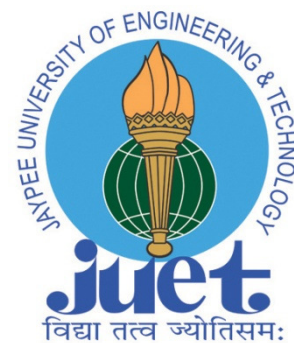


EVALUATIVE REPORT
DEPARTMENT OF MECHANICAL ENGINEERING
for
ASSESSMENT AND ACCREDITATION

Submitted to
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
BANGALORE



JAYPEE UNIVERSITY OF ENGINEERING AND TECHNOLOGY
GUNA

November26, 2015

EVALUATIVE REPORT OF THE DEPARTMENT

1. **Name of the Department** : Mechanical Engineering (MEC)
2. **Year of Establishment** : 2008
3. **Is the Department part of a School/Faculty of the University?**

JUET is a unitary University. It has departments that include Department of Mechanical Engineering.

4. **Names of Programmes offered**

- Ph. D. - Full Time/Part Time (Mechanical Engineering)
- P.G. - M.Tech. (Manufacturing Technology)
- U.G. - B.Tech. (Mechanical Engineering)
- Diploma - Thermal Power Plant Engineering (T.P.P.E.) – (In 2011 and 2012)
Diploma in Mechanical Engineering (DME) – (In 2013 and 2015)

5. **Interdisciplinary programmes and departments involved**

- All students of B.Tech., M.Tech. and Diploma programs have to take several core courses from other departments- Electronics and Communication Engineering (ECE), Computer Science and Engineering (CSE), Chemical, Chemistry, Humanities and Social Sciences (HSS), Mathematics and Physics. Beyond these core courses, many interdisciplinary elective are being offered to these students.
- Some courses are also run by departments for all other discipline of the B.Tech. and M.Tech. programs.
- Following are the number of credits and percentage of courses taken by other departments of the University in programs offered by Mechanical Engineering Department.

Course	Total Credits	ECE		CSE		Chemical		Chemistry		HSS		Maths		Physics	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
B.Tech.	195	10	5.13	6	3.08	0	0.00	5	2.56	24	12.31	12	6.15	5	2.56
M.Tech.	76	3	3.95	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Diploma	147	5	3.40	2	1.36	5	3.40	10	6.80	6	4.08	8	5.44	10	6.80

6. Courses in collaboration with other universities, industries, foreign institutions etc.

Not yet.

7. Details of programmes discontinued, if any, with reasons

Diploma programme in Thermal Power Plant Engineering (TPPE) was initially started in 2011 and continued till 2012. Thereafter this programme was discontinued and then diploma programme in Mechanical Engineering was started. The reason for discontinuing diploma programme in TPPE was that scope of this programme was very limited and specific as such it was difficult for the pass out students to get the jobs. So, considering this reason diploma programme was converted to diploma in Mechanical Engineering because of its diversified scope.

Diploma in Mechanical Engineering (DME) was started in 2013. Thereafter this programme was discontinued. Diploma in Mechanical Engineering (DME) was discontinued in 2015 because of its poor demand.

8. Examination System: Semester and Choice Based Credit System

Semester, along with choice based credit system. Following are the details for evaluation of all type of courses

Examinations

To train the student to put in sustained and disciplined work over the entire period of study, following pattern of examination is being implemented in the University. Some important components of the examination pattern are as given below:-

I. Theory Courses

The University follows the semester systems and accordingly three examinations held in each semester for theory courses. These examinations have a total weightage of 75%; the balance 25% allocated to Assignments, Quizzes, Tutorial, and Regularity in Attendance etc. by the Course Coordinator/ Teacher. Details of examinations and their weightage are as follows:-

a) Theory Tests/Examinations

Three tests/examinations held in each semester as specified in previous section. Tests/examinations are as under:-

- (i) Test-1 or T-1
- (ii) Test-2 or T-2
- (iii) Test-3 or T-3

- b) **Weightage of marks, duration & Syllabus for theory test/examination Allotment of weightage of marks i.e.75% of total & Syllabus, duration, marks for each Tests/Examination will be as under:-**

Allotment of marks:

Tests/Exams	T-1	T-2	T-3
Percentage of marks	15	25	35
Duration in Hours	1	1 ½	2
Syllabi Coverage:			

The syllabus for each test is course contents covered up to the last day of teaching before the examination.

- c) **Allotment of remaining weightage of marks i.e. 25% of total.**

Remaining weightage of marks i.e. 25% including 5% of attendance awarded by respective course coordinator in each theory course through the individual events i.e. Assignments, Tutorials, Quizzes, Regularity & Punctuality in class attendance on the basis of entire semester performance of the individual student.

II. Practical Courses

The evaluation of Practical / Laboratory / Sessional / Workshop work are based on the following:-

- | | |
|---|-------|
| a) Day to day work | 70% |
| a. Attendance and discipline in laboratory | (15%) |
| b. Quantity & Quality of Experiments Performed, Learning laboratory skills and handling laboratory equipment, Instruments, gadgets, components, materials and software etc. | (40%) |
| c. Laboratory record | (15%) |
| b) Mid-Semester lab-viva voce / test (P-1) | 15% |
| c) End Semester lab - viva voce / test (P-2) | 15% |

III. Evaluation for Projects Courses

Project courses are run in the final year of B.Tech., M.Tech. and Diploma only i.e. in the pre-final semester and final semester each, under the guidance of a Supervisor appointed for individual student or a group of students, and separate evaluation is done in each semester.

The following evaluation scheme is followed in each semester while evaluating and awarding grades:

- | | |
|---|--------------------------------------|
| a) Day to Day work | 35% awarded by the Supervisor(s) |
| b) One Mid-Term Seminar by the students on the project work | 15% awarded by a panel of examiners |
| c) One Viva-Voce Examination Between Test T-2 and Test T-3 | 15 % awarded by a panel of examiners |
| d) Project Report | 15% awarded by the supervisor (s) |
| d) Final Viva-Voice/ Dissertation including Supervisors | 20% awarded by a panel of three |

In case of M.Tech. Programs, External examiner being a part of the panel

9. Participation of the department in the courses offered by other departments

The Department offer following courses in the B.Tech./M.Tech. programs of other departments:

Beneficiary Department	Course Name
B.Tech. Chemical Engineering	Engineering Mechanics
B.Tech. Civil Engineering	Engineering Mechanics
B.Tech. Chemical Engineering	Engineering Graphics
B.Tech. Civil Engineering	Engineering Graphics
B.Tech. Chemical Engineering	Workshop Practice
B.Tech. Civil Engineering	Workshop Practice
Diploma Building Materials and Cement Technology	Plant Management
Diploma Building Materials and Cement Technology	Plant Utilities and Maintenance
B.Tech. Civil Engineering	Strength of Materials
B.Tech. Chemical Engineering	Design of Heat Exchanger
B.Tech. Civil Engineering	Finite Element Method
B.Tech. Chemical Engineering	Environmental Studies
B.Tech. Civil Engineering	Environmental Studies
B. Tech Computer Science and Engineering	Environmental Studies
B.Tech. Electronics and Communication Engineering	Environmental Studies
B.Tech. Civil Engineering	Graphics and CAD lab
B.Tech. Civil Engineering	Computer Aided Planning and Costing lab
B.Tech. Chemical Engineering	Engineering Graphics and CAD lab

10. Number of teaching posts sanctioned, filled and actual (Professor/Associate Professors/Asst. Professors/others)

Positions		Sanctioned	Filled	Actual (including CAS & MPS)
Professor		2	1	
Associate Professors		4	1	
Asst. Professors	G-I	14	3	
	G-II		7	
	SG		5	
Teaching Assistants*			7*	

*Full time Ph.D./M.Tech. students

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

Name	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D./ M.Tech. students guided for the last 4 years
Dr. S.K. Agrawal	Ph. D.	Professor	Thermal Engineering	42	Ph.D. Supervision-Ongoing: 01
Dr. Sanat Agrawal	Ph. D.	Associate Professor	Additive Manufacturing (AM) and Computer-Aided Design	15	Ph.D. Supervision-Completed: 02 Ongoing: 01 M.Tech. Guidance-Completed: 03
Dr. Bhagat Singh	Ph. D.	Assistant Professor (SG)	Machine Design and Vibration Analysis	14	Ph.D. Supervision-Ongoing: 01 M.Tech. Guidance-Completed: 01
Dr. Amit Sharma	Ph. D.	Assistant Professor (SG)	Production Engineering	08	Ph.D. Supervision-Ongoing: 01 M.Tech. Guidance-Completed: 01
Dr. Arun Pandey	Ph. D.	Assistant Professor (SG)	Production Engineering	13	Ph.D. Supervision-Ongoing: 04 M.Tech. Guidance-Completed: 01
Dr. Gavendra Norkey	Ph. D.	Assistant Professor (SG)	Production Engineering	12	Ph.D. Supervision-Ongoing: 03 M.Tech. Guidance-Completed: 03

