EVALUATIVE REPORT OF THE DEPARTMENT OF MECHANICAL ENGINEERING

1. Name of the Department **Mechanical Engineering**
2. Year of establishment **1985**
3. Is the Department part of a School/Faculty of the University? **Yes**
   Faculty of Engineering & Technology
4. Names of Programmes offered (UG, PG, M. Phil., Ph. D., Integrated Masters; Integrated Ph.D., D. Sc., D Litt etc.)

S. No.	Name of the Programme	Type of the Programme	Annual Intake
1	B. Tech. (Mechanical)	Regular & Full Time	70
2	M. Tech. Mechanical Engg. (M/C Design/Thermo-Fluid/Prod & Industrial)	Regular & Full time	6 in each stream total 18
3	Ph. D. (Mechanical Engineering)	Regular	Varies as per the no. of seats available
4	B. E. - Mechanical (Evening)	Self Financing and Part Time	70

5. Interdisciplinary Programs and Departments involved Nil
6. Courses in collaboration with other universities, industries, foreign institutions, etc.

S. No.	Courses	Universities/Industries/Foreign institutions	
1	Ph.D (Mechanical Engineering)	Universities	IIT Delhi, DTU, NSIT, Delhi, IP Univ., Delhi, AMU, Aligarh
2	Ph.D (Mechanical Engineering)	Industries	DRDO, NTPC, TERI, NPL, CRRI, Maruti, ESCORTS, Honda Motors…….
3	Ph.D (Mechanical Engineering) & Post Doc.	Foreign Institutions	No Formal collaboration, however, teachers, have their individual links with university of Salford, Chicago University.

7. Details of Programmes discontinued, if any, with reasons Nil

8. Examination System:

S. No.	Program /s	Examination System
1	B. Tech (Mechanical)	Semester System
2	M. Tech (Mechanical Engg.) (M / C Design/ Thermo-Fluid / Production & Industrial)	Semester and Choice Based Credit System
3	Ph. D	Semester
4	B. E. - Mechanical (Evening)	Annual System

9. Participation of the Department in the courses offered by other Departments

S. No.	Courses Offered	Department
1	Physics, Chemistry, Maths, Social Sciences, Organization Behavior, Advanced Maths, NACP	Department of Applied Sciences
2	Element of Environmental Engineering	Civil Engineering
3	Element of Electrical Engineering, Electrical Machines, Instrumentation and Control	Electrical Engineering
4	Basic Electronics & Communication Engineering	Electronics & Communication Engineering
5	Fundamentals of Computing	Computer Engineering

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

S. No.	Post	Sanctioned	Filled out of Sanctioned Staff	Actual Status including CAS
1	Professor	5	3	10
2	Associate Professors	7	10	7
3	Assistant Professors	15	7	6

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

S. No.	Name of the Faculty	Qualification	Designation	Specialization	No. of Years of Experience	No. of Ph.D. students	
						Awarded	In progress
1	Prof. Mohd Islam	Ph. D.	Professor & Head	Thermal	28	03	04
2	Prof. R. A. Khan	Ph. D.	Professor (Retd.)	Machine design	47	06	Retired
3	Prof. I. A. Khan	Ph. D.	Professor	Machine design	27	01	02
4	Prof. Abid Haleem	Ph. D.	Professor	Engineering Management	27	05	05
5	Prof. Mukhtar Ahmad	Ph. D.	Professor	Thermo-fluid	36	02	01

