

**Internal Quality Assurance Cell ( IQAC)  
SGT University**

**Annual Report (Aug 2016- July 2017)  
Department of Mechanical Engineering  
Faculty of Engineering & Technology**

Edited by: Dr. Manoj Kumar

**Department of Mechanical Engineering**

**(Brief write-up)**

One of the founding departments of Faculty of Engineering & Technology, SGT University, the Department of Mechanical Engineering played a leading role in evolving the "Engineering Science" based curriculum and served as a model for many engineering institutes in the country. Over the years, industrial interactions and emphasis on applied engineering and research has also increased manifold. Mechanical engineers require a solid understanding of key concepts including mechanics, kinematics, thermodynamics, energy and manufacturing. They use these principles in the design and analysis of automobiles, aircraft, heating and cooling systems, buildings and bridges, industrial equipment & machinery, and many more. Mechanical Engineering is concerned with all types of machinery in industries and all aspects of their mechanism and functioning - the design, development, construction, production, installation, operation and maintenance. A mechanical engineering course provides the core knowledge for the range of career in these areas. They are the driving force behind many of our technologies and industrial processes. Mechanical engineers are involved in creating the future. The Department of Mechanical Engineering has following laboratories: Workshop Technology, Basic Mechanical Engineering Lab, Engineering Graphics And Drawing, Material Science Lab, Computer Aided Design Lab, Computer Integrated Manufacturing Lab, Engineering Mechanics Lab, SOM Lab, FM I, FM II Lab, Engineering Mechanics Lab, Automobile Lab, CAD Lab, Kinematics of Machine Lab, Steam & Power Generation Lab, etc. Mechanical engineering department has best qualified faculties.

## Department at a Glance (2016-17)

**Name of the Department:** Mechanical Engineering

**Year of establishment :** 2010

### 1. List of Faculty with designations (Table..)

S.NO	NAME	DESIGNATION	HIGHEST QUALIFICATION	UNIVERSITY	TEACHING EXPERIENCE
1	Dr. Manoj Kumar	Professor	Ph.D.	IIT Delhi	25 Years
2	Dr. Anoj Giri	Assistant Professor	Ph.D.	IIT Roorkee	6 Years
3	Arun Kumar	Assistant Professor	M. TECH.	MDU, ROHTAK	7 Years
4	Dinesh Deshwal	Assistant Professor	M. TECH.	DCRUST, MURTHAL	2 Years 7months
5	Monika	Assistant Professor	M. TECH.	DCRUST, MURTHAL	3Years 7months
6	Aman Kumar Thapak	Assistant Professor	M. TECH.	Galgotia University, NOIDA	2 Years 7months
7	Vikash Kannojiya	Assistant Professor	MTECH	THAPAR UNIVERSITY	4 Months

**2. Names of programmes offered (UG, PG, M.Phil., Ph.D., M.Sc., etc.) :** UG, PG, Ph.D

### 3. Education:

a). Hours of teaching in each subject

Under graduation.....Lecture 03 Practical: 02.

Post graduation..... Lecture 03 Practical: 02.

Other trainings.....

b). Continued Education (workshop, seminar, symposium, conferences)

i) Summary of the above, department wise (Total No.)

Event	Attended	Organized	Paper / poster presented	Guest lecturers delivered	Keynotes delivered
Conference national	NIL	NIL	7	NIL	NIL
Conference international					
Conventions					
Symposium					
Workshops					
Others					
Total					

ii). Details of above, Faculty member wise is provided in Annexure I.

#### 4. Publications:

i) Journal articles

a). Summary of publication department wise (Total No.):

S. no.	Type	Total no. Of Articles	National	International	others
1	Indexed	18		18	
2	Non indexed				
3	Peer reviewed				
4	Non peer reviewed				

b) Details of the above (to be furnished faculty member wise) is provided in Annexure II

- (papers published in peer reviewed journals (national / international, listed in National/International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database, International Social Sciences Directory, EBSCO or any other indexing agency,Citation Index (source)google scholar, Research Gate, Scopus,SNIP, SJR Impact Factor ... range / average, h-index)

S. no.	Article in Vancouver style	National/international	Database	Citation index Range/average	SJR / SNI P	h-index	Impact factor
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- Non-indexed publications
- Popular press writings / others

- ii) Abstracts published in conference proceedings. (faculty member wise): NIL
- iii) Books with ISBN with details (faculty member wise): is provided in Appendix III.
- Chapters in Books
  - Edited Books
  - Books publishers
  - Monographs

**5. Details of patents and income generated: NIL**

**6. Awards and Honours: NIL**

Awards / recognitions received at the national and international level by (in Table format...)

