniques
4. Rapid Prototyping
5. Advanced Metal Cutting
6. Advanced Casting Processes
7. Maintenance and Reliability Engineering
8. Supply Chain Management
9. Product Design and Development

List of Elective (Design)

1. Engineering Design Optimization
2. Advanced Vibration Engineering
3. Mechatronics
4. Dynamics of Rotating Machines
5. Experiential Stress Analysis
6. Sustainable Design and Manufacturing
7. Vibration and Noise Control
8. Composite Materials
9. Instrumentation and Control Engineering

List of Elective (Thermal)

1. Advanced Internal Combustion Engines
2. Design of Steam Turbine
3. Convective Heat Transfer
4. Combustion Engineering
5. Conductive & Radiative Heat Transfer
6. Solar Energy Utilization
7. Design of HVAC systems
8. Design and Optimization of Thermal Systems
9. Advanced Heat and Mass Transfer

Note:

(A) Student can opt Elective I, II &III subjects from the entire list electives as above.

(B) If a student selects all the three elective subjects form the same group of electives and also completes his / her project and dissertation in the same field, he /she may be awarded a separate / additional certificate indicating the more concentration in a particular field e.g. Manufacturing and Industrial, Design or Thermal of his / her M. Tech degree.

15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17 15/12/17

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I.K. Gujral Punjab Technical University

Date: 06/04/2018

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on April 6th, 2018 at 11:00 a.m. in the conference hall, Department of Academics, G+3 Building, main campus, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss and finalise the scheme of M.Tech Mechanical Engineering for the coming session.
- To discuss and finalise the syllabus of B.Tech 1st year subjects related to Mechanical Engineering for the coming session.
- To discuss any other matter with the permission of Chair.

Following members of BOS and special invitees were present and actively participated:

1. Dr. Vikas Chawla, Professor & Head, Department of Mechanical Engg., IKGPTU, Kapurthala
2. Dr. Om Pal Singh, Professor, Department of Mechanical Engg, BCET, Gurdaspur
3. Dr. Harwinder Singh, Professor, Department of Mechanical Engg, GNDEC, Ludhiana
4. Dr. Dilbag Singh, Assoc. Prof. Department of Mechanical Engg, BCET, Gurdaspur
5. Dr. Neelkanth Grover, Assoc. Prof. Department of Mechanical Engg, IKGPTU,Kapurthala
6. Dr. Deepak Kumar Goyal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
7. Dr. Jujhar Singh, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
8. Er. Navdeepak Sandhu, Dy. Director CR&A, IKGPTU, Kapurthala
9. Dr. Manoj Mittal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
10. Dr. Vivek Aggarwal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
11. Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni)
12. Dr. Amit Bansal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)

Following members of BOS and special invitees could not attend the meeting:

1. Dr. Buta Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)
2. Dr. S.P. Singh, Professor, IIT, Delhi
3. Dr. Dinesh Kumar, Professor, IIT, Roorkee
4. Dr. Ajay Batish, Professor, Thapar University
5. Dr. Paramjit Singh Bilga, Professor, Department of Mechanical Engg, GNDEC,Ludhiana
6. Dr. Sumit Jain, Assoc. Prof., Department of Mechanical Engg, CTIMT, Jalandhar
7. Dr. Amoljit Singh Gill, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
8. Er. Sumit Bansal, BHEL, Goindwal Sahib (Special invitee from industry)

6/4/18

6/4/18

The Board has taken the following decisions:

1. It was discussed and finalised that the study scheme and syllabus of M. Tech Thermal Engineering are to be adopted same as AICTE Model Curriculum for 'M. Tech. Mechanical Engineering Specialization: Thermal Engineering' for the batch 2018-19 onwards. The copy attached as Annexure-A.
2. It was discussed and finalised that the syllabus of B. Tech 1st year (common to all branches) subjects related to BOS Mechanical Engineering (1. Engineering Graphics & Design, 2. Workshop/Manufacturing Practices) are to be adopted same as AICTE Model Curriculum for the batch 2018-19 onwards. The copy attached as Annexure-B.
3. The study scheme and syllabus of B. Tech. Mechanical Engineering for the batch 2018-19 onwards (3rd to 8th Semester) will be discussed and finalised in the next BOS meeting.
4. The subject codes for the all the subjects/courses will be decided by Academics Department, IKGPTU as per their pattern.
5. The study scheme and syllabus for the following B. Tech. and M. Tech. programmes will be revised after issuance of Model Curriculum by AICTE for the same or as decided by competent authority.
   - B. Tech. Automation & Robotics (Study scheme & syllabus of 3rd to 8th Sem.)
   - B. Tech. Automobile Engineering (Study scheme & syllabus of 3rd to 8th Sem.)
   - B. Tech. Industrial Engineering (Study scheme & syllabus of 3rd to 8th Sem.)
   - B. Tech. Production Engineering (Study scheme & syllabus of 3rd to 8th Sem.)
   - B. Tech. Tool Engineering (Study scheme & syllabus of 3rd to 8th Sem.)
   - M. Tech. Industrial Engineering (Study scheme & syllabus of 1st to 4th Sem.)
   - M. Tech. Mechanical Engineering (Study scheme & syllabus of 1st to 4th Sem.)
   - M. Tech. Production Engineering (Study scheme & syllabus of 1st to 4th Sem.)
   - M. Tech. CAD / CAM (Study scheme & syllabus of 1st to 4th Sem.)

The meeting ended with the vote of thanks to the chair.

Dr. Vikas Chawla	Dr. Om Pal Singh	Dr. Harwinder Singh	Dr. Dilbag Singh
Dr. Neelkanth Grover	Dr. Deepak Kumar Goyal	Dr. Jujhar Singh	Er. Navdeepak Sandhu
Dr. Manoj Mittal	Dr. Vivek Aggarwal	Er. Sewa Singh	Dr. Amit Bansal

Department of Mechanical Engineering
I.K.G. P.T.U. Main Campus
Kapurthala

I.K. Gujral Punjab Technical University

Date: 06/07/2018

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on July 6th, 2018 at 11:00 a.m. in the conference hall, Department of Academics, G-3 Building, main campus, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss and finalise the syllabus of B. Voc. (Automobile Servicing, Automotive Manufacturing Technology and Refrigeration & Air Conditioning) Courses offered by AICTE for the admission year 2018-19.