Dr. Yashwant Modi	Ph. D.	Assistant Professor (SG)	Additive Manufacturing	15	Ph.D. Supervision-Ongoing: 02 M.Tech. Guidance-Completed: 03
Dr. Subas Chandra Dash	Ph. D.	Assistant Professor (G-II)	Mechanical Engineering	07	M.Tech. Guidance-Completed: 01
Mr. Dhananjay R. Mishra	M. Tech.	Assistant Professor (G-II)	Production Engineering	11	M.Tech. Guidance-Completed: 01
Mr. Pankaj Dumka	M. Tech.	Assistant Professor (G-II)	Fluid and Thermal Sciences	04	NIL
Mr. Amiya Kumar Sahoo	M. Tech.	Assistant Professor (G-II)	Production Engineering	05	M.Tech. Guidance-Completed: 01
Mr. Kedari Lal Dhakar	M. Tech.	Assistant Professor (G-II)	Production and Industrial Engineering	06	NIL
Mr. Manoj Dubey	M. Tech.	Assistant Professor (G-II)	Production Engineering	27	NIL
Mr. Ravi Sharma	M. Tech.	Assistant Professor (G-II)	Thermal Engineering	11	NIL
Mr. Pankaj Gupta	M. Tech.	Assistant Professor (G-I)	Machine Design	02	NIL
Mr. Rohit Mishra	M. Tech.	Assistant Professor (G-I)	Production Engineering	03	NIL
Ms. Shakuntala Nahak	M. Tech.	Assistant Professor (G-I)	Machine Design	01	NIL

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors

S. No.	Name	Designation	The type of activity the expert was engaged and the research benefit to department.
Senior Visiting Fellows			
1	Prof. R. M. Sarviya	Professor, Mechanical Engineering Department, and Dean Student Welfare, MANIT, Bhopal	Lecture on Application of Freshnel Mirror in Solar Energy

2	Prof. M. K. Ghosh	Director Apex Institute of Technology, Jaipur	Lecture on Lubrication of Hydrodynamic bearing
3	Prof. R K. Pandey	Associate Professor, Mechanical Engineering Department, IIT, Delhi	Expert lecture during National Workshop on “Advanced Manufacturing Technologies”
4	Prof. A. D. Bhatt	Professor, Mechanical Engineering Department, MNNIT, Allahabad	Expert lecture during National Workshop on “Advanced Manufacturing Technologies”
5	Dr. T. Agami Reddy	Professor, School of Sustainable Engineering in the Built Environment and The Design School, Arizona State University, Tempe, AZ, U.S.A.	Expert lecture during National Workshop on Renewable Energy, Indo-US collaboration for Engineering Education (IUCEE)
6	Mr. V. P. Sharma	Deputy Director, Micro, Small and Medium Enterprises (MSME), Indore	Expert lecture on “Support for Entrepreneurial and Managerial Development of SMEs through Incubators”
7	Dr. A. K. Jha	Professor, IT BHU	National Workshop for faculty development and research inputs on Manufacturing Automation
8	Dr. S. C. Kak	Vice-Chancellor, Mahamaya Technical University, Noida	National Workshop for faculty development and research inputs on Manufacturing Automation
9	Dr. Ravi Prakash	Vice-Chancellor, JUIT, Wagnaghat, Solan, H.P.	National Workshop for faculty development and research inputs on Manufacturing Automation
10	Dr. Puneet Tandon	Professor, IIITDM, Jabalpur, M.P.	National Workshop for faculty development and research inputs on Manufacturing Automation
11	Dr. Durgesh Joshi	Associate Professor, SGSITS, Indore, M.P.	National Workshop for faculty development and research inputs on Manufacturing Automation
12	Dr. A. M. Kuthe	Professor, VNIT Nagpur	Expert lecture on "Medical Rapid Prototyping: Case Studies of Medical Applications of Additive Manufacturing Processes"
13	Dr. S. K. Agrawal	Professor, MNNIT Allahabad	Expert lecture on “Sustainable Development”

13. Percentage of classes taken by temporary faculty - programme-wise information

Nil

14. Programme-wise Student Teacher Ratio

- For the B.Tech. program the student teacher ratio is 19:1
- For the M.Tech. program the student teacher ratio is 7:1
- For the Diploma program the student teacher ratio is 32:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff Category	Sanctioned	Filled	Actual
Technical	7	7	7
Administrative	Centrally managed at University level		

16. Research thrust areas as recognized by major funding agencies

At present, Mechanical Engineering Department is not having projects. However, Department has identified some of the research thrust areas in which projects can be availed. Mechanical Engineering Department is trying to get projects and funding in these areas.

- Dynamics of Machine Tools
- Machine Design and Vibration Analysis
- Condition Monitoring and Fault Diagnosis of Machine Structures
- Tool Vibration Analysis of Machine Tools
- CAD and Additive Manufacturing
- CAD/CAM, FMS and CIM
- Advanced Machining Processes
- Thermal Engineering

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

There are none at present. The department has been recently established. However, the faculty members are preparing proposals for submitting it to the funding agencies in the near future.

18. Inter-institutional collaborative projects and associated grants received
a) National collaboration b) International collaboration

The department has so far not received any grant formally for collaborative research. However, a good number of faculty members of other institutes as well as few industry professionals have worked/working with many faculty members of department for pursuing/supervising doctoral research. This collaboration has resulted in some Ph.D. theses at JUET and other universities as well as several publications.

I. National collaboration (without grants/funds)

S. No	Faculty name	Research Collaborator affiliation	Research Area	Outcome of Collaboration
1	S. K. Agrawal	Pankaj K. Srivastava Department of Mechanical Engineering, Rewa Engineering College, Rewa (M.P.), India	Solar Still	Publication-1
2	Sanat Agrawal	A. K. Dubey Mechanical Engineering Department, MNNIT, Allahabad, U.P., India	Laser Beam Machining	Thesis-1 Publication-5
3	Bhagat Singh	B. K. Nanda, Mechanical Engineering Department, NIT, Rourkela, Odisha, India	Slip Damping in Layered and Welded Structures	Publication-1
4	Amit Sharma	Vinod Yadava Mechanical Engineering Department, MNNIT, Allahabad, U.P., India	Laser Beam Machining	Publication-5
5	Arun Kumar Pandey	A. K. Dubey Mechanical Engineering Department, MNNIT, Allahabad, U.P., India	Laser Beam Machining	Publication-4
6	G. Norkey	A. K. Dubey Mechanical Engineering Department, MNNIT, Allahabad, U.P., India	Laser Beam Machining	Publication-5
7	D. R. Mishra	M. S. Sodha, I.I.T. Delhi, India	Application of Renewable Energy Sources	Publication-4
8	D. R. Mishra	A. K. Tiwari Mechanical Engineering Department, NIT, Raipur, Chhattisgarh, India	Application of Renewable Energy Sources	Publication-5
9	D. R. Mishra	Priyaranjan Sharma Mechanical Engineering Department, NIT, Calicut, Kerala, India	Manufacturing Technology	Publication-1
10	A. K. Sahoo	P.V. Rao, Mechanical Engineering Department, IIT Delhi, India	Grinding of Ti-6Al-4V alloy	Publication-1

11	A. K. Sahoo	S. Ghosh, Mechanical Engineering Department, IIT Delhi, India	Grinding of Ti-6Al-4V alloy	Publication-1
12	S. Mondal	Goutam Chakraborty, Mechanical Engineering Department, IIT Kharagpur, India	Continuous systems with noise and uncertainties	Publication-1
13	S. Mondal	Kingshook Bhattacharyya, Mechanical Engineering Department, IIT Kharagpur, India	Continuous systems with noise and uncertainties	Publication-1
14	Ajay Tripathi	H. Chandra, Bhilai Institute of Technology , Durg, Chhattisgarh, India	Closed cycle gas turbine power plant	Publication-3

II. International Collaborations (without grants/funds)

S. No	Faculty name	Research Collaborator affiliation	Research Area	Outcome of Collaboration
1	Sanat Agrawal	Professor Deon J. de Beer, Director, Technology Transfer and Innovation Support Office, North West University, South Africa	Rapid Prototyping and Additive Manufacturing	Publication-6
2	Y. K. Modi	Deon J. de Beer, Director, Technology Transfer and Innovation Support Office, North West University, South Africa	Rapid Prototyping and Additive Manufacturing	Publication-6
3	S. Mondal	W. K. Chung, 21Robotics Laboratory, Department of Mechanical Engineering, Pohang University of Science and Technology (Postech), Pohang, Korea	Nonlinear systems with time-varying delays	Publication-1

Details of collaborative publications are given in Annexure-I/MEC

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received

Not yet

20. Research facility / centre with

- State recognition : Not yet
- National recognition : Not yet
- International recognition : Not yet

21. Special research laboratories sponsored by/created by industry or corporate bodies

Not yet

22. Publications

I. Summary Report

Category	Total publications
International Journals	75
National Journals	08
International Conferences	46
National Conferences	17

II. Other Publications

Category	Numbers
Monographs	00
Chapters in books	01
Edited Books	00
Books with ISBN	02

III. Journals Indexed in SCOPUS/SCI/Others

Category	SCOPUS	SCI	Others
International	47	32	28
National	00	00	08

IV. Citation Index

Indexing parameter	Details
Google citations	Total citations: 247 Range: 0-59 Average: 5.255
SNIP	Range: 0 - 2.705 Average: 1.169
SJR	Range: 0 -1.842 Average: 0.644
Impact Factor	Range: 0 - 4.380 Average:1.194
h-index	Range: 0 - 5 Average: 0.294

Details of Publications are given in Annexure-II/MEC

23. Details of patents and income generated

Not yet

24. Areas of consultancy and income generated

Not yet, the department is putting their effort to take up consultancy and research projects in the area of additive manufacturing.