- Faculty
- Others
- Doctoral / post doctoral fellows
- Students

**7. Consultancy and Participation as expert, income generated, (brief note on each): NIL**

**8. Research**

- i). Details of the Funded projects department wise: NIL

Sno.	Name of the faculty/department	Name of PI	Funding agency	Indian agency / WHO / International / SGT University	Project title	Grants received	Completed/ongoing/new project submitted
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- ii) Details of other non funded / self funded projects: department wise (list only): NIL
- iii) Student projects:

Sno.	Name of the student	Name of Guide	Funded/self funded	Project title	Completed/ongoing
1.	1. Amit 2. Manjeet 3. Amit Vashisth 4. Sumeet	Mr. Dinesh Deshwal	Self funded	Pneumatic Hand	Completed
2.	1. Pushpender 2. Anil 3. Subham 4. Chirag	Mr. Vikash Kumar	Self funded	Strait case Trolley	Completed
3.	1. Amit Dhankar 2. Kuldeep 3. Jitin 4. Sumit	Mr. Arun Kumar	Self funded	Pedal based washing machine	Completed
4.	1. Jivesh 2. Divas 3. Himanshu 4. Pankaj	Mr. Aman Kumar Thapak	Self funded	Battery operated Rickshaw	Completed

- percentage of students who have done in-house projects including inter-departmental projects: 30%
- percentage of students doing projects in collaboration with other universities /industry / institute: NIL

**9. Patient Care, please provide detail in enumerative figures during the year of consideration. ( write NA if not applicable):NA**

Facilities available	
Operations / procedures	
ICU details	
Emergency Duties	
OPD clinics	

**10. Other Significant Events: NIL**

**11. Courses in collaboration with other universities, industries, foreign institutions, etc.:**  
NIL

**12. Details of programmes discontinued, if any, with reasons : NIL**

**13. Examination System: Annual/Semester/Trimester/weekly: SEMESTER**

S.N	Mode	Marks	Converted marks
<b>Internal Assessment</b>			
1	Saturday assessment (3 assessment for each subject)	50 marks each i.e 150 marks for each subject	150/10 = 15 marks
2	Mid Sessional exam (CAT-I)	50 marks	50/5 = 10 marks
3	Attendance	5	5 marks
4	GD/ Seminar/ SIS/ Assignment	15	10 marks
<b>Total marks</b>			40 marks
<b>External Assessment</b>			
1	End term Examination	60	60
<b>Total</b>			60 marks

Total 100 marks examination will be conducted including internal and external assessment  
Final exam will be conducted as per curriculum at the end of semester in which question paper need to be designed in following pattern:-

1. Part A total question 23
2. Part B total question 50
3. Total 73 question need to be prepared for 180 min. (3hr)

Internal Assessment:

Every Saturday will be engaged as assessment day of every subject under SGTU which involve the following points:-

1. MCQ's related to technical Subject (40%)
2. MCQ's/ Short Answer type questions related to reasoning and General Aptitude (30%)
3. Long Answer questions related Technical subjects (30%)

**14. Choice Based Credit System–Give brief note:**

- a) The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).
- b) The course structure of each programme consists of 10 Professional Electives and 4 open electives.
- c) Each professional elective gives a choice of three to four courses out of which the student has to select one course.
- d) Each open elective also is given a choice of three to four courses, which does not necessarily have any prerequisites and offered to a student of any programme.
- e) A student is introduced to “Choice Based Credit System (CBCS)” for which he/she has to register for the courses as per the following rules:
  - i. There is no choice for I and II year courses.
  - ii. Courses once registered are final and CANNOT be changed / interchanged or alternate choices will not be considered. However, if the subject/course that has already been listed for registration (by the HOD) in a semester could not be offered

due to any unforeseen or unexpected reasons, then the student shall be allowed to have an alternate choice – either for a new subject (subject to offering of such a subject), or for another existing subject (subject to availability of seats), which may be considered. Such alternate arrangements will be made by the Head of Department, with due notification and time-framed schedule, within the FIRST WEEK from the commencement of class work for that semester.