Following members of BOS and special invitees were present and actively participated:

1. Dr.Vikas Chawla, Professor & Head, Department of Mechanical Engg., IKGPTU, Kapurthala
2. Dr. Buta Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)
3. Dr. Om Pal Singh, Professor, Department of Mechanical Engg. BCET, Gurdaspur
4. Dr.Paramjit Singh Bilga, Professor, Department of Mechanical Engg. GNDEC,Ludhiana
5. Dr.Neelkhant Grover, Asso. Prof. Department of Mechanical Engg. IKGPTU,Kapurthala
6. Dr.Dilbag Singh, Asso. Prof. Department of Mechanical Engg. BCET, Gurdaspur
7. Dr. Deepak Kumar Goyal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
8. Dr.Jujhar Singh, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
9. Dr.Amoljit Singh Gill, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
10. Dr. Manoj Mittal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
11. Dr. Vivek Aggarwal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
12. Dr. Amit Bansal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
13. Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni)
14. Dr. R.K. Narula, Asstt. Prof., Department of Mathematics, IKGPTU, Kapurthala (Special invitee on the spot)
15. Dr. Gaurav Bhargava, Assoc. Prof. Department of Chemistry, IKGPTU, Kapurthala (Special invitee on the spot)
16. Dr. Amit Sarin, Assoc. Prof., Department of Physics, IKGPTU, Kapurthala (Special invitee on the spot)
17. Dr. Amit Gupta, Asstt. Prof., Department of ECE, IKGPTU, Kapurthala (Special invitee on the spot)

Following members of BOS could not attend the meeting:

1. Dr. S.P. Singh, Professor, IIT, Delhi
2. Dr. Dinesh Kumar, Professor, IIT, Roorkee
3. Dr. Ajay Batish, Professor, Thapar University
4. Dr. Harwinder Singh, Professor, Department of Mechanical Engg. GNDEC, Ludhiana
5. Dr.Sumit Jain, Asso. Prof., Department of Mechanical Engg. CTIMT,Jalandhar
6. Er. Navdeepak Sandhu, Dy. Director CR&A, IKGPTU, Kapurthala

The Board has taken the following decisions:

1. Members of the BOS discussed and finalised the curriculum for Level 3 semester I & Level 3 semester II only. The curriculum for Level 4, Level 5, Level 6 and Level 7 will be discussed in subsequent BOS meetings.

2. In the model curriculum for B.Voc./D.Voc. in Automotive Manufacturing Technology, following points have been suggested:
   (a) During Level 3, semester I in On-Job-Training (OJT)/ Qualification Packs, Auto Body Technician level 3 (ASC/Q 1410) course should be must.
   (b) During Level 3, semester II in On-Job-Training (OJT)/ Qualification Packs, Automotive Service Technician level 3 (ASC/Q 1401) & Casting Technician Level 3 (ASC/ Q 3202) courses should be included and anyone from these two can be opted by the students.
   (c) The detailed curriculum for 1st year is accepted as proposed by AICTE with minor modifications in their content (attached herewith).

3. In the model curriculum for B.Voc./D.Voc. in Automobile Servicing, following points have been suggested:
   (a) During Level 3, semester I in On-Job-Training (OJT)/ Qualification Packs, Automotive Service Technician level 3 (ASC/Q 1401) course should be must.
   (b) During Level 3, semester II in On-Job-Training (OJT)/ Qualification Packs, Auto Body Technician level 3 (ASC/Q 1410) & Casting Technician Level 3 (ASC/ Q 3202) courses should be included and anyone from these two can be opted by the students.
   (c) The detailed curriculum for 1st year is accepted as proposed by AICTE with minor modifications in their content (attached herewith).

4. In the model curriculum for B.Voc./D.Voc. in Refrigeration and Air Conditioning, following points have been suggested:
   (a) During Level 3, semester I in On-Job-Training (OJT)/ Qualification Packs, Field Technician-Refrigeration (ELE/Q 3103) course should be must.
   (b) During Level 3, semester II in On-Job-Training (OJT)/ Qualification Packs, Operator -Conventional Training (CSC/Q 0110) and Fitter- Fabrication (CSC/Q 0303) courses should be included and anyone from these two can be opted by the students.

(c) The detailed curriculum for 1st year is accepted as proposed by AICTE with minor modifications in their content (attached herewith).

Dr. Vikas Chawla	Dr. Buta Singh Sidhu	Dr. Om Pal Singh
Dr.Paramjit Singh Bilga	Dr. Neelkanth Grover	Dr.Dilbag Singh
Dr. Deepak Kumar Goyal	Dr. Jujhar Singh	Dr. Amoljit Singh Gill
Dr. Manoj Mittal	Dr. Vivek Aggarwal	Dr. Amit Bansal
Er. Sewa Singh	Dr. R.K. Narula	Dr. Gaurav Bhargha
Dr. Amit Sarin	Dr. Amit Gupta	

Dean (Acad. Affairs)
I.K.G. P.T.U.
Kapurthala

IK GUJRAL PUNJAB TECHNICAL UNIVERSITY
(Department of Academics)

Ref. No. IKGPTU/ME/2642

Date: 29/01/2019

Dr. Vikas Chawla, Professor & Incharge, IKGPTU, Hoshiarpur Campus, Hoshiarpur (Chairman, BOS)
Dr. R.P. Singh, Professor (Rtd.), [illegible]
Dr. Bhag Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)
Dr. S.P. Singh, Professor, IIT, Delhi
Dr. A.S. Buttar, Assoc. Prof. & Head Dept. of ECE, IKGPTU, Kapurthala (Special invitee)
Dr. Vineet Gupta, Professor, Department of Mechanical Engg. Pec Univ., Patiala (Special invitee)
Dr. Harwinder Singh, Professor, Department of Mechanical Engg. GNDEC, Ludhiana
Dr. Om Pal Singh, Professor, Department of Mechanical Engg. BCET, Gurdaspur
Dr. Paramjit Singh Bilga, Professor, Department of Mechanical Engg. GNDEC, Ludhiana
Dr. Sukhjinder Singh, Assoc. Prof. & Head, Department of Mechanical Engg. IKGPTU, Kapurthala
Dr. Dilbag Singh, Assoc. Prof., Department of Mechanical Engg. BCET, Gurdaspur
Dr. Sumit Jain, Assoc. Prof., Department of Mechanical Engg. CIET, Jalandhar
Dr. Amit Sarin, Assoc. Prof. & Head, Dept. of Physical Sciences, IKGPTU, Kapurthala (Special invitee)
Dr. Sohail Anwar, Assoc. Prof. & Head, Dept. of Mathematical Sciences, IKGPTU, Kapurthala (Special invitee)
Dr. Jagmohan Bawa, Assoc. Prof. (HOD) HAT, IKGPTU, Kapurthala
Dr. Nirav Bala, Assoc. Prof. & Head, RIC, GPSSTU, Kapurthala (Special invitee)
Dr. Deepak Kumar Goyal, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
Dr. Jujhar Singh, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
Dr. Amoljit Singh Gill, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
Er. Navdeepak Sandhu, Dy. Director, CRSV, IKGPTU, Kapurthala
Dr. Manoj Mittal, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
Dr. Vivek Aggarwal, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
Dr. Sunil Bansal, Assoc. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
Er. Sumit Dairas, BHEL, Jammu (Special invitee)
Er. Sewa Singh, A.P., ACEM, Kapurthala

Subject: **Meeting of Board of Studies Mechanical Engineering/ Production Engineering/ Industrial & Automobile Engineering**

Sir/ Madam,

A meeting of the above-said members of Board of studies **Mechanical Engineering/ Production Engineering/ Industrial & Automobile Engineering** & special invitees is scheduled to be held on **February 7th, 2019 at 11:00** [illegible] in the Conference Hall, Department of Academics, Punjab Technical University, [illegible] Kapurthala-Jalandhar Highway, Farwah.

The agenda of the meeting is:

- To discuss and upgrade the syllabus of B.Tech. (Mechanical Engineering) from 3rd to 8th semester
- To discuss any other matter with the permission of Chair

The scheme & syllabus for UG programme of Mechanical Engineering of IKG P.T.U., Gurdaspur, GNE [illegible] and AICTE Model curriculum are attached herewith for your kind reference.