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad

Most of the faculty members of the department have visited laboratories, institutions, and industries in India and abroad. Details of faculty members visit in India and abroad given in Annexure-III/MEC

26. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Faculty members of the department are members of one or the other various committees for organization of various conferences/seminars/workshops, inside and outside the University. Some of the faculty members also on the editorial and reviewer board of various types of academic publications. Details of faculty members serving in various committees are given in Annexure- IV/MEC.

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs)

To recharge the faculty, department organizes workshop, seminars, expert talks, conferences, refresher courses, faculty development program etc. in University. The faculty recharging activities are as follows:

Workshop Attended:

- All faculty members of the Mechanical Engineering Department have attended IUCEE workshop on Numerical Methods organized by Chemical Engineering Department from July 04 -08, 2011. Prof. Srinivas Palanki, University of South Alabama, was the resource person in this workshop.
- All faculty members of the Mechanical Engineering Department have attended IUCEE workshop on Renewable Energy from June 04 - 08, 2012 at JUET, Raghogarh, Guna (M.P.)
- Dr. Sanat Agrawal and Mr. Yashwant Kumar Modi attended one day International workshop on “Role of Industrial Wind Tunnels in Design of Civil Engineering Structures”, Jaypee Wind Engineering Application Centre, JUET, Guna, India, December 16, 2013.

- All faculty members of Mechanical Engineering Department attended a three-day National Workshop on “Advanced Manufacturing Technologies (NWAMT)” during September 27-29, 2013 held at JUET, Guna (M.P.)

Training Undergone:

- Dr. Sanat Agrawal, Dr. Sarang Pande, Yaswant Modi, Sujit Singh and Raju Arya had undergone in-house training on Z450 3D printer in Additive Manufacturing Lab for four days from July 26-29, 2012.
- Dr. Sanat Agrawal, Yashwant Modi, Raju Arya and Prakash Saini had undergone Basic Training on EOSINT P395 Selective Laser Sintering (SLS) Additive Manufacturing M/c for five days from December 3-7, 2012.
- Ajay Tripathi, Pankaj Dumka, Dhananjay R. Mishra and Atul Bhattad had undergone 3 weeks training from December 17, 2012 to January 04, 2013 on “Power Generation Overview with Simulator Inputs” at PMI, NTPC Noida. The purpose of this training was to provide thorough knowledge of 660 MW power plants and its simulator.

Experts Lectures Delivered:

- Professor R. M. Sarviya, Head of Mechanical Engineering Department, MANIT, Bhopal delivered lecture on “Application of Freshnel Mirror in Solar Energy” February, 28, 2012.
- Professor M. K. Ghosh, Director Apex Institute of Technology, Jaipur delivered lecture on “Lubrication of Hydrodynamic bearing” during ASME student chapter inauguration, April 28, 2012.
- Mr. Ajay Tripathi, Sr. Lecturer, Mechanical Engineering Department, JUET, Guna has delivered lecture on “Wind Turbines” in IUCEE workshop on Renewable Energy, June 7, 2012.
- Mr. Yashwant Kumar Modi, Sr. Lecturer, Mechanical Engineering Department, JUET, Guna has delivered lecture on “Advance Manufacturing Technologies” during MES inauguration, July 27, 2012
- Following distinguished guests and faculty members of JUET delivered expert lecture during National Workshop on “Advanced Manufacturing Technologies” held during September 27-29, 2013 at JUET, Guna.

- Prof. R K. Pandey, IIT, Delhi: Green machining and bio-mimetic textures surfaces
- Prof. A. D. Bhatt, MNNIT, Allahabad: Product development and sustainable Engineering
- Prof. J. N. Dube, JUET : Machine tools
- Dr. Sanat Agrawal, JUET: Additive Manufacturing: Introduction and Applications
- Dr. S. Mondal, JUET: Mechatronics
- Dr. Bhagat Sigh, JUET: Advanced Engineering Materials
- Dr. Amit Sharma, JUET: Laser Beam Machining
- Mr. Y.K. Modi, JUET: Automation and Computer Integrated Manufacturing
- Mr. V.P. Sharma, Deputy Director, Micro, Small and Medium Enterprises (MSME), Indore delivered an expert lecture on “Support for Entrepreneurial and Managerial Development of SMEs through Incubators” on May 01, 2015.

28. Student projects

- Percentage of students who have done in-house projects including inter-departmental projects: 100% (All students’ take-up projects in the final year.)
- Percentage of students doing projects in collaboration with other universities/industry/institute: 0%

29. Awards / recognitions received at the national and international level by

a) Faculty

Name of Faculty	National and international recognition
Dr. Gavendra Norkey	Awarded PhD degree in May 2014. The topic of his thesis was “Optimization of quality characteristics during laser cutting of difficult-to-cut materials”.
Dr. Yashwant Kumar Modi	Awarded Ph.D. degree in December 2014. The topic of his thesis was Faceted Models from GIS Data Formats for Terrain Modeling by Additive Manufacturing.
Dr. Sanat Agrawal	Elevated to life member of Society of Mechanical Engineers (SME) in December 2014. He was offered life membership of the SME after remaining a member for fourteen years since 2001

b) Doctoral / post doctoral fellows

NIL

c) Students

Name of students	Details of award
Anuj Sharma	<ul style="list-style-type: none"> • Secured 3rd position in the event “Engineering Mechanics” in Dextra 2010 organized by IETE. • Secured 2nd position in the debate competition organized in Ghaziabad district level.
Pulkit Verma	<ul style="list-style-type: none"> • Awarded 2nd prize in ‘Software roadies’ at the Annual Technical Fest of JUET ‘Dextra 2010’. • Awarded 2nd prize in ‘Blindfold Sketching’ at the Annual Technical Fest of JUET ‘Dextra 2011’ • Secured first position in "Vaigyaniki" National Level Paper Presentation at IIT Bombay. March 3-4, 2012. • Awarded 1st prize for ‘Ergonomic rotary Joint’ in RADIANCE 2012, national level project-paper presentation at the annual technical festival of Mechanical Engineering, IIT Bombay. • Awarded 2nd prize in the event ‘GREEN MEDIA’ in Techkriti 2012 – Annual Technical Fest of IIT Kanpur for making a video promoting Environmental Conservation. • Awarded 2nd prize in ‘Technical Paper Presentation’ organized by Mechanical Engineering Society, at JUET Guna for ‘Ergonomic rotary Joint’ • Awarded 3rd prize in ‘Tech Talks’, a national level paper presentation at annual technical fest of JUET – ‘DEXTRA 2012’ for ‘Ergonomic rotary Joint’ • Awarded 1st prize in ‘Paryavaran’, an event at the annual technical fest of JUET – ‘DEXTRA 2012’ for ‘To provide a non-conventional method for treatment of water’
Siddhant Mukherji, Vikram Jangir and Shivam Chawla	<ul style="list-style-type: none"> • Secured first position in aero dynamic event "Impulse" in Techkriti at IIT Kanpur, Feb, 2012.
Param Tripathi	<ul style="list-style-type: none"> • Secured 2nd position in Technocryptic-2010 (University Annual Tech Quiz) conducted by ISF in association with IETE. • Secured 1st position in Carrus-2012 (University Annual Automobile conducted by MES.

	<ul style="list-style-type: none"> Secured 1st position in War of Bands Dequinox-2012 (University Annual Cultural Fest).
Ipsit Tarun	<ul style="list-style-type: none"> Student was invited by DST for delivering lecture on Nuclear Energy in AY: 2011-12.
Team “Nirvana”, a group of Mechanical Engineering students	<ul style="list-style-type: none"> Passed virtual round of BAJA SAE INDIA - 2014 event held at Shri Venkateshwara College of Engineering, Bangalore on July 26, 2013
Team “Acriolis Cruzaders”, a group of nine Mechanical Engineering students	<ul style="list-style-type: none"> Passed virtual round of EFFICYCLE SAE INDIA- 2013 event held at Amrutvahini College of Engineering, Sangamner, Maharashtra on June 29, 2013.
Anshul Sharma	<ul style="list-style-type: none"> Won 2nd position in Fotsal event held at Dequinox 2014 (Annual Cultural fest of JUET Guna). Secured 2nd position in war of bands held at Maffick (Annual Cultural fest of NIT Bhopal).
Bhoomik Sharma	<ul style="list-style-type: none"> Received Model United Nations Awards at JUIT Solan, 2014. Received Model United Nations Awards at Amity University (Noida), 2015. Received Model United Nations Awards at Ansal University (Gurgaon), 2015. Received Model United Nations Awards at LNMIIT (Jaipur), 2015.
Shubham Vijay	<ul style="list-style-type: none"> Awarded 2nd prize in Tech-Design during Tech-Fest Awarded 2nd in Quiz competition in Literary-Fest
Rajat Garg	<ul style="list-style-type: none"> Won the first prize in the event Maglev at IIT Kharagpur. The group consisted of two more students from other departments (AY: 2014-15).
Nineteen students from B.Tech. Mechanical Engineering Department	<ul style="list-style-type: none"> Achieved 13th Rank in the finals of the National Go-Kart Championship held in Bhopal and Indore after a rigorous screening procedure. The Go-Kart built using a Honda engine which achieved a maximum mileage of around 55 km/hr was much appreciated (AY: 2014-15).