- iii. A student has a choice of dropping a course or registering an additional course (from the list of open electives) with a minimum of 21 and a maximum of 29 credits in each semester, but the credits allotted for each semester is considered for promotion. However, dropping a course may be permitted only after prior approval from the faculty advisor and HOD and also within 15 days from the beginning of the current semester

**15. Participation of the department in the courses offered by other departments, courses in collaboration with other universities, industries, foreign institutions, etc. : NIL**

**16. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad ( eg. Commonwealth fellowships, WHO fellowships, UNESCO fellowships etc): NIL**

**17. Faculty serving in**

- a) National committees b) International committees c) Editorial Boards d) any other (please specify) : University Committee
1. Ms. Monika (Cultural Committee)
  2. Ms. Monika (Discipline Committee)
  3. Mr. Arun Kumar (SGT Core Committee)
  4. Mr. Arun Kumar (Alumni Committee)
  5. Dr. Anuj Giri (SGT Core Committee)

**18. Faculty recharging strategies (Capacity Building programmes) (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs). (give details) : Training Programs:**

1. CNC Training Program
2. Solidworks-2017 Training Program

**19. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance ( updated till date)**

Name	Qualification	Designation	Specialization	No. of Years of	No. Of thesis/ dissertations guided till now ( Ph.D. / M.Phil./ PG/ UG/Students)
				Experience	
Dr. Manoj Kumar	Ph.D.	Professor	Mechanical	25 Years	Ph.D. – 02, M.Tech. - 16
Dr. Anoj Giri	Ph.D	Asst. Prof.	Mechanical	2.8 Years	0
Arun Kumar	M. TECH.	Assistant Professor	Mechanical	7 Years	0
Dinesh Deshwal	M. TECH.	Assistant Professor	Mechanical	2Years 7months	0
Monika	M. TECH.	Assistant Professor	Mechanical	3Years 7months	0
Aman Kumar Thapak	M. TECH.	Assistant Professor	Mechanical	2Years 7months	0
Vikash Kannojiya	M. TECH.	Assistant Professor	Mechanical	1 Year	0

**20. List of senior Visiting Fellows, adjunct faculty, emeritus professors: NIL**

**21. Programme-wise Student Teacher Ratio (Table):**

Session	Programme	Semester	Total Number of Student
January 2017 – April 2017	B.Tech	4 <sup>th</sup> sem MDU	25
		4 <sup>th</sup> sem SGTU	25
		6 <sup>th</sup> sem MDU	53
		8 <sup>th</sup> sem MDU	29
	M.Tech	4 <sup>th</sup> sem	1
<b>Total</b>			<b>133/7 = 19:1</b>
July 2017 – November 2017	B.Tech	3 <sup>rd</sup> sem SGTU	61
		5 <sup>th</sup> sem MDU	25
		5 <sup>th</sup> sem SGTU	24
		7 <sup>th</sup> sem MDU	53
	M.Tech	1 <sup>st</sup> sem	2
<b>Total</b>			<b>183/7 = 26:1</b>



**22. Number of academic support staff (technical) and administrative staff: (in Table form)**

S.No.	Academic support staff (technical) Name
1.	Jaikishan
2.	Bharat
S.No.	Administrative staff Name
	Nil

**23. Establishment of Research facility / centre (during the year of consideration)**  
 The department has established centre for excellence and Robotic laboratories for research.

**24. Student profile programme-wise ( No. only):**

Name of the Programme	Applications Received wherever known	Selected		Pass percentage	
		Male	Female	Male	Female
B.Tech.	300	191	02	70	100
M.Tech.	20	02			100

**25. Diversity of Students ( No. only):**

Name of the Programme	% 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
B. Tech.	0	0	0	0
M. Tech.	0	0	0	0

**26. Student progression ( No. Only)**

Student progression	Percentage against enrolled
UG to PG	0
PG to M.Phil.	0
PG to Ph.D.	0
Ph.D. to Post-Doctoral	0
Employed	
<input type="checkbox"/> Campus selection	10%
<input type="checkbox"/> Other than campus recruitment	50%
Entrepreneurs	5 %

**27. Diversity of staff ( No. Only):**

Percentage of faculty who are graduates of the	
same university	0
From other universities within the State	03
from universities from other States	04
From universities outside the country	0