You are requested to participate and contribute towards your suggestions. Kindly confirm your participation in the said meeting through [illegible] SMS at 9463883836.

TA/DA & Honorarium [illegible] as per the University norms. Kindly [illegible] the information of your bank account number and IFSC code of your [illegible] so that payment will be directly credited into your account. A word in reply will be appreciated.

Chairman, BOS, IKGPTU

Cc:
Dean Academics

Department of Mechanical Engineering
I.K.G. P.T.U. Kapurthala Campus
Kapurthala

I.K. Gujral Punjab Technical University

Date: 07/02/2019

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on February 7th, 2019 at 11:00 a.m. in the conference hall, R.I.C. Department, G+3 Building, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss and upgrade the scheme & syllabus of B.Tech. (Mechanical Engineering) from 3rd to 8th semester.
- To discuss any other matter with the permission of Chair.

Following members of BOS and special invitees were present and actively participated:

1. Dr. Vikas Chawla, Professor & In-charge, IKGPTU Hoshiarpur Campus, Hoshiarpur (Chairman, BOS)
2. Dr. R.P. Singh, Professor (Rtd.) (Special invitee)
3. Dr. Vinay Gupta, Professor, Department of Mechanical Engg, Pbi. Univ., Patiala (Special invitee)
4. Dr. Om Pal Singh, Professor, Department of Mechanical Engg, BCET, Gurdaspur
5. Dr. Neelkanth Grover, Assoc. Prof. & Head, Department of Mechanical Engg, IKGPTU, Kapurthala
6. Dr. Dilbag Singh, Assoc. Prof., Department of Mechanical Engg, BCET, Gurdaspur
7. Dr. Jagmeet Bawa, Asstt. Prof., IRCUHVE, IKGPTU, Kapurthala (Special invitee)
8. Dr. Deepak Kumar Goyal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
9. Dr. Jujhar Singh, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
10. Dr. Amoljit Singh Gill, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala
11. Er. Navdeepak Sandhu, Dy. Director CR&A, IKGPTU, Kapurthala
12. Dr. Vivek Aggarwal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
13. Dr. Amit Bansal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)

Following members of BOS could not attend the meeting:

1. Dr. Buta Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)
2. Dr. S.P. Singh, Professor, IIT, Delhi
3. Dr. Harwinder Singh, Professor, Department of Mechanical Engg, GNDEC, Ludhiana
4. Dr. Paramjit Singh Bilga, Professor, Department of Mechanical Engg, GNDEC, Ludhiana
5. Dr. Sumit Jain, Assoc. Prof., Department of Mechanical Engg, CTIMT, Jalandhar
6. Dr. Amit Sarin, Assoc. Prof. & Head, Deptt. of Physical Sciences, IKGPTU, Kapurthala (Special invitee)
7. Dr. Ashish Arora, Assoc. Prof. & Head, Deptt. of Mathematical Sciences, IKGPTU, Kapurthala (Special invitee)
8. Dr. Niraj Bala, Assoc. Prof. & Head, RIC, BBSBEC, Fatehgarh Sahib (Special invitee)
9. Dr. Manoj Mittal, Asstt. Prof., Department of Mechanical Engg, IKGPTU, Kapurthala (Special invitee)
10. Er. Sumit Bansal, BHEL, Goindwal Sahib (Special invitee from industry)
11. Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni)

The Board has taken the following decisions:

1. The scheme for B.Tech. Mechanical Engineering (Batch 2018 onwards) from 3rd Semester to 8th Semester was discussed and finalised (attached herewith as Annexure-I)

2. The team of faculty members have been constituted to propose the detailed contents of the syllabus of various subject of 3rd and 4th semester (Mechanical Engineering) as per following details:

Sr. No.	Semester	Subject	Faculty Member(s)
1	3rd	Fluid Mechanics	Dr. Neelkanth Grover Dr. Vivek Aggarwal
2	3rd	Theory of Machines-I	Dr. Deepak Kumar Goyal Dr. Amit Bansal
3	3rd	Machine Drawing	Dr. Vikas Chawla
4	3rd	Basic Electronics Engineering	Chairman, BOS (ECE)
5	3rd	Strength of Materials-I	Dr. Vinay Gupta Dr. Amoljit Singh Gill
6	3rd	Applied Thermodynamics-I	Dr. R.P. Singh Dr. Jujhar Singh
7	3rd	Mech. Engg. Lab-I (SOM, TOM-I, Fluid Mechanics)	Dr. Neelkanth Grover, Dr. Jujhar Singh, Dr. Amoljit Singh
8	4th	Applied Thermodynamics-II	Dr. R.P. Singh Dr. Jujhar Singh
9	4th	Fluid Machines	Dr. Neelkanth Grover Dr. Vivek Aggarwal
10	4th	Strength of Materials-II	Dr. Vinay Gupta Dr. Amoljit Singh Gill
11	4th	Materials Engineering	Dr. Dilbag Singh Dr. Om Pal Singh
12	4th	Theory of Machines-II	Dr. Deepak Kumar Goyal Dr. Amit Bansal
13	4th	Environmental Science	Chairman, BOS (Chemical Sciences)
14	4th	Mechanical Engg. Lab-II (Applied Thermodynamics, Fluid Machines, Material Engineering)	Dr. Jujhar Singh Dr. Neelkanth Grover Dr. Dilbag Singh

3. Subject codes and open elective subjects will be decided in next BOS meeting.

Dr. Vikas Chawla | Dr. R. P. Singh | Dr. Vinay Gupta

Dr. Om Pal Singh | Dr. Neelkanth Grover | Dr. Dilbag Singh

Dr. Deepak Kumar Goyal | Dr. Jujhar Singh | Dr. Amoljit Singh Gill

Dr. Vivek Aggarwal | Dr. Amit Bansal | Er. Navdeepak Sandhu

Dr. Jagmeet Bawa

Two papers which were decided for the meeting related to first year are not included.

Department of Mechanical Engineering
I.K.G. P.T.U. Campus
Kapurthala

ANNEXURE -I

Branch / course: Mechanical Engineering
Total credits (4 year course)

Semester III (Second year]
Branch/Course Mechanical Engineering

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses		Fluid Mechanics	3	1	0	4	4
2	Professional Core courses		Theory of Machines -I	3	1	0	4	4
3	Professional Core courses		Machine Drawing	1	0	4	3	3
4	Engineering Science courses		Basic Electronics Engineering	3	0	0	3	3
5	Professional Core courses		Strength of Materials-I	3	1	0	4	4
6	Professional Core courses		Applied Thermodynamics-I	3	1	0	4	4
7.	Professional Core courses		Mech. Engg. Lab-I (SOM, TOM-I, Fluid Mechanics)	0	0	4	4	2
							Total credits	**24**

Semester IV (Second year]
Branch/Course Mechanical Engineering

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses		Applied Thermodynamics -II	3	1	0	4	4
2	Professional Core courses		Fluid Machines	3	1	0	4	4
3	Professional Core courses		Strength of Materials-	3	1	0	4	4