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Sl. No.	Details
1	National Workshop on Additive Manufacturing, 19-21, November, 2015 (NWAM-2015) Funding Agencies: JUET
2	National Workshop on Advanced Manufacturing Technologies (NWAMT), 27-29 September, 2013 Funding Agencies: CSIR, MPCST and JUET
3	IUCEE Workshop on Renewable Energy, 4-8 June, 2012 Funding Agency: IUCEE and JUET
4	National Workshop on Manufacturing Automation, 16-17 December, 2011 Funding Agencies: CSIR, DST, MPCST and JUET

31. Code of ethics for research followed by the departments

The Department follows the University code of research ethics. In addition, the faculty and research scholars are advised to follow IEEE/ACM code of ethics.

Focus of the Code

The code identifies key values characterising the ethos of the University. In doing so, it highlights the rights and responsibilities of the researchers that should apply in the various relationships they will encounter within the research environment. It also highlights the endeavours to eliminate unacceptable practices within the research milieu, such as abuse of power within the study guidance environment, plagiarism, discrimination and sexual harassment.

Key values: The rights of researchers

In particular, the following basic rights of researchers are recognised and promoted as far as possible with a view to creating an environment where research can flourish and high quality research outputs can be promoted:

- Academic freedom
- The availability of a caring research environment with efficient policies, management, structures, support services and programmes to promote research
- The use of the University's facilities, services and resources for research.

Key values: The responsibilities of researchers

Researchers at the University have the following responsibilities:

- Social responsibility, in terms of which researchers accept the responsibility to address the social causes by research and technology development.
- Justice, in terms of which researchers accept the responsibility for the equitable treatment of all individuals involved in the research process.
- Benevolence, in terms of which researchers should be inspired not only to protect others from harm, but also to ensure and promote the well-being of all those affected by research.
- Respect for the individual, where the focus is on the interaction between the researcher and the people during the research process. The researcher is required to recognise the dignity and autonomy of all individuals and to maintain humanity as well as freedom of choice in all situations.

- Professionalism, in terms of which it is recognised that researchers form part of a specific profession and therefore should exhibit professional responsibilities such as integrity, quality and accountability.

Applying the key values

These key values apply to the various relationships that may be encountered by researchers during their research. These include their relationship with:

- University and the broader scientific community
- Colleagues and collaborators
- Students
- Human participants in their research

Applying the Code

All members of staff and students of the University involved in research are required to acquaint themselves with this code right from the start and to undertake to subscribe and apply the principles contained in this code in all their research activities.

32. Student profile programme-wise

(a) Diploma

Batch	Applicants called	Selected		Pass percentage	
		Male	Female	Male	Female
2011-14	125	32	05	91.89	100
2012-15	176	28	04	100	100
2013-16	113	42	0	*	*
2014-17	29	21	01	*	*

(b) B. Tech

Batch	Applicants called	Selected		Pass percentage	
		Male	Female	Male	Female
2008-12		28	0	100	NA
2009-13		61	01	100	100
2010-14	1803	86	0	96.51	NA
2011-15	2007	92	02	96.81	100
2012-16	2157	97	05	*	*
2013-17	1880	99	01	*	*
2014-18	1650	144	01	*	*
2015-19	2062	92	0	*	*

(c) M. Tech

Batch	Applicants called	Selected		Pass percentage	
		Male	Female	Male	Female
2010-12	09	06	01	100	100
2011-13	06	05	00	100	NA
2012-14	07	06	01	100	100
2013-15	02	01	01	100	100
2014-16	09	06	01	*	*
2015-17	06	0	0	*	*

(d) Ph. D.

Batch	Applicants called	Selected	
		Male	Female
2008	01	01	00
2009	00	00	00
2010	02	01	00
2011	01	01	00
2012	00	00	00
2013	00	00	00
2014	10	02	00
2015	10	03	01

33. Diversity of students

Name of the Programme	Total	% of students from the same University	% of students from other Universities within the State	% of students from Universities outside the State	% of students from other countries
Diploma					
2010	NA	NA	NA	NA	NA
2011	37	NA	100	Nil	Nil
2012	32	NA	100	Nil	Nil
2013	42	NA	97.60	2.40	Nil
2014	22	NA	90.90	9.10	Nil
2015	NA				
B.Tech.					
2010	86	NA	23.25	76.75	Nil
2011	101	NA	17.82	82.18	Nil
2012	105	NA	29.52	70.48	Nil
2013	95	NA	28.42	71.58	Nil
2014	145	NA	40.69	59.31	Nil
2015	92	NA	40.22	59.78	Nil

M.Tech.					
2010	08	Nil	25	75	Nil
2011	05	Nil	20	80	Nil
2012	07	Nil	28.57	71.43	Nil
2013	02	Nil	Nil	100	Nil
2014	07	Nil	85.71	14.29	Nil
2015	Nil	Nil	NA	NA	Nil
Ph. D.					
2010	01	Nil	100	Nil	Nil
2011	01	Nil	100	Nil	Nil
2012	Nil	NA	NA	NA	Nil
2013	Nil	NA	NA	NA	Nil
2014	02	Nil	50	50	Nil
2015	05	20	40	40	Nil

NA – Not Applicable

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise

COMPETITION	ACADEMIC YEAR				
	2010-11	2011-12	2012-13	2013-14	2014-15
NET	NA	NA	NA	NA	NA
SLET	NA	NA	NA	NA	NA
GATE	NA	01	08	---	20
CAT	NA	Nil	03	---	04
TOEFL	NA	02	03	02	---
GRE	NA	03	03	02	05
G-MAT	NA	01	---	---	---
Defense Entrance	NA	---	---	02	02
Civil Services	NA	---	---	---	---
Any Other	NA	---	02 (Himachal Power Corp; SBI PO)	---	01 (IOCL)

NA – Not applicable as the first batch of B. Tech graduated in 2012

--- Data not available

35. Student progression

Student progression	Percentage against enrolled			
	2008-12	2009-13	2010-14	2011-15
UG to PG	17.8	19.3	2.3	12.9
PG to M. Phil.	NIL	NIL	NIL	NIL
PG to Ph.D.	14.3	NIL	NIL	NIL
Ph.D. to Post-Doctoral	NIL	NIL	NIL	NIL
Employed				
• Campus selection	100	26.9	50	70.9
• Other than campus recruitment	NA*	NA	NA	0.3.3
	(*NA – Not available)			
Entrepreneurs	NIL	01	NIL	NIL

36. Diversity of staff

For Ph.D., percentage is calculated out of total Ph.D. degree holders and percentage of UG and PG is calculated out of total strength of the Department.

Percentage of faculty who are UG/PG/Ph.D/Post Doc.			
	UG	PG	Ph.D.
Of The Same University	NIL	NIL	28.57%
From Other Universities Within The State	41.2%	23.5%	NIL
From Universities From Other States	58.8%	76.5%	71.43%
From Universities Outside The Country	NIL	NIL	NIL

37. Number of faculty who were awarded M. Phil., Ph.D., D.Sc. and D.Lit. during the assessment period

- 5 faculty members have been awarded Ph.D.

S. No.	Name of Faculty	Area of Research	Year of Degree awarded	University
1	Dr. Arun Pandey	Laser Beam Machining	2013	MNNIT, Allahabad
2	Dr. Ajay Tripathi	Thermal Engineering	2014	MNNIT, Allahabad
3	Dr. Gavendra Norkey	Laser Beam Cutting	2014	JUET, Guna
4.	Dr. Yashwant Modi	Additive Manufacturing	2014	JUET, Guna
5.	Dr. Subas Chandra Dash	Computational Fluid Dynamics	2015	IIT, Kharagpur

38. Present details of departmental infrastructural facilities with regard to

a) Library

No. of titles: 115 in Departmental Library. Department uses the Central Learning Resource (Central Library), in addition a Departmental Library.

b) Internet facilities for staff and students

The department has a CAD lab with internet connectivity (35 computers). JUET campus is fully connected with internet facility with approximate 3500 nodes for 855 Desktop Systems including nodes for students, faculty and staff members. All faculty members and students are also provided Internet and WIFI facility to their residential places 24x7 hours.

c) Total number of class rooms

Total 30 classrooms (Classes are conducted centrally at the University academic blocks)

d) Class rooms with ICT facility

Classes are conducted centrally at the University Academic Block. Mechanical Engineering Department shares 13 Lecture Theatres and 30 Class rooms with other departments.

*Details mentioned at point b),c) &d) is available centrally at University level which is being shared by other departments also

e) Students. Laboratories

S. No.	Name of the laboratory	Area (Sq. Mts.)
1	Fluid Machinery	95.2
2	OTS Lab	108
3	Thermodynamics Lab	81
4	I.C. Engine Lab	81
5	RAC Lab	81

6	SOM lab	81
7	TOM Lab	81
8	DOM Lab	81
9	R.P. Lab	110
10	CIMS Lab	110
11	Mechatronics Lab	70
12	CNC Lab	47.04
13	CAD/CAM	96.04
14	Carpentry/Fitting	71.175
15	Machine Shop	71.175
16	Welding Shop	71.175
17	Sheet metal Shop	71.175
18	Foundry Shop	71.175

f) Research laboratories

S. No.	Name of the laboratory	Area (Sq. Mts.)	Total Amount (₹)
1	Advanced Manufacturing Lab	290	2,91,69,174/-

39. List of doctoral, post-doctoral students and Research Associates

a) From the host Institution/University

- Doctoral Degree (Awarded)
 1. Dr. Gavendra Norkey
 2. Dr. Yashwant Modi
- Doctoral Degree (Pursuing)
 1. Mr. Sunil Kumar Tiwari
 2. Mr. K. L. Dhakar
 3. Mr. Prashant Shrivastava
 4. Mr. Manoj Dubey
 5. Mr. Abhisek Soni
 6. Ms. Priyanka Joshi
 7. Mr. G. D. Gautam
 8. Mr. Shailendra Kumar

b) From other institutions/universities

- Doctoral Degree (Awarded)
 1. Dr. Arun Pandey
 2. Dr. Ajay Tripathi
 3. Dr. Subas Chandra Dash

40. Number of post graduate students getting financial assistance from the University.

Total 7 students are getting financial assistance from the University (Ph.D.-5 and M.Tech.-2).

