VASAVI COLLEGE OF ENGINEERING (Autonomous)
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DEPARTMENT OF MECHANICAL ENGINEERING

Date: 15.06.2022

Minutes of the thirteenth meeting of Board of Studies, Mechanical Engineering Department, held at 2.30 PM on 04.06.2022 (Saturday).

Members Present:

Name of the Member	Designation
Dr. T. Ramamohan Rao	Chairman & HOD
Prof. M. Chandra Shekar Reddy	OU nominee
Dr. Jeevan Jaidi	Subject expert
Dr. A.V.S.S. Kumara Swamy Gupta	Subject expert
Mr. M. Srikantha Rao	Industry representative
Dr. K.Kishore	Faculty member
Dr. A. Srinivas	Faculty member
Dr. C. Gururaja Rao	Faculty member
Dr. V.K.N.S.N. Moorthy	Faculty member
Mr. K. Srinivasa Rao	Faculty member
Dr. P. Venkateswara Rao	Faculty member
Dr. P.V.Gopal Krishna	Faculty member
Mr. K.Veladri	Faculty member
Dr. J. Anjaneyulu	Faculty member
Mr. K.I. Spurgeon	Faculty member
Mr. B. Naga Manohar	Faculty member
Mr. S. Venkateswarulu	Faculty member
Mr. Md. Luqhman	Faculty member

Members not present:

Dr. B. Venkatesham	Subject expert
Dr. L. Krishnanand	Subject expert
Mr. Ravi Katukam	Alumni
Mr. Sanjay Kabra	Alumni
Dr. S.Venkataiah	Faculty member
Mr. V.B.S. Rajendra Prasad	Faculty member
Mr. S. Sreekrishna	Faculty member
Dr. P.V.S. Subhashini	Faculty member
Mr. M. Sudhakar	Faculty member
Mr. D. Govinda Rao	Faculty member
Mr. B. Sandeep	Faculty member
Mr. N.B. Samba Murthy	Faculty member
Mr. T. Krishna Chaitanya	Faculty member

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Dr. T. Ramamohan Rao, Chairman-BOS welcomed the members and presided over the meeting. The following items on the agenda were taken up for consideration.

The Chairman in his welcoming address invited the members of the BOS and briefed about the profile of the department and made them aware of the achievements of the staff and the students.

1. Agenda: Review the minutes and approve the Action Taken Report on the decisions taken in the last meeting held on 05/08/2021

   Action: The Board of studies have approved the action taken report on the decisions taken during the last meeting held on 5/8/21.

2. Agenda: Review of Institute Vision & Mission, Department Vision & Mission, PEOs, PSOs, POs and POs.

   Action: The BOS is reviewed the Institute Vision & Mission, Department Vision & Mission, PEOs, PSOs, POs and Pos and approved the same.

3. Agenda: Note on the department achievements.

   Action: The head of department highlighted the achievements of the departments and the brought the following to the notice of the BOS

   Students Achievements:

   - Placements : 92.86% (eligible students) as on May 2022;
   - Two of our Mechanical Engineering students got highest pay package of Rs. 16.61 lacs / pa in **Oracle Application Development**.

     MARRI LAXMI NARSIMHA (1602-18-736-022)
     DAMA ANIL KUMAR (1602-18-736-302)

   - CAT-2022 Admissions of Students and Alumni

SANA CHANDU (1602-16-736-008)	-	IIM Trichy
T. VYDEHI (1602-16-736-058)	-	NMIMS
A.S.S. RAYUDU (1602-17-736-034)	-	NMIMS
SHUBHAM PATIL (1602-18-736-045)	-	IIM Shillong
PARVATAM ADITI (1602-18-736-045)	-	IIM Sirmaur
K GAENSH (1602-18-736-058)	-	IIM Lucknow

   - A team of 23 students participated in auto sports INDIA Mega ATV championship -2022 event at Goa.

   - Industry Projects and Visits
     A total of 70 final year students doing their project work in various industries (BDL, DRDL, NMDC, Dynamic Ryderz, Budhan Engg., Pvt. Ltd., Radio Frequency Technologies (P) Ltd., Avishkar Industries Pvt. Limited).

   - As part of industry visit – A total of 117 students of present B.E. (Mech.) VI-Semester students are visited to TSRTC Zonal Workshop on 13.05.2022.