			II					
4	Engineering Science courses		Materials Engineering	3	0	0	3	3
5	Professional Core courses		Theory of Machines-II	3	1	0	4	4
6	Mandatory courses		Environmental Science	-	-	-	-	0
7	Professional Core courses		Mechanical Engg. Lab-II (Applied Thermodynamics, Fluid Machines. Material Engineering)	0	0	4	4	2
							Total credits	**21**

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Semester V (Third year]
Branch/Course **Mechanical** Engineering

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses		Heat Transfer	3	1	0	4	4
2	Professional Core courses		Design of Machine Elements-I	3	1	0	4	4
3	Professional Core courses		Manufacturing Processes-I	3	0	0	3	3
4	Engineering Science Courses		Numerical Methods	3	0	2	5	4
5	Humanities and Social Sciences including Management courses		Humanities -I	3	0	0	3	3
6	Professional Core courses		Mechanical Engineering Laboratory-III (Heat Transfer, Manufacturing Processes)	0	0	4	4	2
7	Mandatory course		Essence of Indian Knowledge Tradition	0	0	0		0
							Total credits	**20.0**

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Semester VI (Third year] Branch/Course
Mechanical Engineering

Sl. No.	Category		Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses		Manufacturing Processes-II	3	0	0	3	3
2	Professional Core courses		Design of Machine Elements-II	3	1	0	4	4
3	Professional Core courses		Refrigeration and Air Conditioning	3	1	0	4	4
4	Professional Core courses		Mechanical Measurements & Metrology	3	0	0	3	3
5	Humanities and Social Sciences including Management		Open Elective-II (Humanities)	3	0	0	3	3
6	Professional Core courses		Mechanical Engineering Laboratory -IV (M.P.-II, M.M.M., R.A.C.)	0	0	4	4	2
7	Project/ internship		Project-I	0	0	4	(90 hrs Total)	2
							Total credits	21.0

Semester VII (Fourth year]
Branch/Course: Mechanical Engineering

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses		Automation in Manufacturing	3	0	0	3	3
2	Professional Elective courses		Elective I	3	0	0	3	3

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07.2.19

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
3	Professional Core courses		Mechanical Vibrations	3	1	0	4	4
4	Professional Core courses		Operations Research	3	1	0	4	4
5	Professional Core courses		Mechanical Engineering Laboratory-V (Automation in Manufacturing, Mechanical Vibration)	0	0	4	4	2
6	Project		Project-II	0	0	8	8	4
							Total credits	**20.0**

Semester VIII (Fourth year)
Branch/Course Mechanical Engineering

Sl. No.	Category	Code	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Elective Courses		Elective-II	3	0	0	3	3
2	Professional Elective Courses		Elective-III	3	0	0	3	3
3	Professional Core courses		Automobile Engg.	3	0	2	5	4
4	Open Elective courses		Open Elective-III	3	0	0	3	3
5	Humanities and Social Sciences including Management		Open Elective- III (Humanities)	3	0	0	3	3
6	Project		Project-III	0	0	10	10	5
							Total credits	**21**

TOTAL CREDITS – 165

List of PROFESSIONAL ELECTIVE COURSES

Sl. No	Code No.	Subject
	Group I	Internal Combustion Engines
		Cryogenic Technology
		Non Conventional Energy Resources
		Energy Conservation and Management
		Solar Energy
		Power Plant Engineering
	Group II	Total Quality Management
		Modeling and Simulation
		Operations Management
		Non-Destructive Testing
		Maintenance and Reliability Engineering
		Material Management
	Group III	Product Design and Development
		Machine Tool Design
		Tool Design
		Finite Element Method
		Industrial Tribology
		Mechatronics

07.2.19.

HOD
Department of Mechanical Engineering
I.K.G. P.T.U.
Kapurthala

I.K. Gujral Punjab Technical University

Date: 07/02/2019

(Minutes of Meeting)

Board of Studies of Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) constituted vide Notification No. IKGPTU/Reg/NF/26 dated 01/03/17 was held on February 7th, 2019 at 11:00 a.m. in the conference hall, R.I.C. Department, G+3 Building, I.K. Gujral Punjab Technical University, Jalandhar, Jalandhar-Kapurthala highway, Punjab.

The agenda of the meeting was:

- To discuss and upgrade the scheme & syllabus of B.Tech. (Mechanical Engineering) from 3rd to 8th semester.
- To discuss any other matter with the permission of Chair.

Following members of BOS and special invitees were present and actively participated:

1. Dr. Vikas Chawla, Professor & In-charge, IKGPTU Hoshiarpur Campus, Hoshiarpur (Chairman, BOS)
2. Dr. R.P. Singh, Professor (Rtd.) (Special invitee)
3. Dr. Vinay Gupta, Professor, Department of Mechanical Engg. Pbi. Univ., Patiala (Special invitee)
4. Dr. Om Pal Singh, Professor, Department of Mechanical Engg. BCET, Gurdaspur
5. Dr. Neelkanth Grover, Assoc. Prof. & Head, Department of Mechanical Engg. IKGPTU, Kapurthala
6. Dr. Dilbag Singh, Assoc. Prof., Department of Mechanical Engg. BCET, Gurdaspur
7. Dr. Jagmeet Bawa, Asstt. Prof., IRCUHVE, IKGPTU, Kapurthala (Special invitee)
8. Dr. Deepak Kumar Goyal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
9. Dr. Jujhar Singh, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
10. Dr. Amoljit Singh Gill, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala
11. Er. Navdeepak Sandhu, Dy. Director CR&A, IKGPTU, Kapurthala
12. Dr. Vivek Aggarwal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
13. Dr. Amit Bansal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)

Following members of BOS could not attend the meeting:

1. Dr. Buta Singh Sidhu, Dean Planning, MRSPTU, Bathinda (Special invitee)
2. Dr. S.P. Singh, Professor, IIT, Delhi
3. Dr. Harwinder Singh, Professor, Department of Mechanical Engg. GNDEC, Ludhiana
4. Dr. Paramjit Singh Bilga, Professor, Department of Mechanical Engg. GNDEC, Ludhiana
5. Dr. Sumit Jain, Assoc. Prof., Department of Mechanical Engg. CTIMT, Jalandhar
6. Dr. Amit Sarin, Assoc. Prof. & Head, Deptt. of Physical Sciences, IKGPTU, Kapurthala (Special invitee)
7. Dr. Ashish Arora, Assoc. Prof. & Head, Deptt. of Mathematical Sciences, IKGPTU, Kapurthala (Special invitee)
8. Dr. Niraj Bala, Assoc. Prof. & Head, RIC, BBSBEC, Fatehgarh Sahib (Special invitee)
9. Dr. Manoj Mittal, Asstt. Prof., Department of Mechanical Engg. IKGPTU, Kapurthala (Special invitee)
10. Er. Sumit Bansal, BHEL, Goindwal Sahib (Special invitee from industry)
11. Er. Sewa Singh, A.P., ACEM, Kapurthala (Special invitee, PTU Alumni)

The Board has taken the following decisions:

1. The scheme for B.Tech. Mechanical Engineering (Batch 2018 onwards) from 3rd Semester to 8th Semester was discussed and finalised (attached herewith as Annexure-I)