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology.

Detailed proposal is prepared in consultation with the alumni, visiting expert and industry professionals. The prepared proposals are discussed in academic forum such as departmental meeting and the Board of Studies (BOS). The recommendations of the BOS are discussed in the academic council meeting and approved.

42. Does the department obtain feedback from

(a) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?

The proposals of the course coordinators on the curriculum in the light of syllabi of GATE, IES, other premier institutions and the need of the industry are discussed in the departmental meetings and BOS and accordingly the syllabi are revised.

(b) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?

In each semester, feedback of the course coordinators, course content, teaching-learning-evaluation method is taken from the students. The HOD and Dean take the necessary action. The faculty members are apprised of the feedback.

(c) Alumni and employers on the programmes offered and how does the department utilize the feedback?

Senior alumni and employers' representative are regularly invited to share their views and give feedback to make necessary changes on course contents/projects.

43. List the distinguished alumni of the department (maximum 10)

S. No.	Year of Passing from JUET, Achievements and current affiliations
1	Manmeet Singh, 2013 Engineer, NDT Engg.(Bureau Veritas)
2	Shubham Vijay, 2013 Engineer, Bosch India, Jaipur
3	Arpit Sharma, 2013 Engineer, Bosch India, Jaipur
4	Vaibhav Krishna, 2013 Engineer, Videocon, Noida
5	Naman Gupta, 2013 Founder of Sankalp Knitters, Tiruppur, Tamil Nadu
6	Harshit Malhotra, 2014 Army Officer (CDS-2014)
7	Shivam Chaurasiya, 2014 Army Officer
8	Kapil Kumar, 2015 IOCL
9	Yashwant Singh, 2015 Indian Navy
10	Sonal Goel, 2015 Defence Services

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

- Professor R. M. Sarviya, Head of Mechanical Engineering Department, MANIT, Bhopal delivered lecture on “Application of Fresnel Mirror in Solar Energy” February, 28, 2012.
- National Science Day (NSD) was organized with the collaboration of other departments. The NSD celebrations took place in two phases from February, 28 to May 10, 2012. Various activities such as debate, poster presentation, demonstration of solar devices and invited lectures were held during the celebration.
- Professor M. K. Ghosh, Director Apex Institute of Technology, Jaipur delivered a lecture on “Lubrication of Hydrodynamic bearing” during ASME student chapter inauguration, April 28, 2012.

- Demonstration of FEAST MEDO software was organized for faculty members of Mechanical Engineering Department by Mr. Nitin Bhatt on May 16, 2012 in OTS lab.
- The M.Tech. students attended the IUCEE workshop on Renewable Energy organized by the Department of Mechanical Engineering from June 4 - 8, 2012. Dr. T. Agami Reddy, SRP Professor of Energy and Environment, School of Sustainable Engineering in the Built Environment and The Design School, Arizona State University, Tempe, AZ, U.S.A delivered most of the lectures in the workshop.
- Mr. Ajay Tripathi, Sr. Lecturer, Mechanical Engineering Department, JUET, Guna has delivered a lecture on “Wind Turbines” in IUCEE workshop on Renewable Energy, June 7, 2012.
- Mr. Yashwant Kumar Modi, Sr. Lecturer, Mechanical Engineering Department, JUET, Guna has delivered a lecture on “ Advance Manufacturing Technologies” during MES inauguration, July 27, 2012
- The M. Tech students attended the National Workshop on “Advanced Manufacturing Technologies” held during September 27-29, 2013 at JUET, Guna. Following distinguished guests and faculty members of JUET delivered the expert lecture:
 - Prof. R K. Pandey, IIT, Delhi: Green machining and bio-mimetic textures surfaces.
 - Prof. A. D. Bhatt, MNNIT, Allahabad: Product development and sustainable Engg.
 - Prof. J. N. Dube, JUET: Machine tools
 - Dr. Sanat Agrawal, JUET: Additive Manufacturing: Introduction and Applications.
 - Dr. S. Mondal, JUET: Mechatronics.
 - Dr. Bhagat Sigh, JUET: Advanced Engineering Materials.
 - Dr. Amit Sharma, JUET: Laser Beam Machining.
 - Mr. Y.K. Modi, JUET: Automation and Computer Integrated Manufacturing
- MEC students conducted Junkyard war for Dequinox on February 28, 2014.
Expert lecture on “Sustainable Development” delivered by Dr. S.K. Agrawal, Professor, MNNIT Allahabad on April 19, 2014.
- Dr A M Kuthe, Professor, VNIT Nagpur, delivered a lecture on "Medical Rapid Prototyping: Case Studies of Medical Applications of Additive Manufacturing Processes" on May 26, 2014.

- Mr. V.P. Sharma, Deputy Director, Micro, Small and Medium Enterprises (MSME), Indore delivered an expert lecture on “Support for Entrepreneurial and Managerial Development of SMEs through Incubators” on May 01, 2015.

45. List the teaching methods adopted by the faculty for different programmes.

- Using models and slides as teaching aids.
- Arranging student seminars on their topics of interest.
- Conducting tutorial classes to improve problem solving abilities of the students.
- Conducting remedial classes for slow learners.
- Development of student support material for poor learners and enthusiastic learners.

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

The program objectives are the broad statements that describe the career and professional accomplishments that our program is preparing the graduates to achieve. Our engineering program objectives are aimed at making contribution to the society through the use of engineering and technology. These objectives have been established consistent with the mission of the department, the goals of the engineering program and the broad guidelines for professional engineering. Our Mechanical Engineering department program objectives are as below:

- Our graduates will function ethically and responsibly
- Our graduates will apply their knowledge and skills to succeed in their career
- Our graduates will endeavor to advance their knowledge or obtain an advanced degree, if interested
- Our graduates will successfully function in multi-disciplinary teams
- Our graduates will apply relevant software and computing skills to achieve efficiency in the execution of tasks assigned to them
- Our graduates will be proud of their alma-mater

Outcomes are the items that we evaluate in our graduates to insure that we are meeting our objectives. Students graduating from the Mechanical Engineering department at the Faculty of Engineering and Technology are expected to possess the following skills

- Ability to apply knowledge of engineering and applied science
- Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice
- Ability to design and conduct experiments, as well as to analyze and interpret data
- Ability to design infrastructural and other components
- Awareness towards mitigation of environmental issues

- Ability to function in multi-disciplinary teams
- Ability to work cordially with peers in professional manner
- Ability to identify, formulates, and solve engineering problems
- Understanding of professional and ethical responsibility
- Ability to communicate effectively
- Recognition of the need to engage in life-long learning process
- Knowledge of contemporary social and political issues

Various instruments being used to monitor that the objectives of the programs run by the department are met. These include student surveys and informal interactions, assessment of coursework relevancy, interaction with alumni and industry, and collaboration with various professional engineering organizations. Based on this evaluation, strengths and opportunities in the program are identified. The implementation of the correction process is closely monitored by the decision making bodies such as the Board of Studies of the department.

47. Highlight the participation of students and faculty in extension activities.

Faculty and students of the department are actively involved in various extension activities organized by JUET. Details are given in section 3.6 of Self Study Report of the University.

Students:

- Participation in Inter and Intra - University symposiums, paper presentations.
- Participation in cultural programs.
- Active participation in the department and institution level committees

Faculty:

- Participation in administrative activities.
- Participation in student's welfare activities.
- Supervising students in various student societies.

48. Give details of beyond syllabus scholarly activities of the department.

The topics of content beyond syllabus are implemented through industry visits, industrial training, Lectures from the industry experts and outside faculty. Apart from these they also participate in the technical fest/competition through group projects. These projects give them excellent opportunity to learn. We also involve them in workshop/ seminar/ extension lecture/ industry visit. They are also attached with teachers for research work

49. State whether the programme/department is accredited/graded by other agencies? If yes, give details

Not yet

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Generated new knowledge in the discipline through innovative research and education through introducing the new courses pertaining to the current scenario and also get involved in providing the consultancy to the industry.

51. Detail five major Strengths, weakness, Opportunities and Challenges (SWOC) of the department

Strengths

- Availability of qualified, experienced, and committed faculty.
- Well equipped laboratories with latest systems and required software.
- Research facility on advanced manufacturing.
- Friendly Student-Faculty college course website
- Well equipped central library with digital subscriptions.

Weaknesses:

- Lack of industries nearby.
- Students are lacking communication skills at the entry level as many of them are coming from rural areas.
- Efforts needed to get industry – sponsored projects.