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Faculty Achievements:

- Received 38.35 Lakhs funding from DST under Cognitive Science Research Initiative (CSRI) entitled "Development of a Gaming Tool for Cognitive Bahaviour Therapy (CBT) in the Management of Conduct Disorder among Children /Adolescents / Students".

- Hopkinson's test rig added in dynamics lab procured through RPS project.

  An experiment added in the Dynamics of Machines Lab – "To study the high strain rate mechanical properties of aluminum specimen using Split Hopkinson Pressure Bare apparatus".

  (A Split Hopkinson Pressure Bar is procured and commissioned in the Department. The equipment facilitates for high strain rate testing of materials, which in turn will be very much useful for the research activity on materials and material behavior, for UG, PG and Ph.D students and for the industry and research organizations in and around Hyderabad).

- Faculty FDPs / Guest Lectures
  Conducted Three National Level FDPs and twelve Guest Lectures in the AY 2021-22.
  1. FDP on "Research Avenues in Thermal Engineering" during 25-30 July 2021 (Online).
  2. FDP on Vibration and Condition Monitoring (VACM 2021) during 20-24 Sept 2021 (Online).
  3. AICTE-ISTE one-week online Induction / Refresher Program on Additive Manufacturing in Medical and Emerging Applications during 27th January to 2nd February 2022 (Online).

- **List of Patents and status**

S. No.	Title	Name of Inventor	Application Number	Status	Date
1.	Adjustable spherical turning attachment for use with lathe machine	Dr. K. Kishore Dr. P.V. Gopalkrishna	201641007110	Granted Patent No. 387482	27.01.2022
2	Adjustable rotary fixture attachment to electrical discharge machining (EDM) for improved metal removal rate	D. Govinda Rao, Dr. P.V. Gopal Krishna, Dr. G. Ramadevudu Dr. K. Kishore	202241027924	Application submitted	15.05.2022

- Executed MOU with M/s. Light Speed AI, Hyderabad

- 7 faculty and 220 students pursued the MOOCs certifications during the Academic Year 2021-22.

- Department is organizing an International Conference titled "International Conference on Advanced Materials and Computational Methods in Mechanical Engineering (ICAMCMME-2022) during 11-12 November 2022 (online) in Collaboration with Trans Tech Publications Ltd. Switzerland and Scopus journal Archives of Thermodynamics

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4. Agenda: Review and approval of the following for the BE students to be admitted during 2022-23 (R-22):

   a) Scheme of instruction and examinations from I to VIII semesters.

   b) Syllabi for I and II semester courses.

   Action: HOD presented the scheme changes made from R-21 and the Board of studies has reviewed and approved the scheme of instructions and examinations I to VIII semesters and syllabi for I and II semester courses.

5. Agenda: Review and approval of the following for the BE students admitted during 2021-22 (R-21):

   a) Scheme of instruction and examinations from III and IV semesters.
   b) Syllabi for III and IV semester courses.

   Action:
   - Finite Element analysis and Computer Aided Engineering Lab is swapped with Thermal turbomachines and Thermal Engineering from VII Sem to VI Sem. This will make uniform lab occupancy.
   - Metrology lab combined with the machine tools lab instead of Dynamics lab
   - A course titled Unmanned Arial Vehicles has introduced under Automobile Professional Elective stream by replacing Microprocessor Applications in Automobile in VIII Sem.

   The BOS has approved the above changes in scheme of R-21 and syllabus of instruction for the III and IV semester courses.

6. Agenda: Review and approval of the following for the BE students admitted during 2020-21 (R-20):

   a) Scheme of instruction and examinations from V to VI semesters.
   b) Syllabi for V and VI semester courses.

   Action: A course titled Unmanned Arial Vehicles has introduced under Automobile Professional Elective stream by replacing Microprocessor Applications in Automobile in VIII Sem. The Board of studies reviewed and approved the scheme of instructions and syllabi for V and VI semesters and syllabi for the same.

7. Agenda: Review and approval of the following for the BE students admitted during 2019-20 (R-19):
   a) Scheme of instruction and examinations from VII and VIII semesters.
   b.) Syllabi for VII and VIII semester courses.

   Action: A course titled Unmanned Arial Vehicles has introduced under Automobile Professional Elective stream by replacing Microprocessor Applications in Automobile in VIII Sem. The Board of studies reviewed and approved the scheme of instructions and syllabi for VII and VIII semesters and syllabi for the same.