**28. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. : Nil****29. Present details of departmental infrastructural facilities regarding**

- a) Library ( no. of Books and Journals): Number of books – 3376, Number of Journals-09
- b) Internet facilities for staff and students : Yes
- c) Total number of class rooms : 06
- d) Class rooms with ICT facility: 06
- e) Students' laboratories : 14
- f) Research laboratories: 02

**30. List of doctoral, post-doctoral students and Research Associates:01**

- 1.Name of PhD Scholar with Aadhar No. & Photo ID = **UPPULURI SRINIVASA VENU,**
2. Mode of PhD (Full time/ Part Time) = **Full time**
- 3.Registration No.= **163053**
- 4.Date of Registration = **16/07/2017**
- 5.Research Topic = **A Study on Business Process Re-Engineering in Cycle Industry in India.**

- a) from the host institution/university
- b) from other institutions/universities

**31. Number of post graduate students getting financial assistance from the university: 02**

They are getting financial assistance of Rs- 5000/-.

**32. FEEDBACK System (Brief note)**

This kind of feedback is the result of the ongoing quality work that has been an integral element in the operations of the Institute from the very beginning. The Institute has collected and made use of feedback from the participants in all of its programmes and works in close cooperation with the lecturers and tutors. The Institute has also refined its operating processes – planning, executing, and evaluating the programme, its administration, and finances. The starting point in quality assurance has been responding to the changing client needs. The institute follows mentor based system.

Feedback system in University is categorized as follows

**1. Centralized Feedback system(5 Point Analysis)**

Centralized Feedback System is evaluated on 5 point analysis

Scale	Excellent	Very Good	Good	Satisfactory	Unsatisfactory
Grade	A	B	C	D	E
Score	5.0	4.0	3.0	2.0	1.0

Different parameters are taken into consideration while calculating feedback which includes

1. Quality of course content
2. Practical or applied content of teaching
3. Course coverage and delivery
4. Knowledge base of the teachers
5. Teacher’s ability to co-relate the subject with other disciplines
6. Communication skills of the teacher
7. Sincerity and commitment level of teachers
8. Teacher’s accessibility outside the class
9. Teacher’s testing methods to evaluate students
10. Learning outcomes
11. Encouragement by teachers for class participation
12. Fairness of internal assessment
13. Student’s knowledge about course details, scheme of examinations and ordinances
14. Adequacy and quality of relevant labs
15. Library support
16. Support from administrative staff
17. Co-curricular and extra-curricular activities
18. Student-teacher relationship
19. Handling of student’s grievances and
20. Career counseling and placement facilities

**2. Mentor-Mentee System**

Mentor-Mentee system is maintained right from 1<sup>st</sup> Semester – 8<sup>th</sup> Semester. Under the interaction section of Mentor’s Diary, students provide feedback which is recorded for every 15 days.

**3. Suggestion Box**

There is provision of suggestion box on Ground Floor where students are welcomed to provide suggestions/feedback

**33. Student enrichment programmes [give details of (special lectures / workshops / seminar) involving external experts.]:**

Mechanical engineering department offers a range of programmes where students can get involved in everything from afterschool activities, technical festivals, visits to industries, special seminars and industrial projects and community sports days to name a few. We aim to bring a holistic approach to education and our various programmes offer opportunities to enrich the students' experiences, add value to their skills and help them grow as individuals.

1. Mechanical engineering department conducted a seminar on Robotics in association with Apron, Noida on 13<sup>th</sup> February, 2017. Mechanical engineering students participated in the seminar and they learned about the technology used in robotics, how they work and their controls through Mobile phone.
2. Mechanical Engineering department of SGT University organized a Technical event "TEKNITUDE" on 14<sup>th</sup> & 15<sup>th</sup> March, 2016. First day of event include Quiz scene and Junk Sense in which students from various disciplines participated actively. On 15<sup>th</sup> March, 2016 the event Tech Skills Held in which various technical Projects were displayed by Mechanical Engineering Students.
3. Considering the need to guide the students about rising opportunities in Industries, Mechanical Engineering Department, SGT University, organized a lecture on 'Bridging the gap between Academia and the Industry' on 11<sup>th</sup> March, 2016. Mr. Parimal Priyadarshi from IIT, Kharagpur and founder of Brain Storming Labs addressed the Mechanical Engineering students. Major points which covered during the talk are current employment statistics of Engineering graduates in India, Opportunities in Aero and Mechanical Industries, How to excel in the field of 3-D modeling, finite element analysis and computational fluid dynamics.