Opportunities:

- **New Academic Programmes:** There is an ample scope in market for producing customized engineers / professional as per industry requirement. This can be achieved through flexible syllabi. To support the national development we have opportunity for new programs in associated areas like Industrial, Production, Design, Energy, Thermal Engineering etc.
- **Enhanced Industry Interaction:** Need for active collaborations with top global Engineering Institutions and industry for teaching research and consultancy.
- **Skill based learning:** Opportunity exists for development of skill based programmes for enhanced employability and marketability using Practice schools.
- **Research and Development:** Industry based research programmes. Increased Industry-Institute partnership.
- **Entrepreneurship and Technology Incubation:** Technology parks and industry incubation centers to be developed. Entrepreneurship Development programs can also be organized for helping students in becoming entrepreneurs. At some place we can also think of venture funding for new startups.

Challenges

- Upcoming Universities & Institutions: Increasing challenges with global universities and new private universities.
- Revenue generation for sustainability: Increasing dependency on fee revenue and government support. A sustainable model needs to be followed.
- Shrinking Technology Cycle: With rapid change in technology, if upgrading of syllabus, lab-equipments and skills of faculty is not addressed constantly, learning and student outcomes, placement, research & consultancy and related plans might be affected adversely.
- Start PG Courses in CAD/CAM, Machine Design & Thermal Specialization and get senior faculty for those courses.
- To compete with the best of the universities in the state and the country in attracting to get bright and talented students.

52. Future plans of the department.

- To enhance Industry- Institute-Interaction to attract leading MNC's for conducting campus recruitment.
- Improve the quality of research work
- Increase in the qualification of faculty members by encouraging them to do their PhD work.
- To get research projects from various funding agencies like UGC, AICTE, DST etc.
- To identify potential areas for consultancy work and ensure to get consultancy work.

List of Collaborative Publications

Journals

1. Y. K. Modi, S. Agrawal and D. De Beer, “Direct generation of STL Files from USGS DEM data for additive manufacturing of terrain models”, *Virtual and Physical Prototyping*, DOI: 10.1080/17452759.2015.1069989.
2. Amit Sharma and Vinod Yadava, “Modelling and optimization of cut quality during pulsed Nd-YAG laser cutting of Ni-based superalloy thin sheet for curved profile”, *Lasers in Engineering*. (In press)
3. S. Agrawal, D. J. de Beer and Y. K. Modi, “Conversion of a GIS surface data directly to a 3D STL part for terrain modelling”, *Rapid Prototyping Journal*, Volume 20, Issue 5, pp. 422-430, 2014.
4. G. N. Norkey, A. K. Dubey and S. Agrawal, “Artificial intelligence based modeling and optimization of heat affected zone in Nd: YAG laser cutting of duralumin sheet”, *Journal of Intelligent and Fuzzy System*, Volume 27, pp. 1545 – 1555, 2014.
5. Arun Kumar Pandey, Avaniish Kumar Dubey and Arvind Kumar Chaudhary, “Computer aided Taguchi fuzzy multi-objective optimization of laser cutting”, *Journal of Intelligent and Fuzzy Systems*, Volume 26, Issue 2, March, 2014.
6. Pawan Sharma, Avaniish Kumar Dubey and Arun Kumar Pandey, “Numerical study of temperature and stress fields in laser cutting of aluminium alloy sheet”, *Procedia Materials Science (Elsevier)*, Volume 5, pp. 1887– 1896, 2014.
7. Mahendra Singh Sodha, Dhananjay R. Mishra and Anil Kr. Tiwari, “Solar earth water still for highly wet ground”, *Journal of Fundamentals of Renewable Energy and Applications*, Volume 4, Issue 1, pp. 103, 2014.
8. Priyaranjan Sharma, Sujit Singh and Dhananjay R. Mishra, “Electrical discharge machining of AISI329 stainless steel using copper and brass rotary tubular electrode”, *Procedia Material Science*, 2014.
9. G. Norkey, A. K. Dubey and S. Agrawal, “Optimization of multiple quality characteristics in laser cutting of difficult-to-laser-cut material”, *Applied Mechanics and Materials*, Volume 390, pp. 621–625, 2013.

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11. Sanjay Kumar, Avanish Kumar Dubey and Arun Kumar Pandey, "Computer aided genetic algorithm based multi-objective optimization of laser trepan drilling", *International Journal of Precision Engineering and Manufacturing*, Volume 14, Issue 7, pp. 1119-1125, 2013.
12. S. Mondal and W. K. Chung, "Adaptive observer for a class of nonlinear systems with time delays", *International Journal of Adaptive Control and Signal Processing*, Volume 27, Issue 7, pp. 610-619, 2013.
13. B. Singh and B. K. Nanda, "Dynamic analysis of damping mechanism in welded multilayered mild steel beams", *Aerospace Science and Technology*, Elsevier, Volume 29, Issue 1, pp. 58-73, August, 2013.
14. H. Chandra, S. Paliwal and A. Tripathi, "Mitigation of emission in thermal power plant using conventional and non-conventional fuel", *Int. Journal of Engineering and Science Invention*, Volume 2, Issue 4, pp. 1-6, 2013.
15. H. Chandra, S. Paliwal and A. Tripathi, "Modelling and analysis on the basis of energy and environment for coal and gas fired thermal power stations", *European Journal of Science and Technology*, Volume 2, Issue 3, pp. 232-238, 2013.
16. Dhananjay R. Mishra and Anil K. Tiwari, "Effect of coal and metal chip on the solar still, *J. Sci. and Tech. Res.*, Volume 3, Issue 1, pp. 1-6, 2013.
17. A. K. Dubey, G. Norkey and S. Agrawal, "Parameter optimization in laser cutting of aluminium alloy sheet", *Int. J. Mechatronics and Manufacturing Systems*, Volume 5, Issue 3-4, pp. 179-188, 2012.
18. Y. K. Modi, D. J. de Beer and S. Agrawal, "Physical modelling of terrain directly from surfer grid and ARC/INFO ASCII data formats", *South African Journal of Industrial Engineering*, Volume 23, Issue 2, pp. 230-241, 2012.
19. A. K. Sahoo, S. K. Soni, P. V. Rao and S. Ghosh, "Use of solid lubricants like graphite and MoS₂ to improve grinding of Ti-6Al-4V alloy", *International Journal of Machining and Machinability of Materials*, Volume 12, Issue 4, pp. 297-307, 2012.
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22. Ajay Tripathi and H. Chandra, "Determination of laminar burning velocity of LPGCO₂- air mixtures, Journal of Institution of Engineers, Volume 91, pp. 20-24, 2011.
23. Dhananjay R. Mishra, Mahendra Singh Sodha and A. K. Tiwari, "Validation of basis of experimental simulation of a heat transfer between a building and surrounding earth", Journal of Solar Energy Society of India (SASI), Volume 21, Issue 1-2, pp. 36-48, 2011.
24. S. Mondal, G. Chakraborty and K. Bhattacharyya, "LMI approach to robust unknown input observer design for continuous systems with noise and uncertainties", International Journal of Control, Automation and Systems, Volume 8, Issue 2, pp. 210-219, 2010.

Conferences

1. Amit Sharma, Divya Singh and Vinod Yadava, Optimization of Kerf geometry during profile cutting of nickel based superalloy thin sheet using Nd-YAG laser, International Conference on Application of Lasers in Manufacturing (CALM-2015), Pragati Maidan, New Delhi, India, September 9-11, 2015.
2. Dhananjay R. Mishra and Anil Kr. Tiwari, "Performance evaluation of conventional and sand bed ground solar still and effect of covering by black polythene sheet and coal powder on nearby surfaces of sand bed solar still", 3rd International Conference on Recent Trends in Science & Technology, IC-RTST-2015, February, 27-28, 2015.
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5. Arun Kumar Pandey, Avanish Kumar Dubey and Pawan Sharma “Numerical Study of Temperature and Stress Fields in Laser Cutting of Aluminium alloy Sheet”, in proceedings of International Conference on Advances in Manufacturing and Materials Engineering (ICAMME 2014), held at National Institute of Technology Karnataka, Surathkal, India, March 27-29, 2014.
6. Anil Kr. Tiwari and Dhananjay R. Mishra, “Effect of covering by black polythene sheet and coal power on nearby surfaces of sand bed solar still: studying heat and mass transfer”, HEFAT 2014, 10th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Orlando, Florida, July 14-16, 2014.
7. Pankaj K. Srivastava and S. K. Agrawal, “Year round performance of single sloped basin type solar still in central Indian location, International Conference on Applied Energy, ICAE2013, Pretoria, South Africa, ISBN: Not Available, July 1-4 July, 2013.
8. A. K. Dubey, G. Norkey and S. Agrawal, “Optimization of multiple quality characteristics in laser cutting of difficult-to-laser-cut material”, 4th International Conference on Mechanical and Aerospace Engineering”, ICMAE 2013, Moscow, Russia, ISBN: Not Available, July 20-21, 2013.
9. Amit Sharma, Vinod Yadava and S. S Agarwal, “Modelling of cut qualities during Nd-YAG laser cutting of thin aluminum alloy sheet metal using artificial neural network”, International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-8), National Institute of Technology, Calicut, Kerala, pp. 789-794, December 13-15, 2013.
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List of Publications

Indexed in SCI/SCOPUS

International Journals

2015

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5. J. Kumar, S. Choudaha and S. Mondal, "Analyzing the effects of process parameters on welding qualities in flux coated arc welding (FCAW)," International Conference on Advances and Development in Engineering & Technology (ICADET), Indore, India, ISBN: Not Available, February 8-9, 2013.
6. Amit Sharma, Vinod Yadava and S. S. Agarwal, "Modelling of cut qualities during Nd-YAG laser cutting of thin aluminum alloy sheet metal using artificial neural network", International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-8), National Institute of Technology, Calicut, Kerala, pp. 789-794, December 13-15, 2013,
7. Arun Kumar Pandey and Avanish Kumar Dubey, "AI based modeling and optimization of laser cutting of Difficult-to-Laser-cut materials", In proceedings of World Congress on Frontiers of Mechanical, Aeronautical and Automobile Engineering (WCFMAAE), IIT Delhi, Hauz Khas, New Delhi, 2013.