8. Agenda: To review the scheme and syllabus of B.E. (Robotics) Honors program for V to VII semester for the batch admitted in AY 2020-21 (R-20).

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Action: The scheme and syllabus for the BE (Robotics) Honors program for V to VII semester for the batch admitted in AY 2020-21 (R-20) has been thoroughly reviewed and accepted by the BOS.

9. Agenda: Review and approval of the following for the M.E. students to be admitted during 2022-23 (R-22):

   a) Scheme of instruction and examinations from I to IV semesters.
   b) Syllabi for I to IV semester courses.

   Action: The Syllabus for ME students has been reviewed and accepted with the following change as suggested:

   - Dr. Jeevan Jaidi suggested to shift the Advanced Finite Element Analysis from III-semester to II-semester to enable the students to use CAE package for their projects purpose. The same change is accepted by the BOS members and it was implemented from R22.

10. Agenda: Regularize the Technical Skills – Mechanical Vibrations course for the AY 2021-22.

    Action: The BOS has agreed for the Mechanical Vibrations course as a part of Technical Skills for the AY 2021-22.

The BOS members has discussed the following general topics of the Department.

1. Dr. Jeevan Jaidi made a specific mention on the role of Adjunct/Visiting faculty for which the Head of the Department clarified that their services are better used to deliver expert lectures on the advanced topics especially on the domain areas to fill the gap between the academic activity and the industry and for the assessment of the quality of the Project works done by the students.

2. Dr. Kumara Swamy Gupta with specific reference to the patents for some clarification, head of department mentioned that the patent requires a minimum of 4 years to be granted and 6 months to process and claimed that the department have two patents which were granted/applied at the moment.

3. Dr. Jeevan Jaidi asked for clarification for the low pass percentage in the I year BE, the Head of the Department explained that due to the Pandemic situation there was a poor performance as the students are yet to accustom to the regular class room teaching although the SEE were conducted offline. He claimed that proper remedial measures and already initiated such as remedial classes, additional inputs to students and peer group studies to improve the pass percentage in the makeup exams.

4. The Head of Department brought to the notice of the members, with reference to the query posed by Dr. Kumara Swamy Gupta, that the programming languages like python and C and used for solving mechanical engineering problems both in theory as well as in laboratories.

5. Dr. Kumara Swamy Gupta asked about the credits for Bridge Courses for which the Head of Department clarified that there shall not be any credits for the bridge courses provided for the diploma stream students who take admission in the second year.

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6. Dr. M. Chandrasekhar Reddy asked about the OE course i.e., Unmanned Arial Vehicles offered to other branches. In his reply to the discussion on the open elective courses the head of department brought to the notice of the members that the said courses are offered to the departments other than mechanical engineering and in the context some courses like "Unmanned Arial Vehicles" was offered a Professional elective to the students of the parent department from 2022-23, while it is offered as a open elective to the students of the other departments.

7. Dr. Kumara Swamy Gupta asked about the possibility of offering minor course in Computer science with Mechanical Engineering as the Major course, the Head of the department brought to the notice of the member about the honours program being offered with 18 credits for the students admitted during 2020-21.

8. Dr. Kumara Swamy Gupta suggested to motivate the staff toward publications as it can improve the NBA score, for the Head of Department already clarified that the process is on.

9. Mr. Sreekanth Rao asked about the placement details, Dr. K. Kishore informed the members about the core and allied placements and pay packages received by the Mechanical Engineering students during campus selections. And also, he expressed for willing to take some guest lectures / internships to the students.

10. The Departmental Advisory Committee (DAC) meeting held on 14.05.2022 and the resolutions of the DAC meeting has been approved by the BOS members.