6	Prof. M Emran Khan	Ph. D.	Professor	Thermal	28	05	03
7	Prof. J. A. Usmani	Ph. D.	Professor	Thermal	32	01	02
8	Prof. M. M.	Ph. D.	Professor	Thermal	27	03	05
9	Prof. Z. A. Khan	Ph. D.	Professor	Production & Industrial	24	02	08
10	Prof. Z. Mallick	Ph. D.	Professor	Production & Industrial	23	03	01
11	Prof. M. Suhaib	Ph. D.	Professor	Machine design	20	02	07
12	Prof. M. N. Karimi	Ph. D.	Professor	Thermal	22	0	03
13	Prof. Abdur - Rahim	Ph. D.	Professor	Fluid Engg	24	03	03
14	Ms. Haleema Begum	M. Tech (Pursuing Ph.D.)	Associate Professor	Production Tech Production Mngt	29	0	0
15	Dr. Arshad Noor Siddiquee	Ph.D.	Associate Professor	Production Engg	22	0	06
16	Mr. S. M. Muzakkir	M. Tech (Pursuing Ph.D.)	Associate Professor	Machine design	19	0	0
17	Dr. Aas Mohd	Ph. D.	Associate Professor	Mechanism and Machine design	19	04	03
18	Mr. Lokesh Kumar	M. Tech	Assistant Professor	Production Engg	15	0	0
19	Dr. Islam Nawaz	Ph. D.	Assistant Professor	Thermal	13	0	0
20	Dr. Sabah Khan	Ph. D.	Assistant Professor	Machine design	18	0	04
21	Dr. Ali Hassan	Ph. D.	Assistant Professor	Machine design	08	01	02
22	Dr. Mohd Asjad	Ph.D.	Assistant Professor	Industrial Engineering	04	0	0
23	Dr. A. F. Sherwani	Ph.D	Assistant Professor	Thermal Science	12	0	02
24	Mr. Mohd. Javaid	M. Tech (Pursuing Ph.D.)	Assistant Professor	Industrial Engineering	02	0	0

25	Mr. Iqbal Azam	M.Tech.	Principal Polytechn	Machine design	35	0	0
26	Dr. Abdul Khaliq	Ph.D.	Associate Professor	Thermal	15	03	Resigned

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors etc.
    i) Dr. R. K. Pachauri, Chancellor - TERI
    ii) Mr. Salman Akhtar, Vice President, Mafna Air Technologies
    iii) Mr. I.V. Rao, Managing Executive Officer-Engineering and Head of R & D Division of Maruti Suzuki.
    iv) Mr. Imteyaz Ahmad, ESCORTS – Agro Division.
13. Percentage of classes taken by temporary faculty – programme-wise information 10%
14. Student Teacher Ratio. 14:1

(It includes B Tech and M Tech both)

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

S. No.	Post	Sanctioned	Filled	Actual
1.	STA	1	1	1
2.	TA	3	2	2
3.	Technician	05	04	04
4.	Lab Attendant	05	05	05
5.	Helper	06	06	06
6.	Storekeeper	01	01	01
7.	LDC	01	01	01
8.	Peon	01	01	01

16. Research thrust areas as recognized by major funding agencies.
    i. Renewable Energy Systems, Energy recovery from Solid Waste, landfills & Solar Energy
    ii. Friction Stir Welding & Ultrasonically Assisted Machining
    iii Technology Management
    iv. Automation & Robotics
    v. Computer Integrated Manufacturing
    vi. I.C. Engines & Emissions
    vii. Fluid Mechanics
    viii. Noise & Vibrations

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, duration and

grants received project-wise.

Details of Major Infrastructure Research Grant during Last Two Years from S &T agencies including UGC/ AICTE/ DST/ MoEF (only major National Level Grants)

S. No.	Name of Investigator	Title of the project and duration	Amount Sanctioned	Funding Agency
1	Prof. M. Emran Khan	Pilot demonstration of Clean Technology for landfill gas recovery at Okhla site (2010-2013)	68 Lacs	Ministry of Environment and Forest
2	Prof. Abid Haleem	Technology Forecasting and Technology Assessment of Flyash (2011-2012)	05 Lacs	Department of Science & 1 Technology
3	Prof. A Rahim Prof. Abid Haleem	Modernization and Removal of Obsolescence (MODROBS) Fluid Mechanics Lab (2011-12)	15 Lacs	AICTE
4	Prof. Z. A. Khan Dr. A. N. Siddiquee	SAP-DRS UGC in Friction Stir Welding and USM (2012-2017)	33 Lacs	University Grant Commission
5	Prof. Z.A. Khan Prof. Abid Haleem	UGC-Infrastructure (DRS) (2012-2017)	20 Lacs	University Grant Commission
6	Prof. Abid Haleem	FIST (2012-2017)	132 Lacs	Department of Science & Technology
7	Prof. M. Suhaib	MODROB – CIM Lab (2012-2013)	19.75 Lacs	AICTE
8	Prof. M. Suhaib	FDP (2014-2015)	06 Lacs	AICTE