8. Arun Kumar Pandey and Avanish Kumar Dubey, "Modeling and optimization of pulsed Nd: YAG laser cutting of Difficult-to-laser-cut-sheet metals", In the proceedings of 3rd International Conference in Production and Industrial Engineering (CPIE-2013), B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India, 2013.
9. Arun Kumar Pandey and Shivani Pandey, "Simultaneous optimization of geometrical kerf qualities in pulsed Nd:YAG laser cutting of titanium alloy sheet using hybrid approach of MRA and GA", In the proceedings of International Conference on Precision, Meso, Micro and Nano Engineering (Copen "8"), National Institute of Technology, Calicut, Kerala, India, December 13-15, 2013.
10. K. P. Singh, G. D. Gautam, S. K. Tiwari and G. N. Norkey, "Optimization of turning parameters for hardness of EN 9 steel and aluminium using Taguchi technique", In the proceedings of 2nd International Conference on Advanced Manufacturing and Automation (INCAMA), pp. 876 – 882, 2013.
11. A. Tripathi and S. K. Agrawal, "Imaging analysis and micro-PIV of single meniscus inside square capillary", International conference on Advances in Mechanical Engineering, COEP, Pune, ID-ACAME2013 S4/01, May 29-31, 2013.
12. Vivek Jain, Shivam Chaudaha and Y. K. Modi, "Reverse engineering of mechanical component using point cloud data by CMM", International Conference on Advances & Development in Engineering and Technology (ICADET), Indore, February 8-9, 2013.

2012

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2. Arun Kumar Pandey and Avanish Kumar Dubey, "Modeling and optimization of kerf taper in pulsed laser cutting of duralumin sheet", In the proceedings of International Manufacturing Science and Engineering Conference (MSEC2012), University of Notre Dame, Indiana, U.S.A, doi:10.1115/MSEC2012-7243, pp. 491-498, June 4-8, 2012.
3. Dhananjay R. Mishra, Mahendra Singh Sodha and Amrit Dixit, "Validation of the basis of experimental simulation of heat transfer between a building and surrounding earth", In the Proceedings of International Conference on Energy Security, Global Warming and Sustainable Climate, SOLARIS-2012 , IIT, BHU, pp. 535-546, 2012.

4. D. R. Mishra, V. Jha, A. Chandrakar, R. Sahu, A. Masand and S.L. Sahu, "Ground earth – still", In the Proceedings of Green Technology for Sustainable Development in Mechanical Engineering and Mechatronics Engineering, AICON 12, pp. 47-50, 2012.

2011

1. Sanat Agrawal, Y. K. Modi and De J de Beer, "Physical modeling of terrain directly from surfer grid, ARC/INFO ASCII and DEM ASCII XYZ data formats", 12th RAPDASA-2011, South Africa, November 2-4, 2011
2. S. Agrawal, D. J. De Beer and Y. Modi, "Physical modelling of terrain directly from Surfer grid, ARC/INFO ASCII and DEM ASCII XYZ data formats", RAPDASA 2011, Vaal University of Technology, South Africa, ISBN: Not Available, 2011.
3. S. Agrawal, Sarang Pande and Ravi Sharma, "Advancements in the implant fabrication using additive manufacturing", RAPDASA-2011, South Africa, ISBN: Not Available, November 2-4, 2011.
4. A. Pradhan, B. K. Nanda and B. Singh, "Investigation of damping mechanism in layered and bolted beams with uniform pressure distribution at the interfaces", International Conference on Emerging Research and Advances in Mechanical Engineering (ERA'11), Chennai, India, September 20- 22, 2011,
5. Smita Gupta, Vinod Yadava, Sanjay Mishra and Amit Sharma, "Finite element analysis of laser beam bending in ultra thin aluminum foil", International Conference on Precision, Meso, Micro and Nano Engineering (COPEN-7), College of Engineering Pune, pp. 420-423, December 10-11, 2011.
6. Arun Kumar Pandey and Avanish Kumar Dubey, "Neuro fuzzy modeling of laser beam cutting process", In the proceedings of 2nd International Conference on Mechanical, Industrial and Manufacturing Technologies (MIMT), Singapore, February 26-28, 2011.
7. Arun Kumar Pandey and Avanish Kumar Dubey, "ANN modeling of kerf width in pulsed laser cutting of duralumin sheet", In the proceedings of International Conference on Precision, Meso, Micro, and Nano Engineering, College of Engineering, Pune, Maharashtra, India, December 10-11, 2011.
8. D. Joshi, Y. K. Modi and B. Ravi, "Evaluating environmental impacts of sand cast products using life cycle assessment", International Conference on Research into Design (ICoRD'11), Indian Institute of Science (IISc.), Bangalore, January 10-12, 2011.

9. Dhananjay R. Mishra, "Shape factor for DDUA building", In the Proceedings of Emerging Trends and Developments in Mechanical Engineering and Mechatronics Engineering AICON 11, pp. 78-82, 2011.

2010

1. Sanat Agrawal, Y. K. Modi and De J de Beer, "Direct conversion of a GIS surface data to a 3D STL part", 11th RAPDASA-2010, Vanderbijlpark, Vaal University of Technology, South Africa, November 5-6, 2010.
2. S. Mondal, Y. Yun and W. K. Chung, "Terminal iterative learning control in odometry calibration of mobile robots", In Proceedings of the International Conference on Advanced Intelligent Mechatronics (AIM 2010), Montreal, Canada, ISBN: Not Available, pp. 311-316, July 6-9, 2010.
3. B. Singh and B. K. Nanda, Investigation of damping mechanism in layered and welded structures using response surface methodology approach, Fifth International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM '10), I.I.T. Kharagpur, India, pp. 1-12, December 27-29, 2010.
4. B. Singh and B. K. Nanda, Analysis of slip damping in welded structures using finite element approach, Fifth International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM '10), I.I.T. Kharagpur, India, pp. 1-9, December 27-29, 2010.
5. Amit Sharma and Vinod Yadava, "Modeling and analysis of pulsed Nd: YAG laser cutting of thin Ni-based superalloy sheet", Proceedings of the 3rd International conference on Advances in Mechanical Engineering (ICAME-2010), SVNIT, Surat, January 4-6, 2010.
6. Amit Sharma and Vinod Yadava, "Optimization of multiple quality characteristics during Nd-YAG laser cutting of SUPERNI 718 thin sheet", Proceedings of the 3rd International and 24th All India Manufacturing Technology, Design and Research (AIMTDR) Conference organized by Andhra University College of Engineering (A), Visakhapatnam, December 13-15, 1 (2010), 165-170.
7. Mohd. Salim, Vinod Yadava, Sanjay Mishra and Amit Sharma, "3D transient finite element analysis of laser percussion drilling of thin sheet metal", Proceedings of the 3rd International and 24th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, AUEC Visakhapatnam, Volume 2, pp. 879-884, December 13-15, 2010.

8. A. K. Dubey, Arun Kumar Pandey and Vinod Yadva, "Experimental study on laser cutting of superalloy sheet", In the proceedings of the 4th International Conference on Advances in Mechanical Engineering (ICAME), S.V. National Institute of Technology, Surat, pp. 244-248, September 23-25, 2010.
9. Tripathi, S. Khandekar and P. K. Panigrahi; "Oscillatory contact line motion inside capillaries", 15th International Heat Pipe Conference (15th IHPC) Clemson, USA, April 25-30, 2010.

National Conferences

2015

1. Akshay Jain, Y. K. Modi, "Effects of layer thickness and build orientation on tensile strength of part produced by 3D printing", National Seminar on Emerging Trends in Manufacturing and Automation Engineering, NSMAE-2015, Amity University, Gwalior, October 9-10, 2015.

2014

1. G. N. Norkey, A. K. Dubey and S. Agrawal, "Theoretical investigations in laser cutting: a review", National Conference on Research and Innovation in Mechanical Engineering (RIME - 14), TIT College, Bhopal, ISBN: Not Available, pp. 103-111, March 5-6, 2014.
2. Amit Sharma, Amrit Shiwani and Vinod Yadava, "Optimization of kerf deviation during pulsed Nd: YAG laser cutting of thin al-alloy sheet for curved profile", Proc. of the National Conference on Emerging Frontiers in Mechanical Engineering, at HBTI Kanpur, pp. 113-118, Feb-2014.
3. Abhinav Sharma, Gaurav Pushkarna and Amit Sharma, "Electrical discharge machining of superalloys: a review", National Conference on Paradigms in Mechanical Engineering (PME-2014), MRIU Faridabad (Haryana), pp. 94-97, December 20, 2014.
4. G. N. Norkey, A. Chandratery and K. P. Singh, "An analysis the effect of process parameters of aluminium sand casting Taguchi's method", Innovation in Futuristic Materials & Manufacturing Techniques (IFMMT-2014), Manipal University, Jaipur, India, December 26 -27, 2014.
5. Dhananjay R. Mishra, Atul Bhattad and Nitin K. Samaiya, "Electrical stimulation of trapezoidal canals", National Conference on Advance Materials, Sharda University, August 8-9, 2014.