11. The following syllabus changes proposed by the Curriculum Revision Committee were approved by the BOS members.

Sem.	**Course Name**	**Addition**	**Deletion**	**Name of the faculty**
B.E. III-Sem.	Applied Thermodynamics	-	**Unit-IV** modified Rankine cycle, cogeneration; problem solving. fluidized bed combustion boilers;	Mr. S. Venkateswarulu Mr. Md. Luqhman
B.E. V-Sem.	Dynamics of Machines	**Unit-II** partial balancing of two cylinder locomotives	-	Dr. J. Anjaneyulu
B.E. VI-Sem.	Machine Design	**Unit-III** materials used for gears	**Unit-III** Types of gears	Mr. S. Sreekrishna
	AUTOMOTIVE CHASSIS COMPONENTS (PE-I)	Types of clutches, torque converter, manual and automatic transmission system.	-	Mr. M. Venugopal Reddy
	Dynamics and Metrology Lab	**Metrology Lab** To determine the depth and diameter of bore present in a component using bore gauge.	-	Mr. B. Sandeep

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Sem.	Course Name	Addition	Deletion	Name of the faculty
B.E. VI-Sem.	Dynamics and Metrology Lab	**Dynamics Lab** Experiment: To study the high strain rate mechanical properties of aluminum specimen using SHB apparatus.	-	Mr. V.B.S. Rajendra Prasad
B.E. VI-Sem.	VIBRATION ANALYSIS AND NOISE CONTROL (PE-I)		**Unit-II** forced vibrations **Unit-III** Energy methods, Introduction to non linear and random vibrations.	Mr.B.N.Manohar
B.E. VII-Sem.	REFRIGERATION AND AIR CONDITIONING (PE-II)	Unit-I: Boot-strap air cycle refrigeration	**Unit-I** Application to aircraft refrigeration **Unit-III** Thermoelectric refrigeration system, pulse tube refrigeration system. **Introduction to Cryogenics:** Linde system and Claude system, applications of cryogenics. ASHRAE comfort chart, effective temperature.	Dr. C. Gururaja Rao Dr. S. Venkataiah
B.E. VII-Sem.	FINITE ELEMENT ANALYSIS	solution	**Unit-IV** Processing Requirements of the position of the nodes	Dr.J.Anjaneyulu Mr.B.N.Manohar
B.E. VIII-Sem.	PRODUCT DESIGN AND PROCESS PLANNING title to be changed to PRODUCT DESING AND DEVELOPMENT	**DEVELOPMENT Unit-V** Concepts in product development: Product life cycle management: Definition, PLM Life cycle model, threads of PLM, need for PLM, opportunities and benefits of PLM, views, components and phases of PLM, PLM feasibility study, PLM visioning.	**PROCESS PLANNING Unit-V** Process Planning: Process planning, process sheets, Selection of manufacturing process, estimation of machining time in various cutting operations	Mr. K. S. Rao Dr. S. Venkataiah
B.E. VIII-Sem.	FLEXIBLE MANUFACTURING SYSTEMS (PE-V)	-	**Unit-II** Single manufacture Cell – design scheduling of jobs on single manufacturing cells.	T. Krishna Chaitanya
B.E. VIII-Sem.	COMPOSITE MATERIALS (PE-VI)	**Unit-II** Spray technique	**Unit-II** Measurement of basic composite properties: Fiber and matrix tests, Tensile test, compressive test, in plane shear test, interlaminar shear test, flexure test.	B. Sandeep

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Semester	Course Name	Addition	Deletion	Name of the faculty
B.E. VIII-Sem.	PRODUCT LIFE CYCLE MANAGEMENT (PE-VI)	**Unit-I** Case study for PLM execution. **Unit-II** Case study for implementation of PPM. **Unit-III** case studies **Unit-V** two corporate case studies	-	T. Krishna Chaitanya

The following syllabus changes (deletion) proposed by the Curriculum Revision Committee is not accepted by the BOS.

- Proposal for the deletion of the topic, cycle efficiency improvement methods in Applied thermodynamics has been withdrawn as the BOS committee insisted on the inclusion of the same in the syllabus.
- The proposal for the exclusion of the topic "alignment test on lathe machine" is withdrawn on the suggestions made by the members of the BOS.
- The proposal for the exclusion of the topic "future refrigerants" in the subject of Refrigeration and Air conditioning is withdrawn on the suggestions made by the members of the BOS.

The meeting concluded at 4.30pm with vote of thanks.

Prof. M. Chandra Shekar Reddy OU Nominee	7/7/2022
Dr. Jeevan Jaidi Subject Expert-2	
Dr. A.V.S.S. Kumara Swamy Gupta Subject Expert-3	7/7/2022
Mr. M. Sreekantha Rao Industry representative	
Dr. T. Ramamohan Rao Chairman, BOS	