Total Grant 298.75 Lacs

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

    Several Faculty Members are supervising the B.Tech. / M.Tech. Projects which have Inter-institutional/ Industry collaboration Like Indian Oil, IITD, University of Salford (UK), and some more

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

S. No.	Title of the project and duration	Funding Agency	Amount Sanctione
1	SAP-DRS UGC in Friction Stir Welding and USM (2012-2017)	University Grant Commission	33 Lacs
2	Technology Forecasting and Technology Assessment of Flyash (2011-2012)	Department of Science & Technology	15 Lacs
3	Modernization and Removal of Obsolescence (MODROBS) Fluid Mechanics Lab (2011-12)	AICTE	15 Lacs
4	Pilot demonstration of Clean Technology for landfill gas recovery at Okhla site (2010-2013)	Ministry of Environment and Forest	68 Lacs
5	UGC-Infrastructure for (2012) (DRS)	University Grant Commission	20 Lacs
6	FIST (2012-2017)	Department of Science & Technology	132 Lacs
7	MODROB – CIM Lab (2012-2013)	AICTE	19.75 Lacs
8	FDP (2014-2015)	AICTE	06 Lacs

20. Research facility/Centre with
    - State recognition Yes
    - National recognition Yes
    - International recognition Nil
    - Indigenous FSW Facility has been developed in-house.
    - CIM Laboratory has been developed with a special funding from AICTE.
    - State of the art Land Fill Gas Plant of international repute has been established in the department (With funding from the Ministry of Environment and forest).
21. Special research laboratories sponsored by/created by industry or corporate bodies: Nil
22. Publications:

S. No.	Item	Details
1	Number of papers published in peer reviewed journals (National/International)	
2	Monographs	05
3	Chapters in Books	09
4	Edited Books	10
5	Laboratory Manuals	02
6	Articles in magazines	20
7	Editorials	02

8	Books with ISBN	12
9	Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	Please see the table & Annexure
10	Citation Index – range / average	Please see the table & Annexure
11	SNIP	Please see the table & Annexure
12	SJR	Please see the table & Annexure
13	Impact Factor – range / average	0.1-6.6
14	h Index	11

Details provided in Annexure-in the Tabular form

Publication Profile of the Faculty for Last Five Years

S. No.	Name	h – Index	No. of Papers in Journal	Citation Index Range	Impact Factor Range	No. of Papers in Conference
1	Prof. Mohd. Islam Head	02	21	0.2 – 1.4	0.2 to 6.46	30
2	Prof. I. A. Khan	02	29		0.-0-1752	31
3	Prof. Abid Haleem	04	60	0.279-3.04	.27-1.988	59
4	Prof. Mukhtar	03	14			18
5	Prof. M. Emran	03	40	3		12
6	Dr. J. A. Usmani	01	06	34	6.6	02
7	Prof. M. M. Hasan	07	25		0.141 –6.46	32
8	Prof. Z. A. Khan	11	64		0.35 – 2. 71	33
9	Prof. Zulqurnain Mallick	03	33	1.5 – 10	0.5 – 1.5	23
10	Prof. Mohd. Suhaib	04	15	1-44	0.031-1.876	35
11	Dr. M. N. Karimi	02	16	3	1.2	10
12	Dr. Abdur Rahim	02	12			24
13	Mrs. Haleema	__	00	__	__	02
14	Dr. Arshad Noor Siddiquee	06	48		0-2.705	05

15	Mr. S.M. Muzakkir	01	05	0.2-1.5	1	04
16	Dr. Aas	01	10	01-2	0.1 – 56 to	07
17	Mr. Lokesh Kumar	02	02			00
18	Dr. Islam Nawaz	02	09	0.3 – 35	0.3-5	10
19	Dr. Sabah Khan	__	07	__	__	23
20	Dr. Ali Hasan	02	29	2.2		22
21	Dr. Mohd. Asjad		06			06
22	Dr. Ahmad Faizan Sherwani	01	04	02	6.6	06
23	Mohd. Javaid		05			07
24	Mr. Iqbal Azam (**)	__	__	__	__	__
25	Dr. A. Khaliq (resigned on Sept 2011)	06	23			05
26	Prof. R. A. Khan (retired on 30 -09-2012)	02	33			02