2013

1. A. Tripathi and S. K. Agrawal, “ μ -PIV of unidirectional flow of single meniscus inside square capillary”, Workshop on Advances in Energy Engineering and Technology, IIT, BHU, ISBN: 978-93-82880-44-8, chapter 23, pp. 200-213, June, 2013.
2. Amit Sharma and Vinod Yadava, “Optimization of pulsed Nd-YAG laser cutting of thin Ni-based superalloy sheet”, Proceedings of the National Conference on Achieving Excellence for Industrial Competitiveness (AEIC-2013), GLAU Mathura, pp. 19-20, January 2013.
3. H. Chandra, S. Paliwal and A. Tripathi, “Modeling and analysis on the basis of energy and environment for coal and gas fired thermal power stations”, National Conference on Energy sustainability and society: The growing Paradigm shift-ESS-2013, March 30-31, 2013.

2012

1. K. Pandey and Pankaj Kumar Srivastava, “Applications of laser in manufacturing”, In the proceedings of National Conference on the Emerging Trends in Mechanical Engineering (ETME-2012), TIT Bhopal, M. P., India, November 29-30, 2012.
2. Pankaj Kumar Srivastava and A. K. Pandey, “Capability and applications of EDM”, In the proceedings of National Conference on the Emerging Trends in Mechanical Engineering (ETME-2012), TIT Bhopal, M. P., India, November 29-30, 2012.

2011

1. Ajay Tripathi, Arun Agnihotri and S. K. Agrawal, “Contribution of Jaypee Rewa cement in blended cement industry and overall development of nearby villages: A case study”, All India Seminar on Blended Cements in the Sustainable Development of Cement Industry, November 26-27, 2011.

2010

1. Amit Sharma, Vinod Yadava and Raghvendra Rao, “Parameter optimization of straight and curved cutting of thin superalloy sheet using Nd: YAG laser”, Proceedings of National Conference on Recent Advances in Manufacturing Technology and Management (RAMTM), Jadavpur University Kolkata, , pp. 59-64, February 19-20 2010.
2. Amit Sharma and Vinod Yadava, “Application of Taguchi method in the optimization of process parameters for kerf taper in laser cutting”, Proceedings of the Golden Jubilee National Conference on Recent Advances in Manufacturing (RAM), SVNIT, Surat, pp. 381-385, July 19-21, 2010.

3. Amit Sharma and Vinod Yadava, "Study of optimal process parameters during pulsed Nd-YAG laser cutting of superalloy thin sheet using Taguchi's matrix method", Proceedings of the National Conference on Advancements & Futuristic Trends in Mechanical and Industrial Engineering (AFTMIE-2010), Bilaspur, Haryana, pp. 41-45, November 12-13, 2010.
4. A. K. Dubey and G. N. Norkey, "Experimental investigation of laser cutting of highly reflective and thermally conductive material", National Conference on Recent Advances in Manufacturing, S.V.N.I.T, Surat, 2010.
5. Y. K. Modi and D. Joshi, "Life cycle environmental impact comparison of some binder systems in core/mould making process using LCA approach", National Conference on Recent Advances in Materials Science & Engineering: A multidisciplinary Approach, JUET, Guna, October 23-24, 2010.

Monographs:

Nil

Books:

1. S. Agrawal, "Mechanical error in rapid prototyping processes: analysis and synthesis of error using stochastic approach", LAP Lambert Academic Publishing AG & Co., Germany, ISBN: 978-3-8383-7865-7, 2010.
2. Y. K. Modi, "Environmental impact comparison of some cast metals using LCA approach: A step towards sustainable manufacturing" LAP LAMBERT Academic Publishing GmbH & Co. KG, Germany, ISBN: 978-3847338437., 2012.

Chapters in books:

1. S. Agrawal and G.D. Jordaan, "Physical modelling of terrains and structures", Modelling as research methodology, Revised edition, Sun Press, Bloemfontein, South Africa, Editors: G D Jordaan and L.O.K. Lategan, ISBN: 978-920383-05-3, Chapter 6, pp. 79-88, 2010.

Annexure-III/MEC

List of Faculty selected to visit other laboratories/institutes/industries.

- Dhananjay R. Mishra was invited to deliver a talk at the 3rd International conference on Recent Trends in Science & Technology, IC-RTST-2015, SVN unit, “Sagar on Performance evaluation of sand bed single slop solar stills”, February 27, 2015.
- Mr. Gavendra Norkey attended a short term course on Advanced Machining Processes, organized by Department of Mechanical Engineering, Motilal Nehru National Institute of Technology, Allahabad, during July 01- 05, 2013.
- Mr. Ajay Tripathi attended a three-day workshop on Advances in Energy Engineering and Technology, held at IIT, BHU, Varanasi, during June 28 - 30, 2013.
- Dr. Sanat Agrawal and Mr. Yashwant Kumar Modi attended one day International workshop on “Role of Industrial Wind Tunnels in Design of Civil Engineering Structures”, Jaypee Wind Engineering Application Centre, JUET, Guna, India, December 16, 2013.
- Ajay Tripathi, Pankaj Dumka, Dhananjay R. Mishra and Atul Bhattad undergone 3 weeks training from December 17, 2012 to January 04, 2013 on “Power Generation Overview with Simulator Inputs” at PMI, NTPC Noida. The purpose of this training was to provide thorough knowledge of 660 MW power plants and its simulator.

List of Faculty serving in various committees

S. K. Agrawal

- **Member of Professional Bodies:** Fellow member of Institution of Engineers (I), Kolkata
- **Life Member:** Solar Energy Society of India, New Delhi
- **Life Member:** Allahabad Management Association and Indian Academy of Social Sciences

Sanat Agrawal

- **Co-chairman, Organizing committee:** National Workshop on Manufacturing Automation”, Mechanical Engineering Department, JUET Guna, Dec 16-17, 2011.
- **Coordinator, Organizing committee:** IUCEE workshop on “Renewable Energy”, JUET Guna, June 4-8, 2012.
- **Organizing Secretary:** Basic Training on Machine Operation of “EOSINT P395”, organized by AM lab -- JUET Guna and EOS Singapore, held at AM lab, JUET Guna, Dec 3-7, 2012.
- **Chairman, Organizing committee:** National Workshop on Advanced Manufacturing Technologies”, Mechanical Engineering Department, JUET Guna, September 27-29, 2013.
- **Life member:** ISTE since 1993
- **Member:** RAPDASA since 2004
- **Member:** ASME since July 2011
- **Life member:** SME since Dec 2014 (member since December 2002).
- **Reviewer:** RAPDASA conference papers since 2004.
- **Reviewer:** Rapid Prototyping Journal (RPJ) since 2012.
- **Reviewer:** South African Journal of Science and Technology (SAJIE) since 2012.
- **Reviewer:** International Journal of Production Research (IJPR) since 2006.
- **Reviewer:** Computer-Aided Design (CAD) Journal since October 2013.
- **Reviewer:** JUET Research Journal of Science and Technology (JRJST) Journal since July 2013.

Bhagat Singh

- **Editor:** JUET Journal of Science & Technology. ISSN No. 23216026 (June 2015 onwards)
- **Reviewer:** International Journal of Mechanical Sciences (Elsevier)
- **Reviewer:** Ain Shams Journal (Elsevier)
- **Reviewer:** Engineering Structures (Elsevier)
- **Senior Life Member:** IACSIT Mechanical Engineering Society (MES)
- **Senior Life Member:** IAENG (International Association of Engineers)

Amit Sharma

- **Senior Life Member:** International Association of Computer Science and Information Technology (IACSIT)
- **Member:** International Association of Engineers (IAENG)

Arun Kumar Pandey

- **Life Member:** Indian Society of Technical Education (ISTE)
- **Senior Member:** IACSIT Mechanical Engineering Society (MES)
- **Member:** IAENG (International Association of Engineers)
- **Reviewer:** Optics and Lasers in Engineering (Elsevier),
- **Reviewer:** Optics and Laser Technology (Elsevier),
- **Reviewer:** Machining Science and Technology (Taylor and Francis),
- **Reviewer:** International Journal of Advanced Manufacturing Technology (Springer),
- **Reviewer:** Journal of Mechanical Science and Technology (Springer),
- **Reviewer:** Materials and Manufacturing Processes (Taylor and Francis),
- **Reviewer:** Journal of intelligent and Fuzzy Systems,
- **Reviewer:** ASME conference

Yashwant Kumar Modi

- **Organizing Secretary:** National Workshop on Manufacturing Automation, cosponsored by MPCST and CSIR, held at Jaypee University of Engineering and Technology, Raghogarh, Guna, M.P., December 16-17, 2011.

- **Organizing Secretary:** National Workshop on Advanced Manufacturing Technologies, co-sponsored by MPCST, held at Jaypee University of Engineering and Technology, Raghogarh, Guna, M.P., September 27-29, 2013.

Dhananjay R. Mishra

- **Reviewer:** Solar Energy Journal
- **Reviewer:** Heat and Mass Transfer
- **Reviewer:** International Conference on Applications and Design in Mechanical Engineering (2012)

Manoj Dubey

- **Life Member:** Institution of Engineers

Ravi Sharma

- **Life Member:** Indian Society for Technical Education (ISTE), New Delhi since 2005