2. The team of faculty members have been constituted to propose the detailed contents of the syllabus of various subject of 3rd and 4th semester (Mechanical Engineering) as per following details:

Sr. No.	Semester	Subject	Faculty Member(s)
1	3rd	Fluid Mechanics	Dr. Neelkanth Grover Dr. Vivek Aggarwal
2	3rd	Theory of Machines-I	Dr. Deepak Kumar Goyal Dr. Amit Bansal
3	3rd	Machine Drawing	Dr. Vikas Chawla
4	3rd	Basic Electronics Engineering	Chairman, BOS (ECE)
5	3rd	Strength of Materials-I	Dr. Vinay Gupta Dr. Amoljit Singh Gill
6	3rd	Applied Thermodynamics-I	Dr. R.P. Singh Dr. Jujhar Singh
7	3rd	Mech. Engg. Lab-I (SOM, TOM-I, Fluid Mechanics)	Dr. Neelkanth Grover, Dr. Jujhar Singh, Dr. Amoljit Singh
8	4th	Applied Thermodynamics-II	Dr. R.P. Singh Dr. Jujhar Singh
9	4th	Fluid Machines	Dr. Neelkanth Grover Dr. Vivek Aggarwal
10	4th	Strength of Materials-II	Dr. Vinay Gupta Dr. Amoljit Singh Gill
11	4th	Materials Engineering	Dr. Dilbag Singh Dr. Om Pal Singh
12	4th	Theory of Machines-II	Dr. Deepak Kumar Goyal Dr. Amit Bansal
13	4th	Environmental Science	Chairman, BOS (Chemical Sciences)
14	4th	Mechanical Engg. Lab-II (Applied Thermodynamics, Fluid Machines, Material Engineering)	Dr. Jujhar Singh Dr. Neelkanth Grover Dr. Dilbag Singh

3. Subject codes and open elective subjects will be decided in next BOS meeting.

Dr. Vikas Chawla | Dr. R. P. Singh | Dr. Vinay Gupta

Dr. Om Pal Singh | Dr. Neelkanth Grover | Dr. Dilbag Singh

Dr. Deepak Kumar Goyal | Dr. Jujhar Singh | Dr. Amoljit Singh Gill

Dr. Vivek Aggarwal | Dr. Amit Bansal | Er. Navdeepak Sandhu

Dr. Jagmeet Bawa

Two papers which were decided for the meeting related to First year are not included.

Department of Mechanical Engineering
I.K.G. P.T.U.
Kapurthala

Dated: 28/06/2019

I.K. Gujral Punjab Technical University
(Minutes of Meeting)

A meeting of the Board of Studies (Mechanical Engineering/Production Engineering/Industrial Engineering/Automobile Engineering) was held on **28th June 2019** at **10:30** in the conference hall, Department of Academics, G+3 Building, main campus, IK Gujral Punjab Technical University Jalandhar, Jalandhar-Kapurthala highway, Punjab.

Following members of BoS and special invitees were present:

1. Dr. Om Pal Singh, BCET Gurdaspur
2. Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur
3. Dr. Paramjit Singh Bilga, GNDEC, Ludhiana
4. Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
5. Dr. R.P.S. Sukerchakia, Principal (Rt) GNDEC, Ludhiana
6. Dr. Rachin Goyal, CGC, Landran
7. Dr. Devinder Priyadarshi, DAVIET, Jalandhar
8. Dr. Subhash Chander, NIT Jalandhar
9. Dr. Neel Kanth Grover, Department of ME, IKGPTU Main Campus
10. Mr Rajan, Student, Department of ME, IKGPTU Main Campus
11. Mr Sharan, Student, Department of ME, IKGPTU Main Campus

Following members of BoS could not attend the meeting:

1. Mr. Sarbjit Singh, GM-Manufacturing Honda Motorcycle and Scooter India Pvt. Ltd, IMT Manesar
2. Dr. Vijay Kumar Jadon, Chitkara University, Rajpura
3. Dr. Suresh Kumar Verma, DCRUST Murthal (Sonipat) Haryana
4. Dr. Balkar Singh, Director Academics, IKGPTU
5. Dr. Jujhar Singh, IKGPTU Main Campus
6. Dy. Director / Assistant Director CR&A, Department of CR&A, IKGPTU, Alumni of IKGPTU

The Board has made the following recommendations:

1) The detailed syllabus for B. Tech. 1st year (Batch 2019 onwards) course of Engineering Graphics and Design (BTME-101-18) has been discussed. The credit of the course is recommended to be increased from 3 to 4 and contact hour increased from 4 to 6 hrs. Further, the theory paper can be included in the first year from 1st to 5th units with revised syllabus. There will be a theory examination of 60 Marks. The internal marks will be 40. The syllabus of internal practical exam will be having a unit 6 apart from unit 1 to 5 as mentioned above. The revised subject code will be BTME-101-19. The revised scheme is mentioned below:

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IK Gujral Punjab Technical University
Bachelor of Technology (B. Tech. 1st Year)

Course code	BTME101-18				
Category	Engineering Science Courses				
Course title	Engineering Graphics & Design (Theory & Lab.)				
Scheme and Credits	L	T	P	Credits	Semester-
	1	0	6	4	I
Pre-requisites (if any)	Nil				
	Common to all branches				

Engineering Graphics & Design [A total of 01 lecture hours & 6 hours of lab.]
[[L : 1; T:0; P : 6 (4 credits)]

2) The basic Thermodynamics course is introduced in the third semester. Further the practical hours have been recommended to increase from 4 to 6 hrs in the third semester and the different code is given to different lab such as SOM Lab (BTME-306-18), TOM lab (BTME-307-18) and Fluid Mechanics lab (BTME-308-18), in the third semester. The revised list of practical is given in scheme of syllabus.

3) The Applied thermodynamics course is introduced in semester-IV. Further the practical hours have been revised to increase from 4 to 6 hrs in the fourth semester and the different code is given to different lab such as Thermal Lab (BTME-406-18), Fluid Machines lab (BTME-407-18), and Material Engineering Lab (BTME-408-18). The revised list of practical is given in scheme of syllabus.

4) The list of subjects for minor degree has been recommended as per Annexure-A. ~~in the list of Electives in place of Applied Thermodynamics – (I) and (II)~~.

5) The list of MOOCs has been provided as Annexure -B. The students have to study only those courses from the list which the student has not studied earlier.

6) The two faculty members Dr Amit Bansal (IKGPTU main campus) and Dr. Devinder Priyadarshi, DAVIET, Jalandhar have been nominated as members of BoS for migration cases.

7) The revised syllabus of Basic Thermodynamics (Semester-III) and Applied Thermodynamics (Semester-IV) will be prepared by Dr R P Singh, Principal (Rtd.), GNDEC, Ludhiana and the syllabus of Engineering Graphics and Design will be prepared by Dr Neel Kanth Grover, Associate Professor, ME by 04-07-2019.