**Relieved to join as Principal Polytechnic

Please see Annexure - ERD I: Publications

23. Details of patents and income generated.

(i) Published: "Double Acting Cutting Mechanism"

(ii) Working Patent (to be submitted): Special Purpose Tool Adapter for FSW

(iii) Working Patent (to be submitted): Special Purpose Work Fixture for FSW

24. Areas of consultancy and income generated.

i. Cold Chain (for Ministry of Food Processing Industries – GoI Through IL&FS clusters) – Income Generated 06 Lacs (In the year 13-14)

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

S. No.	Faculty	Laboratory Visited
1	Prof Abid Haleem	Worked for R& D division of Rockwell Automation US in 2001 and University of Swinburne at Melbourne in 2008 for Rapid Prototyping
2	Prof Mohd Islam	Visited laboratories of Fluid Mechanic & Turbo Machines in the several renowned institutes of country like IITs & NITs

3	Prof M. M. Hasan	Visited laboratories of IC Engine in the several renowned institutes of country like IITs & NITs
4	Prof Mohd Suhaib	Visited Mechatronics Laboratory university of Technology Malaysia, Robotic Research Laboratory Nanyang Technological University Singapore. Mechatronics laboratory American university Sharjah, UA, ERobotic Surgery Lab, Imperial College, London (UK)

26. Faculty serving in

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

S. No.	Faculty	National/ International / Editorial Boards/ Others
1	Prof Abid Haleem	a) National committees i. Member A T F, for monitoring of Result Framework ii. Honorary Visiting Professor, at Department of management Studies, IIT Delhi, 2008—2012 iii. Independent Director for Telecom Consultants of India limited, (A Govt. of India Enterprise) since July, 2008. to 2011 iv. Honorary Director, Internal Quality assurance Cell Jamia Millia Islamia, New Delhi, Since 2010 v. Academic Council Nominee for selection committee at various institution as AMU, GB Pant Engg College, Pantnagar, IGNOU, University of Delhi, Apeejay, Galgotia, GNIT, NITJ, BANIT, IIT. vi. Member of Board of Studies of different departments at different /institutions/ universities, NITJ, NITTR, Punjab University, AMU, DTU, NSIT etc. vii. Life member: ISTE, ISME, GIFT, IIIE, IICC
		b) International committees: Member International Advisory Committee of various conferences like International research conference on Quality, Innovation and Knowledge Management, Feb. 11-15, 2007. at UAH, Huntsville, USA. Research Conference at University of Monash, Australia , Conf at Stevens USA, GLOGIFT Stevens Institute New Jersey, USA 2010, GLOGIFT at University of Vienna 2012 etc

2	Prof R.A. Khan (Retired)	a) National committees i. Member, All India Board of Post-graduate Education and Research in Engineering & Technology, constituted by AICTE, New Delhi ii. Chairman, AICTE Committee to review the deemed to be university status iii. Chairman, National Board of Accreditation Committee iv. Expert Member in different committees of MHRD, AICTE, UGC and UPSC etc.
3	Prof. I. A. Khan	a) National committees i. Life Member of Institution of Engineers (India), Kolkata. ii. Life member of the Indian Society of Mechanical Engineers (India), Delhi. iii. Life member of the Indian Society for Technical Education (India), Delhi b) Other committees Institutes Served in Various Capacities i) All India Council of Technical Education, New Delhi ii) D R D O, New Delhi iii) GGS Indraprastha University, Delhi iv) Haryana Wakf Board, Ambala Cantt., Haryana v) Indian Institute of Technology, New Delhi vi) J &K Public Service Commission, Jammu vii) Jharkhand Public Service Commission, Ranchi viii) Staff Selection Commission, New Delhi ix) Union Public Service Commission, New Delhi x) University Grants Commission, New Delhi xi) YMCA University of Science and Technology, Faridabad, Haryana