**34. Changes in Teaching Guidelines. (List the teaching methods adopted by the faculty for different programmes.):**

S.N	Teaching Methodology adopted
1	Project Based Learning
2	Problem Based Learning
3	Student Interactive session
4	Student Seminar
5	Case Study
6	Teacher's Seminar
7	Focus Group Discussion
8	Spot Group Discussion
9	Tutorials
10	Assignments

**35. Changes adopted in monitoring learning outcomes**

Assessment for the purpose of improving student learning is best understood as an ongoing process that arises out of the interaction between teaching and learning. It involves the focused and timely gathering,

analysis, interpretation, and use of information that can provide evidence of student progress. Monitoring enables:

- the teacher to understand what it is that a student is actually learning
- the student to receive feedback that can enhance their learning
- the teacher to address gaps in understanding and plan further learning.

### **36. Extension activities.**

Academic Extension Activities: We believe that learning outside the classroom is just as important as learning within the classroom situation, and it is possible to greatly enhance our students' academic performance with additional extension activities. As students progress upwards through the school, these will be increasingly linked to their specific areas of expertise or developmental needs.

Mechanical Departments routinely enhance their programme with a club or society that takes place outside of the regular curriculum. The overall aim of these clubs is to encourage an interest in the subject in question that goes beyond the confines of the course syllabus, encouraging students to see their learning as being about more than just passing examinations. In addition to these societies that are open to all students, we run two academic extension programmes that are designed to stretch and challenge our more academically able students.

Educational Visits: Many of our educational visits are specifically designed as academic extension activities, usually to link with a specific curriculum requirement.

### **37. “Beyond syllabus scholarly activities” of the department**

The mechanical students periodically participate and present paper, involve in the other activities in the academic seminars organized by other Universities as well as colleges. The research scholars participate in national & international conferences and present their research work and hence interact with follow researchers from other leading institutions. Further our faculty members also present papers in such meetings.

1. Students of Mechanical Engineering 4<sup>th</sup> Semester visited in Munjal Kiriu Industries Pvt. Ltd. at IMT Manesar on 21 January 2017. The company provides brake discs, drums, pressure plates, and steering knuckles. It caters to original equipment manufacturing sector. Students have hands on experience on different manufacturing processes such as casting process, machining process, surface finishing and quality check process.
2. Students of mechanical 3<sup>rd</sup> sem visited Coventry Coil on 15 October, 2016. The Company manufactures Piston rings and Shock Absorbers for Maruti, Honda etc.
3. Students of Mechanical Engineering, SGT University visited Auto-Expo 2016 on 02/08/2016. Students get to know about latest Technologies in Automobiles. Cut-sectional view of different Engines was available to students for better understanding. The students as well as faculty members come to know about the concept cars which are designed in accordance with the demand i.e. more fuel efficient and based on alternative fuel. The students had wonderful opportunity to learn about new technologies.
4. The students visited the Industry on 26/02/2016. The Company deals in Manufacturing of Pistons and Piston rings.

5. An Industry visit was planned by Mechanical Engineering department, SGT University on 5<sup>th</sup> Feb, 2016 to Parle, Bahadurgarh. The visit was organized to expose the students to learn Manufacturing processes, Line production and Packaging Techniques. This Industrial visit enhances students learning processes.

**38. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

a. Major strengths:

- a. Qualified Faculties with Teaching as well as Industry Experiences.
- b. Well Developed Faculty Rooms and Class Rooms, Laboratories, Model Room
- c. Strong Links with Private and Government Organisations in the form of Industrial Visits, Workshops, and Guest Lectures.
- d. All running courses are as per UGC Guidelines and also at par with other major universities in the Country.
- e. High Quality Academic Program.

b. Weakness:

- i. Less non teaching staff
- ii. Lack of research facility in the campus.
- iii. Weak Global Connections.
- iv. No faculty exchange or student exchange programmes.

c. Opportunities:

- i. More number of Projects can be undertaken.
- ii. Providing stipend to the new upcoming post graduate students
- iii. Participation of Students in Technical Festivals of Other Reputed Universities
- iv. More Participation of Students in Research Activities.
- v. Students can be Trained for the competitive exams.

d. Challenges:

- i. To keep pace with change in technology and updating knowledge by the faculty members
- ii. To motivate students towards competitive exams.
- iii. Running of New Courses
- iv. Strong Links with Private and Government Organisations in the form of Industrial Visits, Workshops, Guest Lectures .
- v. Obtaining Financial Aid from the government for Projects.

vi. Filling Vacant Posts of Teaching as well as Non-Teaching Staffs.