28.6.2019 28/6/19 28/6/19 28/6/19 28/6/19 28/6/19 28/6/19 28/6/19 28/6/19

ANNEXURE A

Core subjects for Minor degree in B.Tech. Mech. Engineering:

Sl. No.	Category	Semester	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses	5th	Manufacturing Processes-I	3	0	0	3	3
2	Professional Core courses	6th	Manufacturing Processes-II	3	0	0	3	3

Elective subjects (odd semester) for Minor degree in B.Tech. Mech. Engineering:

Sl. No.	Category	Semester	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses	Odd	Fluid Mechanics	3	1	0	4	4
2	Professional Core courses	Odd	Theory of Machines -I	3	1	0	4	4
3	Professional Core courses	Odd	Strength of Materials-I	3	1	0	4	4
4	Professional Core courses	Odd	~~Applied~~ * Thermodynamics-I	3	1	0	4	4
5	Professional Core courses	Odd	Heat Transfer	3	1	0	4	4

01/03/19

01/03/19

01/03/2019

28/6/19

28/6/19

* Basic thermodynamics

28/6/19

28/6/19

28/6/2019

Elective subjects (even semester) for Minor degree in B.Tech. Mech. Engineering:

Sl. No.	Category	Semester	Course Title	Hours per week			Total contact hours	Credits
				Lecture	Tutorial	Practical		
1	Professional Core courses	Even	Automobile Engg.	3	1	0	4	4
2	Professional Core courses	Even	Theory of Machines -II	3	1	0	4	4
3	Professional Core courses	Even	Strength of Materials-II	3	1	0	4	4
4	Professional Core courses	Even	~~Applied Thermodynamics-II~~ *	3	1	0	4	4
5	Professional Core courses	Even	Refrigeration and Air Conditioning	3	1	0	4	4

1/3/19 01/03/19 01/03/19

01/03/2019 28/6/19

* Applied thermodynamics
→ 28/6/19 28.6.2019 28/6/19 28/6/19.

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Annexure-B

List of MOOC Courses for B.Tech. Mechanical Engineering Batch 2018 ~~onwards~~

Course Id	Course Name	Duration
noc19-me40	Industrial Safety Engineering	12 Weeks
noc19-me41	Engineering Mechanics	12 weeks
noc19-me42	Engineering Fracture Mechanics	12 weeks
noc19-me43	Solid Mechanics	12 weeks
noc19-me44	Fundamentals of manufacturing processes	12 Weeks
noc19-me45	Manufacturing Systems Technology Part I & II	12 weeks
noc19-me47	Mathematical Modelling Of Manufacturing Processes	12 Weeks
noc19-me50	Work System Design	12 Weeks
noc19-me53	Advanced Concepts in Fluid Mechanics	12 Weeks
noc19-me56	Concepts of Thermodynamics	12 Weeks
noc19-me57	Applied Thermodynamics For Engineers	12 Weeks
noc19-me59	Fundamentals of Conduction and Radiation	12 Weeks
noc19-me60	Energy Conservation and Waste Heat Recovery	12 Weeks
noc19-me61	Fundamentals of Gas Dynamics	12 Weeks
noc19-me62	Heat Exchangers: Fundamentals and Design Analysis	12 Weeks
noc19-me64	Turbulent Combustion: Theory and Modelling	12 weeks
noc19-me65	Dynamic Behaviour Of Materials	12 Weeks
noc19-me66	Plastic Working Of Metallic Materials	12 Weeks
noc19-me69	Fundamentals of Surface Engineering: Mechanisms, Processes and Characterizations	12 Weeks
noc19-me71	Fundamentals Of Artificial Intelligence	12 Weeks
noc19-me70	Engineering Metrology	12 weeks
noc19-me72	Noise Management and Control	12 weeks
noc19-me76	Aircraft Propulsion	12 weeks
noc19-me77	Convective Heat Transfer	12 weeks

I.K. Gujral Punjab Technical University

Dated: 28/06/2019

(Minutes of Meeting)

A meeting of the Board of Studies (Mechanical Engineering) for IKG PTU and its constitute campuses was held on 28th June 2019 at 14:30 in the conference hall, Department of Academics, G+3 Building, main campus, IK Gujral Punjab Technical University Jalandhar, Jalandhar-Kapurthala highway, Punjab. Following persons attended the meeting:

1. Dr. Neel Kanth Grover, Associate Professor, IKGPTU, Kapurthala
2. Dr. Vikas Chawla, Professor, IKGPTU, Hoshiarpur
3. Dr. Harmesh Kansal, Professor, UIET, Chandigarh
4. Dr. J S Saini, Associate Professor, TIET, Patiala
5. Dr. Arun Kumar Asati, Associate Professor, SBSSTC, Ferozepur
6. Dr. Sumit Chugh, Director, CAX services Pvt Ltd, Chandigarh
7. Dr. Manoj Mittal, Asst. Professor, IKGPTU, Kapurthala
8. Mr Rajan, Student, Department of ME, IKGPTU Main Campus
9. Mr Sharan, Student, Department of ME, IKGPTU Main Campus

Following recommendations are made:

1. The current contents of syllabus being offered to Students of Mechanical engineering are as per Annexure-A. It is deliberated in the meeting that its contents need to be revised as per contents mentioned in Annexure-B.
2. The detailed syllabus for B. Tech. 1st year (Batch 2019 onwards) course of Engineering Graphics and Design (BTME-101-18) has been discussed. The credit of the course is recommended to be increased from 3 to 4 and contact hour increased from 4 to 6 hrs. Further, the theory paper can be included in the first year from 1st to 5th units with revised syllabus. There will be a theory examination of 60 Marks. The internal marks will be 40. The syllabus of internal practical exam will be having a unit 6 apart from unit 1 to 5 as mentioned above. The revised subject code will be BTME-101-19. The revised scheme is mentioned below:

Course code	BTME101-18				
Category	Engineering Science Courses				
Course title	Engineering Graphics & Design (Theory & Lab.)				
Scheme and Credits	L	T	P	Credits	Semester-
	1	0	6	4	I
Pre-requisites (if any)	Nil				
	Common to all branches				

3. It is recommended to increase the contact hours of MP / workshop from 1-0-4 to 1-0-6. The additional 02 hours will be meant for Atal Tinkering Lab.
4. The basic Thermodynamics course is introduced in the third semester. Further the practical hours have been recommended to increase from 4 to 6 hrs in the third semester and the different code is given to different lab such as SOM Lab (BTME-306-18), TOM lab (BTME-307-18) and Fluid Mechanics lab (BTME-308-18), in the third semester.

28/6/19

Sharan Singh

Rajan Singh

Manoj Mittal

Dean (Acad.) I.K.G. PTU Kapurthala

5. The Applied thermodynamics course is introduced in semester-IV. Further the practical hours have been revised to increase from 4 to 6 hrs in the fourth semester and the different code is given to different lab such as Thermal Lab (BTME-406-18), Fluid Machines lab (BTME-407-18), and Material Engineering Lab (BTME-408-18). The revised list of practical is given in scheme of syllabus.
6. It is recommended to adopt the curriculum of IKGPTU affiliated colleges for IKGPTU main campus as well as IKGPTU constituent campuses.
7. It is recommended to adopt the MOOCS from the next session i.e. Jan 2020. It is further suggested that Faculty of main campus as well as constituent campuses be trained for the same through FDP, workshops amongst others.
8. The list of subjects for minor degree has been recommended as per Annexure-C.