4	Prof Mohd Islam	a) National committees i. Expert Member in different committees of MHRD, AICTE, UGC and UPSC etc. b) Other committees : i. Indian Society for Technical Education (ISTE) ii. Indian Society for Mechanical Engineer (ISME) i. Society of Automotive Engineers (SAE India) ii. Indian Society for Fluid Mechanics & Fluid Power (FMFP) iii. Indian Society for Environmental Management (ISEM). iv. Indian Society for Applied Mechanics (ISAM). v. Fellow member of Metrology society of India.
5	Prof. Mukhtar Ahmed	a) National committees Institutes Served In Various Capacities i. All India Council of Technical Education, New Delhi ii. Ministry of Forest and Environment, New Delhi iii. Jammu and Kashmir Public Service Commission, Srinagar iv. Staff Selection Commission, New Delhi v. D R D O, New Delhi b) Other committees i. Indian Institute of Technology, New Delhi ii. National Institute of Technology, Srinagar, J & Kr iii. Aligarh Muslim University, Aligarh
6	Prof. M. Emran Khan	Other committees : i. Indian Society for Technical Education (ISTE) ii. NBA Expert for AICTE
7	Prof . M. M. Hasan	a) National committees : i. NBA Expert ii. CII's Remanufacturing Task Force b) Other committees : i. Combustion Institute (India) ii. Indian Society for Technical Education (ISTE) iii. Indian Society for Mechanical Engineer (ISME) iv. Indian Society for Heat and Mass Transfer (ISHMT) v. Tata Energy Research Institute (TERI) vi. Society of Automotive Engineers (SAE India)

8	Prof Z A Khan	a) National committees: i. CII's Remanufacturing Task Force b) International committees: i. International Conference on Applications and Design in Mechanical Engineering (ICADME 2012), University Malaysia Perlis, Malaysia. c) Other committees : i. Life Member of Indian Society for Technical Education
9	Prof. Z. Mallick	a) National committee is. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
10	Prof Mohd Suhaib	a) National committees: ii. CII's Robotics & Automation iii. Expert Member for different states Technical boards. iv. Vision- 2020 BITS Pilani Task force b) Other committees : i. Life Member of Indian society for Technical education. ii. Life Member of Institution of engineers India. iii. Life Member of Indian Society for Mechanical Engineers. iv. Life Member of Material Research Society of India. v. Member Robotic Society of India. vi. Member American Society of Mechanical Engineers.
11	Dr. J A Usmani	a) National committees: Executive Council/Academic Council/Court member of Jamia Millia Islamia University. b) Editorial BoardsReviewer of following International Journals: i. American journal of food technology. ii. journal of food process engineering, Elsevier science Ltd, Great Britain iii. Asian Journal of scientific Research. iv. Research Journal of Environmental Sciences
12	Mrs. Haleema Begum	Other committees : i. Life member of ISTE

13.	Dr. M N Karimi	a) Other committees : i. Life Member of ISTE, GIFT, ISHRAE Membership of Professional Bodies i. Member organizing committee of Global Conference on Flexible System Management "Innovation, Flexibility and Technology ii. Transfer" held on March 13-15 2004, Jamia Millia Islamia, New Delhi 110025. iii. Member organizing committee of International Conference on Energy & Environment at Jamia Millia Islamia, 2004, New Delhi 1100025. iv. Member organizing committee of National Conference on Advances in Mechanical Engineering at Jamia Millia Islamia, January 20-21, 2006, New Delhi 1100025.
14.	Dr. Arshad Noor Siddiquee	a) National Committees: i. CII's Remanufacturing Task Force, NBA b) Other Committees :i. Life member of ISTE
15	Dr. Abdur Rahim	a) Other Committees Association with PROFESSIONAL BODIES: i. Life Member, The Institution of Engineers (India). ii. Life Member, National Society of Fluid Mechanics & Fluid Power.
16	Mr. S. M. Muzakkir	a) National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
17	Dr. Aas Mohd.	a)National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
18	Dr. Islam Nawaz	a) National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
19	Dr. Sabah Khan	a) Other Committees Extra-Curricular Activities i. Presiding Officer of Advertising and Publication Committee, BIT, Budaiya, Bahrain. ii. Established The Jamia SAE Collegiate Club, affiliated to SAE International (1999) iii. Coordinator, Jamia SAE Collegiate Club. iv. Member Publication Board SAE-NIS. v. Subject Advisor, Department of Mechanical Engg, JMI, (1998-2004)