**39. Best Practices of the department:**

- a) Empowering Learners with Flexibility FRICS (Flexible Research Integrated Credit System)
- b) Flexibility to Design own Curriculum.
- c) Option for selecting Intra/ Inter disciplinary subject(s) of own choice & interest.
- d) PBL/ RBL (Project/ Research Based Learning) System Building of Research Aptitude by offering 1 Mini-Projects & 1 Main-Project Work.
- e) Innovative teaching methodology with modern-aids
- f) Continuous monitoring of students -Monitoring/Assessing performance of students to make improvements or take corrective action.
- g) Motivating, developing, and directing students so that they can work better as a employee.

**40. Future plans for the department:**

To further intensify the Activities to reach every student of this College from the very First Year and securing a bright future and Career pathways for 100% of Students.

1. To initiate new Techniques in developing the students to face modern methods of Personality Tests and Interviews.
2. To Organize State / National level Conferences, Paper Presentations & project competition.
3. To start PG Courses in College, and carrying out activities for the development of Faculty.
4. To Organize various short term courses, workshops, seminars from experts under various Departments.
5. To further upgrade the Quality of Guest lecturers on current Topics and Emerging Trends, so as to Prepare our Students as Entrepreneurs and Professionals for the Global Market.
6. To make the Department vibrant and a Hub for 'Entrepreneurship' and 'Placement'.
7. To improve placement ratio with the help of Alumni
8. To contribute to the growth of the Institution as an eminent 'Resource Centre for providing True – Professionals and thus meet the expectations of the Industries at International Level.
9. To establish a center for taking up research in Composite Materials.
10. To improve expertise in computational fluid dynamics.
11. To modernize CAD/CAM and Robotics Laboratory.
12. To strengthen of educational facilities of the department.
13. To identify of promising research areas and active follow up.
14. To create advanced software and hardware facility for R&D.
15. Develop better laboratories.

## ANNEXTURE I

S. No.	Name	Paper Title
1.	Mr.Dinesh Deshwal	1. Monika, Rjesh K. Porwal and Dinesh Deshwal, “Analysis of process parameters in Wire EDM with H13 hot die hard steel using Taguchi method”, ICQPROM, 2017.
2.	Ms. Monika	<ol style="list-style-type: none"> <li>1. Rajesh Kr. Porwal, Monika and Vinod Yadava,” Experimental Modelling of Electrical Discharge Micromachining”, In: Proceedings of the IVth International Conference on Production and Industrial Engineering (CPIE-2016).</li> <li>2. Monika, Rjesh K. Porwal and Dinesh Deshwal, “Analysis of process parameters in Wire EDM with H13 hot die hard steel using Taguchi method”, ICQPROM, 2017</li> </ol>
3.	Mr.Vikas Kannojiya	1. V. Kannojiya, R. Sharma, R. Gaur, A. Jangra, P. Rao and P. Prajapati, “ Experimental investigation of Temperature Distribution along the length of Uniform Area Fin for Forced and Free Convection”, International Conference on Recent Advances in Materials, Mechanical and Civil Engineering, 2017.
4.	Dr. Manoj Kumar	<ol style="list-style-type: none"> <li>1. The Degradation of Lubricants in Gasoline Engines: Lubricant Flow and Degradation in the Piston Assembly, National Tribology Conference 2016 “NTC2016” 8 ~ 10 December 2016, Indian Institute of Technology (Banaras Hindu University) Varanasi, India.</li> <li>2. A Discrete Choice Model for Indian Airlines Services. National Seminar on Recent Developments in Mathematics (NSRDM -2017), January 12-13, 2017, Department of Mathematics, Kalindi College, University of Delhi, East Patel Nagar, Delhi-110008.</li> <li>3. Fuzzy Economic Production Quantity Model with Defective Products, National Seminar on Recent Developments in Mathematics (NSRDM -2017), January 12-13, 2017, Department of Mathematics, Kalindi College, University of Delhi, East Patel Nagar, Delhi-110008.</li> </ol>