28/6/19

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28/6/19

Rajan Singh

(MANOJ MITTAL)

Kapurthala

I K Gujral Punjab Technical University

Jalandhar Road Kapurthala, Punjab India

Dated: 20th May 2020

Minutes of Meeting

A meeting of the Board of Studies **Mechanical Engineering/ Production Engineering/ Industrial / Automobile Engineering** was held through online (Google meet) as on May 20th **2019 at 3:00 PM.**

Following members of BOS and special invitees have attended the meeting:

1 Dr. Ajay Kumar Sharma, Hon'ble Vice-Chancellor, IKGPTU Kapurthala.
2 Dr. Balkar Singh, Director Academics, IKGPTU Kapurthala.
3 Dr. Om Pal Singh (Chairman), BCET Gurdaspur
4 Dr Neel Kanth Grover, HOD ME, IKGPTU main campus
5 Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur.
6 Dr. Paramjit Singh Bilga, GNDEC, Ludhiana
7 Dr. Rachin Goyal, CGC, Landran
8 Dr. Vijay Kumar Jadon, Chitkara University, Rajpura
9 Dr. Suresh Kumar Verma, DCRUST Murthal (Sonipat) Haryana.
10 Dr. Amit Bansal, (Coordinator), IKGPTU Main Campus.
11 Dr. Jujhar Singh, IKGPTU Main Campus
12 Mr. Sarbjit Singh, GM-Manufacturing, Honda Motorcycle and Scooter India Pvt. Ltd. IMT Manesar.
13 Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
14 Dr Devinder Priyadarshi, DAVIET, Jalandhar
15 Dr. Manoj Mittal, IKGPTU Main Campus
16 Dr Vivek Aggarwal, IKGPTU Main Campus
17 Mr. Kapil, student, Department of ME, IKGPTU Main campus

Following members of BOS could not attend the meeting:

1 Dr. R.P.S. Sukerchakia, Principal (Rt) GNDEC, Ludhiana.
2 Dr Subhash Chander, NIT Jalandhar

The board has made the following recommendations:

1) The scheme and syllabus of the 5th to 8th Semester of Mechanical Engineering for 2018 batch onwards has been thoroughly discussed. The board suggested that the scheme and syllabus (5th to 8th Semester) should be as per the AICTE curriculum with a change of maximum 20%.
2) The board suggested that there is need of modifying the syllabus (Max up to 20%) as per the needs of industry so that the students could be prepared industry ready. And also suitable for competitive examinations.

The meeting ended with the vote of thanks to the Hon'ble VC

20/05/2020

Dr. Amit Bansal, Coordinator

20/05/2020

Dr. Om Pal Singh, Chairman

Dean Academics

Dean (Academic Affairs)
I.K.G. P.T.U.
Kapurthala

I K Gujral Punjab Technical University

Jalandhar Road Kapurthala, Punjab India

Dated: 21th May 2020

Minutes of Meeting

A meeting of the Board of Studies **Mechanical Engineering/ Production Engineering/ Industrial / Automobile Engineering** was held through online (Google meet) on May 21th 2019 at **10:00 AM.**

The following members of BOS and special invitees have attended the meeting:

1 Dr. Om Pal Singh (Chairman), BCET Gurdaspur
2 Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur
3 Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
4 Dr. Neel Kanth Grover, HOD ME, IKGPTU main campus
5 Dr. Davinder Priyadarshi, DAVIET, Jalandhar
6 Dr. Amit Bansal (Coordinator), IKGPTU, Kapurthala

The board has made the following recommendations:

1) The scheme and syllabus of the 5th Semester has been thoroughly discussed. The scheme has been finalized for the 5th semester. The modified scheme for 5th semester is attached below.
2) The syllabus for the Manufacturing Processes is to be prepared by Dr. Om Pal Singh, Prof ME, BCET Gurdaspur and Dr. Lakhvir Singh, Prof BBSBEC Fatehgarh Sahib.
3) The syllabus of Design of Machine Elements is to be prepared by Dr. Davinder Priyadarshi, Asstt. Prof. DAVIET, Jalandhar along with subject expert.
4) There will be 3-hour practical lab for Numerical Methods in the revised scheme of 5th semester.
5) The syllabus of Humanities-I (Economics) is to be prepared by Dr Neelkanth Grover, Asso. Prof. IKGPTU Campus.
6) The members have suggested that there should not be any change in the 3rd semester syllabus for the 2019 Mechanical Engineering batch.
7) The members suggested that the scheme of 2020 batch is to be thoroughly restructured from the first semester onwards in the next BoS meeting.

The meeting ended with vote of thanks to the chair.

21/05/2020
Dr. Amit Bansal, Coordinator

21/05/2020
Dr. Om Pal Singh, Chairman

Dean Academics

5th Semester Study Scheme

Course Type	Course Code	Course Title	Load Allocations			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
Professional Core courses	BTME501-18	Heat Transfer	4	1	0	40	60	100	5
Professional Core courses	BTME502-18	Design of Machine Elements	4	1	0	40	60	100	5
Professional Core courses	BTME503-18	Manufacturing Processes	4	0	0	40	60	100	4
Mandatory courses		Management and Engineering Economics	3	0	0	40	60	100	3
Professional Core courses	BTME505-18	Heat Transfer (Lab)	0	0	2	30	20	50	1
Professional Core courses	BTME506-18	Manufacturing Processes (Lab)	0	0	2	30	20	50	1
Engineering Science courses	BTME504-18	Numerical Methods (Lab)	0	0	3	30	20	50	1.5
Mandatory courses	BTMC102-18	Essence of Indian knowledge Tradition	3	0	0	100	00	100	Non-Credit
		4-weeks Industrial Training *	0	0	6	60	40	100	Non-Credit
Total			18	2	13	410	340	750	20.5

* The grade of Satisfactory/ Un-satisfactory of Industrial/Institutional Training imparted at the end of 4th Semester will be included here.

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I K Gujral Punjab Technical University

(Minutes of Meeting)

A meeting of the Board of Studies **Mechanical Engineering/ Production Engineering/ Industrial/ Automobile Engineering** was held through online (Google meet) as on November 16th 2020 at **03:00 PM**.

Following members of BOS and special invitees have attended the meeting:

1. Dr. Om Pal Singh (Chairman), BCET Gurdaspur
2. Dr. Jagdev Singh (Professor), BCET Gurdaspur
3. Dr. Paramjit Singh Bilga (Professor), GNDEC, Ludhiana.
4. Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur
5. Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
6. Dr. Sarabjit Kaushal, HOD ME, GGI Ludhiana (Special Invitee)
7. Dr. Devinder Priyadarshi, DAVIET, Jalandhar
8. Dr. Rachin Goyal, CGC, Landran.
9. Dr. Amit Bansal, Assistant Professor (Coordinator), Department of Mechanical Engineering, Main Campus, I. K. Gujral Punjab Technical University, Kapurthala.