		vi. Organized several student events in the capacity of Coordinator SAE and Subject Advisor (1998-till date). vii. Faculty Coordinator of annual student event CREZON. viii. Lab Incharge of Material Science Lab ix. Organized a Conference on Legal and Technical Emancipation of women in the capacity of Organizing Secretary in collaboration with National Women's Commission and Department of Mechanical Engg on 7th and 8th of February, 2004
20	Dr. Ali Hasan	a) Other Committees Membership of Professional Bodies: i. Corporate Member of the Institution of Engineers (India). M-130710-4ii. Life Member of ISTE (Indian Society for Technical Education).
21	Dr. Mohd. Asjad	a) National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
22	Dr. A. F. Sherwani	a) National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi.
23	Mr. Iqbal Azam	a) National committees i. Life member of the Indian Society of Mechanical Engineers (India), Delhi, ISTE

27. Faculty recharging strategies

Please see Annexure - ERD II: Faculty Recharging Strategies

28. Student projects

S. No.	Project category	Percentage (Approximately Estimated)
1	In-house projects including inter-departmental projects	75%
2	Collaboration with other universities/ industry / institute	15 % of students are doing their projects in collaboration with academics institutes/societies like SAE, IIT Delhi, DTU and other research laboratories like CRRI, NPL, DRDO, etc.
		10 % of students are carrying out their project in collaboration with industries like Maruti Udyog, MINDA, IOCL, Blue Star, Shri Ram Piston etc.

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

Awards / recognitions received at the national and international level by • Faculty • Doctoral / post doctoral fellows • Students	Prof. M Emran Khan • Developed an empirical Relation of Heat Transfer for Solar-still and is known by his name. Prof. Z A Khan • Member, Emerald Literati Network, UK. Prof. Abid Haleem • Best paper award on Computer Information Systems-Firm Performance Following IT Outsourcing Decisions at 53rd, Annual National Mountain Plains Management Conference 2011 Colorado Mesa University, USA Dr. A N Siddiquee • Recipient of National Merit Scholarship by MHRD. Recipient of Rajaram Babu Patil National Award for promising Engineering Teacher for the Year 2004

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

Prof. Abid Haleem	"Conceptualized and Organized", "Third Global Conference on Flexible Systems Management", Theme: Technology Transfer, Innovation and Flexibility for Reshaping the world National Conference on Emerging Trends in Technology Management, Mathura
Prof. M M Hasan	• Coordinated ISTE Sponsored Winter School on "Combustion Generated Pollution", Dept., Mech. Engg., Jamia Millia Islamia, New Delhi, December 13-24, 1994.· • Organized ISTE Sponsored Summer School on "Utility Engineering & Energy Management", Dept., Mech. Engg., Jamia Millia Islamia, New Delhi, May 20June 2, 1995. • Organized An International Conference on CAD/CAM/Automation/ Robotics of Future (INCARF '96), Dept., Mech. Engg., Jamia Millia Islamia, New Delhi, December 17-20, 1996.

	• Organized One Day Seminar on "Use of CNG in Power and Automobiles in Delhi "on April 30, 2002 in collaboration with The Institution of Engineers (India). • International Conference on "Energy and Environment Strategies for Sustainable Development (ICEE-SSD)" during 23 24 January 2004 Department of Mechanical Engineering, Jamia Millia Islamia, New Delhi. • Coordinated AICTE-ISTE Sponsored Short Term Training Programme on "Combustion Generated Pollution", during March18-29, 2004, Dept of Mech. Engg., Jamia Millia Islamia, New Delhi.
Prof. M Suhaib	• Organizing Secretary of a national conference "Advances In Mechanical Engineering" (AIME-2006) held on 20-21 January 2006 at Department of Mechanical Engineering. F/O Engg. & Tech. Jamia Millia Islamia, New Delhi-25. • Member of organizing committee of "Third Global Conference on Flexible Systems Management" held on March 13-15, 2004, F/O Engg & Tech. Jamia Millia Islamia, New Delhi-25. • Coordinator of Short Term Training Programme on "Auto CAD" held from Aug 23 to Sept 03, 2004, at Department of Mechanical Engineering. F /O Engg. & Tech. Jamia Millia Islamia, New Delhi • Coordinator CATIA Training Programme from Dec-18 to Dec 29, 2006 at Department of Mechanical Engineering. F/O Engg. & Tech. Jamia Millia Islamia, New Delhi-25.