## ANNUXTURE - II

S. No.	Name	Paper Title
1	Dr. Anoj Giri	<ol style="list-style-type: none"> <li>1. <b>A Giri</b>, M. M. Mahapatra, K. Sharma, P. K. Singh, “<i>A study on the effect of weld groove designs on residual stresses in SS304LN thick multipass pipe welds</i>” International Journal of Steel Structures, 17(1), 65-75, 2017.</li> <li>2. <b>A Giri</b>, M. M. Mahapatra, “<i>On the measurement of sub-surface residual stresses in SS 304L welds by dry ring core technique</i>” Measurement, 106, 152-160, 2017.</li> <li>3. <b>Anoj Giri</b>, Chandan Pandey and M. M. Mahapatra, <i>Achieving optimized tungsten inert gas butt welding conditions of thin cold rolled steel sheets by response surface methodology and artificial neural networks</i>, Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 0(0) 1-12 2017.</li> <li>4. C. Pandey, A. Giri, M.M. Mahapatra, “<i>Effect of normalizing temperature on micro structural stability and mechanical properties of creep strength enhanced ferritic P91 steel</i>” Materials Science and Engineering A, 657, 173-184, 2016.</li> <li>5. Chandan. Pandey, Anoj Giri, M. M. Mahapatra, “<i>Evolution of phases in P91 steel in various heat treatment conditions and their effect on microstructure stability and mechanical properties</i>” Materials Science and Engineering A, 664, 58-74, 2016.</li> </ol>
2.	Mr.Dinesh Deshwal	<ol style="list-style-type: none"> <li>1. V. Kannojiya, M. Deshwal and D. Deshwal, “Numerical Investigation of Solid Particle Erosion in Pipe Elbow”, Materials Today: Proceeding, Elsevier, 2017.</li> <li>2. Monika, Rjesh K. Porwal and Dinesh Deshwal, “Analysis of process parameters in Wire EDM with H13 hot die hard steel using Taguchi method”, ICQPROM, 2017.</li> </ol>
3.	Ms. Monika	<ol style="list-style-type: none"> <li>1. Rajesh Kr. Porwal, Monika and Vinod Yadava,” Experimental Modelling of Electrical Discharge Micromachining”, In: Proceedings of the IVth International Conference on Production and Industrial Engineering (CPIE-2016).</li> <li>2. V. Kannojiya, M. Deshwal and D. Deshwal, “Numerical Investigation of Solid Particle Erosion in Pipe Elbow”, Materials Today: Proceeding, Elsevier, 2017.</li> </ol>
5.	Mr.Vikas Kannojiya	<ol style="list-style-type: none"> <li>1. V. Kannojiya, S. Kumar, M. Kanwar and S.K. Mohapatra, “Simulation of Erosion Wear in Slurry pipe Line using CFD”, Applied Mechanics and Materials, Vol 852, pp 459-465, 2016.</li> <li>2. V. Kannojiya, M. Deshwal and D. Deshwal, “Numerical</li> </ol>

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4.	Dr. Manoj Kumar	<ol style="list-style-type: none"> <li>1. Economic Evaluation of Solar Cooling Schemes, International Journal of Energy Optimization and Engineering, 2017, Volume 6, Issue 1, pp. 23-48.</li> <li>2. Pricing models of perishable goods with customer perception, International Journal of Advanced Engineering Research and Science, 2016, Volume 3, Issue 8, pp. 68-71.</li> <li>3. Profitability of Indian firms in foreign direct investment, International Journal of Asian Business and Information Management, 2017, Volume 8, Issue 1, pp. 51-67.</li> <li>4. Decision of suppliers and consumers of credence good in quality food markets, International Journal of Food and Beverage Manufacturing and Business Models., 2016, Volume 1, Issue 2, pp. 49-62.</li> <li>5. A Non-Linear Stiffness Model for Serial and Parallel Manipulators, International Journal of Robotics Applications and Technologies, 2017, Volume 5, Issue 1, pp. 34-62.</li> <li>6. Stochastic frontier analysis and measurement of productivity and technical efficiency of Indian manufacturing sector, International Journal of Productivity Management and Assessment Technologies, 2017, Volume 5, Issue 1, pp. 52-69.</li> </ol>