The board has made the following recommendations:

1) The scheme and syllabus of the 6th Semester has been thoroughly discussed. The scheme has been finalized for the 6th semester. The scheme for 6th semester is given in Appendix- A.
2) The syllabus for the RAC (Course and Lab) will be prepared by Dr. Jagdev Singh and Dr. Paramjit Singh.
3) The syllabus for the MMM (Course and Lab) will be prepared by Dr. Lakhvir Singh and Dr. Devinder Singh.
4) The syllabus for the Automobile Engineering (Course and Lab) will be prepared by Dr. Lakhvir Singh and Dr. Sarabjit Kaushal.
5) The syllabus of Humanities- II will be prepared by Dr. Neelkanth Grover Sir.
6) In Elective subjects, the syllabus of composite materials, & IC engine will be prepared by Dr. Devender Sir.
7) In Elective subjects, the syllabus of Mechatronics & PDD will be prepared by Dr. Lakhvir Sir.
8) In Elective subjects, the syllabus of CAD will be prepared by Jadon Sir.
9) In Elective subjects, the syllabus of Non-Conventional Energy Resources will be prepared by Dr. Neelkanth Grover Sir.
10) In Elective subjects, the syllabus of Operation Research will be prepared by Dr. Ompal Singh Sir.
11) In Elective subjects, the syllabus of Microprocessor in Automation will be prepared by BOS of ECE.
12) In Elective subjects, the syllabus of Maintenance and Reliability will be prepared by Dr. Amit Bansal.
13) For Automobile and Automation & Robotics Engineering, there is a study scheme proposed by expert from the GGI, Ludhiana within a week. The scheme and syllabus will be finalized in next BOS meeting.

The meeting ends with vote of thanks to chairman.

Amit Bansal
Dr. Amit Bansal (Coordinator)

Dr. Ompal Singh (Chairman)

Kapurthala

Annexure-A

Study scheme of 6th Semester:

Course Type	Course Code	Course Title	Load Allocations			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
Professional Core courses	BTME601-18	Refrigeration and Air conditioning	3	1	0	40	60	100	4
Professional Core courses	BTME602-18	Mechanical Measurements & Metrology	3	0	0	40	60	100	3
Professional Core courses	BTME603-18	Automobile Engineering	3	0	0	40	60	100	3
Mandatory courses	HSMC101-18	Humanities-II	3	1	0	40	60	100	4
Professional Elective		Elective-I	3	0	0	40	60	100	3
Professional Core courses	BTME604-18	RAC (Lab)	0	0	2	30	20	50	1
Professional Core courses	BTME605-18	MMM (Lab)	0	0	2	30	20	50	1
	BTME606-18	Auto. Engg. (Lab)	0	0	2	30	20	50	1
	BTME607-18	Project/Internship	0	0	4				2
Total			15	2	10	290	360	650	22

List of Elective:

1) Internal Combustion Engines.
2) Mechatronics Systems.
3) Microprocessor in Automation
4) Composite Materials
5) Computer Aided Design.
6) Product Design and Development
7) Non-Conventional Energy Resources.
8) Operation Research
9) Maintenance and Reliability

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I K Gujral Punjab Technical University
(Minutes of Meeting)

A meeting of the Board of Studies **Mechanical Engineering/ Production Engineering/ Industrial / Automobile Engineering** was held through online (Google meet) as on January 4th 2021 at **10:00 AM.**

Following members of BoS and special invitees have attended the meeting:

1. Dr. Om Pal Singh (Chairman), BCET Gurdaspur
2. Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur
3. Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
4. Dr. Neel Kanth Grover, HOD ME, IKGPTU main campus (Special Invitee)
5. Dr. Devinder Priyadarshi, DAVIET, Jalandhar.
6. Dr. Jagdev Singh, BCET, Gurdaspur.
7. Dr. Rachin Goyal, CGC, Landran
8. Dr. Suresh Kumar Verma, DCRUST Murthal (Sonipat) Haryana
9. Dr. Vijay Kumar Jadon, Chitkara University, Rajpura
10. Dr. Sarbjeet Kaushal, Special invitee, GGI, Ludhiana.
11. Dr. Amit Bansal, Assistant Professor, Department of Mechanical Engineering ain Campus, I. K. Gujral Punjab Technical University, Kapurthala.

The board has made the following recommendations:

1) In this meeting, the study scheme and syllabus of the 6th Semester (AE and A& R) have been thoroughly discussed. The scheme and syllabus have been finalized for the 6th semester Automobile Engineering and Automation & Robotics Engineering.
2) The scheme and syllabus for 6th semester as approved by BoS members for Automobile Engineering and Automation & Robotics Engineering is attached as Annexure – A and Annexure B respectively.

The meeting ends with vote of thanks to chairman.

Dr. Amit Bansal (Coordinator)

Dr. Ompal Singh (Chairman)

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I K Gujral Punjab Technical University

(Minutes of Meeting)

A meeting of members of the Board of Studies **Mechanical Engineering/ Production Engineering/ Industrial/ Automobile Engineering** was held through online (Google meet) as on **May 24th 2021 at 12:00 PM. Following members of BOS and special invitees have attended the meeting:**

1. Dr. Om Pal Singh (Chairman), BCET Gurdaspur
2. Dr. Jagdev Singh (Professor), BCET Gurdaspur
3. Dr. Paramjit Singh Bilga (Professor), GNDEC, Ludhiana.
4. Dr. Vikas Chawla, Professor, IKGPTU Campus Hoshiarpur
5. Dr. Lakhvir Singh, Professor, BBSBEC, Fatehgarh Sahib
6. Dr. Vijay Kumar Jadon, Professor, Chitkara University.
7. Dr. R. P. Singh Suker-Chakia, Director, PCTE, Ludhiana.
8. Dr. Sarabjit Kaushal, HOD ME, GGI Ludhiana (Special Invitee)
9. Dr. Rachin Goyal, CGC, Landran.
10. Dr. Amit Bansal, Assistant Professor (Coordinator), Department of Mechanical Engineering, Main Campus, I. K. Gujral Punjab Technical University, Kapurthala.

The BOS has made the following recommendations:

1) The scheme and syllabus of 7th Semester B. Tech. (Mechanical Engineering) has been thoroughly discussed and finalized.
2) The syllabus for Mechanical Vibrations has been prepared by Dr. Neel Kanth Grover and Dr. Vikas Chawla.
3) The syllabus for the Automation in Manufacturing has been prepared by Dr. Lakhvir Singh and Dr. Devinder Singh.
4) The syllabus for the Fundamentals of Management for Engineers in Humanities -III has been prepared by Dr. Vivek Aggarwal and Dr. Amit Bansal.
5) The open elective courses have been taken from the other department's open elective list.
6) The List of departmental Electives have been recommended as the open electives for all other branches.
7) All the detailed syllabus and scheme of 7th semester of B. Tech. (Mechanical Engineering) are presented in Annexure-A
8) For B. Tech. (Automobile Engg.) and B. Tech. (Automation & Robotics Engineering), the detailed scheme and syllabus have been finalized for 7th semester as proposed by the expert from the GGI, Ludhiana and are attached at Annexure-B & C respectively.
9) The 8th semester will be industrial training for all branches i.e. B. Tech. (Mechanical Engineering), B. Tech. (Automobile Engineering), and B. Tech. (Automation & Robotics Engineering).

Dr. Amit Bansal, Coordinator 22/06/2021

Dr. Om Pal Singh, Chairman 22/06/2021

Department of Mechanical Engineering
I.K.G. P.T.U. Campus
Kapurthala