31. Code of ethics for research followed by the departments
    i. University's Ordinances pertaining to research are followed
    ii. Departmental research committee evaluates the work in coordination with external experts
    iii. A plagiarism software is used to check the authenticity of the research work (centralized proposal)
32. Student profile program-wise:

Name of the program	Session	Applications received	Selected Male Female	Pass percentage Male Female
B.Tech (Full time)	2008-11	22000 for all branches	71-02	90.14-100
B.E (Part-Time)	2008-11	500	70-00	80-0.00
M.Tech Mechanical Engg.	2009-11	200	14-04	80-100
Ph.D (Mechanical Engineering)	2008-11	100	04-01	Continued

33. Diversity of students

S. No.	Name of the program	% of students from the same university within the State	% of students from other universities	% of students from universities outside the State	% of students from other countries
1	M.Tech Mechanical Engg. (M/C Design / Thermo-Fluid/ Prod- Ind.)	11	08	81	0
2	Ph.D (Mechanical Engineering)	20	20	40	20

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

Civil services-Many students of the department vie for the civil services, the regular record, however, are not maintained.

Majority of the students also opt to appear in the GATE exam and some also appear in the CAT. A handsome number of the students qualify these reputed competitive exams with excellent ranks.

Apart from appearing in these competitions the students get a very good campus placement. The quantitative data with regard to exact number of students is not available.

35. Student progression

S. No.	Student progression	Percentage against enrolled
1	UG to PG	10
2	PG to M.Phil.	NA
3	PG to Ph.D.	10
4	Ph.D. to Post-Doctoral	Nil
5	Employed	
	• Campus selection	80%
	• Other than campus recruitment	15%
6	Entrepreneurs	05%

36. Diversity of staff

S. No.	Percentage of faculty who are graduates	
1	of the same university	12.5%
2	from other universities within the State	05.5%
3	from universities of other States	82%
4	from universities outside the country	NIL

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

38. Present details of departmental infrastructural facilities with regard to

Present details of infrastructural facilities with regard to	
a)	Library: YES, supported by Faculty of Engineering Library and Central Library with well equipped electronic and physical resources
b)	Internet facilities for staff and students: YES, available To all teachers and students.
c)	Total number of class rooms SIX
d)	Class rooms with ICT facility All class rooms & few labs (As in section B)
e)	Department laboratories (beside Engineering Workshop)

S. No.	Name of Laboratory
1.	Ergonomics laboratory
2.	Strength of Materials lab.
3.	Materials Science lab.
4.	Machinery Dynamics lab
5.	Theory of Machines lab
6.	Fluid Mechanics lab.
7.	Fluid Machinery lab
8.	Robotics Automation and Computer Integrated Manufacturing lab
9.	Industrial Engineering lab
10.	Production Engg. Lab
11.	Ref. and Air Conditioning lab.
12.	Vibration lab
13.	Engineering Mechanics lab.

14.	Instrumentation, Measurement & Control lab
15.	Heat and Mass Transfer lab
16.	Computer Aided Design lab
17.	Internal Combustion Engine lab
18.	Metrology Lab
19.	Automobile Lab
20.	Solar Energy Lab
f)	Research laboratories (specific)
i.	Ergonomics laboratory
ii.	Strength of Materials laboratory
iii.	Materials Science laboratory
iv.	Robotics Automation & CIM laboratory
v.	Metrology Lab & Micro-Measurement laboratory

39. List of doctoral, post-doctoral students and Research Associates
    Please see Annexure - ERD III: List of Doctoral, Post-Doctoral Students and Research Associates etc.
40. Number of post graduate students getting financial assistance from the university.
    18 (All M Tech students are getting GATE Scholarship)
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 BoS. Based on the feedback on these discussions final proposals are prepared and processed through Faculty committee and Academic Council of the University to get formal approval.
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? Yes
       The observations of the subject teacher on the curriculum in the light of syllabi of GATE, IES, etc are discussed in the Departmental meeting B.O.S and accordingly syllabi are revised.
    b. Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
       Yes, as per the feedback HOD & Dean take the necessary action.
    c. Alumni and employers on the programmes offered and how does the department utilize the feedback?
       Senior alumni and employers' representative regularly invite to share their feedback to

make necessary on course contents/projects.