### Annexure -III

S.No.	Author	Details of Chapter	Details of Book	Publishers
1.	Kumar, M.	Foreign Direct Investment in Indian Market, Chapter 13, pp. 258-293.	Outward Foreign Direct Investment in Emerging Market Economics	Editor: Tomasz Dorozynski, University of Lodz, Poland and Anetta Kuna-Marszalek, University of Lodz, Poland IGI Global Publishers, USA.
2.	Kumar, M.	International Tourism and Opportunities for Economic Development in India, Chapter 3, pp. 34-74.	Tourism and Opportunities for Economic Development in Asia	Editor: Patrica Ordonez de Pablos and Zeyar Myo Aung, IGI Global Publishers, USA.
3.	Kumar, M.	Design of Human Computer Interactions with Systems and Directions and Applications, Chapter- 13, pp. 283-311.	Research Paradigms and Contemporary Perspectives on Human Technology Interaction	Editor: Anabela Mesquita, IGI Global Publishers, USA.
4.	Kumar, M.	Emerging Strategies in Green Marketing within the New Sustainability Paradigm, Chapter 4, pp. 68-85.	Green Marketing and Environmental Responsibility in Modern Corporations	Editor: Thangasamy Esakki, IGI Global Publishers, USA.
5.	Kumar, M.	Learning at the Crossroads of Theory and Practice, Chapter 5, pp. 86-108.	Metacognition and Successful Learning Strategies in Higher Education	Editor: Elena Railean, Aler Elci, Atilla Elci, IGI Global Publishers, USA.
6.	Kumar, M.	Dynamics of the E-Procurement Process and Key Implementation Issues in India, Chapter 11, pp.	Digital Governance and E-Government Principles Applied to Public Procurement	Editor: Rajesh Kumar Shakya, IGI Global Publishers, USA.

		249-275.		
7.	Kumar, M.	Value Relevance of Accounting Information in Capital Markets of India, Chapter 12, pp. 169-192.	Value Relevance of Accounting Information in Capital Markets	Edited by: Marianne Ojo and Jeanette Van Akkeren IGI Global Publishers, USA.
8.	Kumar, M.	Evaluating Asian Cross Country Differences in Export Openness and Import Openness, Chapter 15, pp. 280-303.	Managerial Strategies and Solutions for Business Success in Asia	Edited by: Patricia Ordonez de Pablos, IGI Global Publishers, USA.
9.	Kumar, M.	A Fuzzy Group Decision Making Approach to Construction Project Risk Management, Chapter 13, pp. 266-293.	Leveraging Risk and Uncertainties for Effective Project Management	Edited by: Yuri Raydugin, IGI Global Publishers, USA.
10.	Kumar, M.	Working Capital Optimization in R&D Activities in SMEs for Indian Suppliers, Chapter 9, pp. 161-191.	Business Infrastructure for Sustainability in Developing Economics	Edited by: Nilanjan Ray, IGI Global Publishers, USA.
11.	Kumar, M.	A Casual Analysis of Productivity in India, Chapter 12, pp. 235-260.	Organizational Productivity and Performance Measurements Using Predictive Modeling and Analysis	Edited by: Madjid Tavana, IGI Global Publishers, USA.
12.	Kumar, M., Raman, J., Priya,	A Possibility Approach for the Single Item Lot Sizing Problem with Fuzzy Parameters, Chapter 6, pp. 100-132.	Optimal Inventory Control and Management Techniques	Edited by: Mandeep Mittal, IGI Global Publishers, USA.
13.	Kumar, M.	P-F Fuzzy Rings and Normal	Emerging Research on Applied Fuzzy Sets	Edited by: Mandeep Mittal & Monoranjan Bhowmik,

		Fuzzy Ring, Chapter 4, pp. 82-111.	and Intuitionistic Fuzzy Matrices	IGI Global Publishers, USA.
14.	Kumar, M.	Global Sourcing Decision in the Indian Automotive Sector Supply Chain , Chapter 7, pp. 85-111.	Supply Chain Management in Automotive Industry – Concepts and Cases	ICFAI Business School Research Centre, Chennai.
15.	Kumar, M.	Lot Sizing Decision: A case study of Indian dairy supply chain, Chapter 18, pp. 223- 236.	Decision Theory – Models and Experiences	ICFAI Business School Research Centre, Chennai.