43. List the distinguished alumni of the department (maximum 10) Some Distinguished Alumni of the Department

1. Ms. Sabiha Kidwai, GM, Panasonic
2. Mr. Injaz Khan, PM, Drake & Scull, UAE
3. Mr. Rajiv Saxena, Head Lava
4. Mr. Ashish Rajan Khera, SAIL
5. Mr. Amit Mathur, GM, Axis bank
6. Mr. Khalid Head, Videocon Industries
7. Mr. Mohit Khattar, MD, Godrej
8. Mr. Sanjeev Kakkar, G.M ONGC
9. Mr. Saumitra Bhidey, Head SiSc, US
10. Mr. Hitesh Verma, Purdue, U.S

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

Please see Annexure - ERD IV: Details of Student Enrichment Programmes

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

- Lecture
- Tutorial
- Interactive teaching methodology by adopting ICT Tools
- Assignments
- Discussion and Demonstrations
- Skill Sessions
- Seminars, etc.

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 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 the objectives of the programs run by the department 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.

Please see Annexure - ERD V: Participation of students and faculty in Extension Activities

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.

TCS ranked Jamia Millia Islamia 'B' in 2012

TIMES group ranked us in top 25 in 2012

OUTLOOK ranked us at 12 in India in 2011

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, Weaknesses, Opportunities and Challenges (SWOC) of the Department.

Strengths

- Brand Image
  With 26 year old standing and impeccable record in placement and continuous student development programs, Mechanical Engineering has emerged as the preferred choice for admission seekers. The performance of the students in Industry and academics is highly commendable. The department has the potential to attain international status. We serve under privileged section of the society specially minority.
- Qualified and dedicated Faculty
  The Department is enriched with highly qualified, motivated and research oriented faculty that devotes itself to the satisfaction of students. Teachers have authored several reputed books of international level. Students compete through all India entrance examination with ration of 1 to 100. the university gives special reservation of 10% to the female students to promote education among the women. The faculty has a great sense of belongingness for the university and specially thestudents.
- State of the art Laboratories and research facility
  The Department owns about twenty different labs output as per the requirement of focused curriculum. It also caters to requirements of research and beyond syllabus exposure to the students. Faculties have published quality research papers in reputed national and international journals. Department has produced about 300 papers & books in last five years. Department representatives have presented their research output nationally and internationally at various levels.
- Projects with external funding
  SAP assisted department presently has agencies research projects to the tune of rupees 130 lacs from bodies like UGC, AICTE, MoEF and DST. Students are actively involved in industrial projects.
- Placement and Alumni
  All eligible students are placed in good engineering organizations. Department alumni are holding key positions in different organizations nationally and internationally. Student chapter of ASME, SAE are actively contributing to development of concept vehicles, academic and technical events.

Weaknesses

- Extension Activity
  Students are too busy with studies and we need to give them some respite for co curricular activities and no doubt international exposure
- Lack of Incentives:
  Faculty can be given incentives for conducting high quality collaborative research work.
- Lack of flexibility in scheme:
  Credit Transfer, accumulation facilities and tuning programme at undergraduate level can

be introduced in line with international practices. This can only be undertaken with top global universities after we receive accreditation.

- Infrastructure
  For horizontal expansion no doubt more space is required. The department needs to improve infrastructure in form of smart class rooms, increased seminar rooms for which appropriate steps are being taken by the administration.
- Diversity
  Need for diverse international student groups.

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, Energy, Chemical 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 centres 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.
- Faculty
  The availability of new faculty is a big constraint. Secondly being government institution the pay structure is not at par with emerging private / international institutions.

- Globalization

  Need to get more international students, funding and supportive culture faculty...

52. Future plans of the Department

To get the status of top five Mechanical Engineering Departments India. (Goal of next 10 yr)

- To start B. Tech in Production & Industrial Engineering
- To start B. Tech in Technology Management.
- To start M. Tech in Technology Management.
- To start M. Tech. in Mechatronics.
- To start M. Tech. in Energy and Environment.