TEQIP III SPONSORED

Five-Day Workshop on

"Mechanical Design Tools/Software and their Industrial Applications"

Organized By
Department of Mechanical Engineering
Muzaffarpur Institute of Technology,
Muzaffarpur
BIHAR-842003
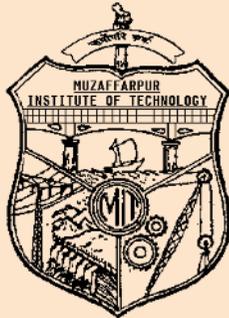
Date: 5th March, 2019–9th March, 2019

ABOUT THE COLLEGE

M.I.T.Muzaffarpur came into existence on 25th September 1954, just seven years after independence of India.The institute is under administrative control of Department of Science and Technology, Government of Bihar. MIT Muzaffarpur is an AICTE approved institution and affliated to Aryabhatta Knowledge University, Patna.

ABOUT THE DEPARTMENT

Mechanical Engineering Department is one of the leading department of MIT Muzaffarpur. The presence of well-equipped laboratories and highly qualified faculties makes it one of the best centre for mechanical engineering. Currently the department offers four year undergraduate program and two year postgraduate program in Machine Design and Thermal Engineering.

COURSE OBJECTIVES

- Basics of Mechanical design tools/software prevalent in modern day industrial applications.
- Basics of ANSYS, MATLAB, FE Modelling, Open-FOAM and CAD software.
- Practical problem solving using mechanical design tools/ software.

WHO CAN ATTEND?

All existing students of Mechanical Engineering Department, MIT Muzaffarpur.

RESOURSE PERSONS

Dr. Ajitanshu Mishra Head of Department of Mechanical Engineering, Invertis University, Bareilly
Mr. Raman Jha Project Manager (Operation), TATA Technologies
Dr. Prabhansu Assistant Professor, MED, MIT Muzaffarpur
Mr. Narayan Kumar Assistant Professor, MED, MIT Muzaffarpur
Mr.Gaurav Kumar Assistant Professor, MED, MIT Muzaffarpur
Mr.Amit Kumar Assistant Professor, MED, MIT Muzaffarpur
Mr. Md. Irshad Alam Assistant Professor, MED, MIT Muzaffarpur

GENERAL INSTRUCTIONS

- A certificate of participation will be presented to all the participants.
- The total participations is limited to 40 members. The participants will be selected on "First-Come-First-Serve" basis out of the eligible applicants.

HOW TO APPLY?

Fill the registration form and submit it to the coordinator Mr. Amit Kumar or send it at amit.iitr892@gmail.com by 04th March, 2019.

IMPORTANT DATES:

Last date of Registration: **04th March 2019**

Course Period: **05th March to 09th March 2019**

VENUE: Conference Hall, MIT Muzaffapur

ORGANISING COMMITTEE

Patron-in Chief	Dr. J. N. Jha Principal, MIT Muzaffarpur
Patron	Dr. Y. N. Sharma TEQIP – III, Co-Ordinator
Co-Patron	Dr. Vikash Kumar HOD,MED, MIT Muzaffarpur

Convener
Mr. Gulshan Kumar
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Mob: 8935968265

APPLICATION FOR REGISTRATION
Application for Workshop on Mechanical Design Tools/ Software and Their Industrial Application
05th March 2019 - 09th March 2019

1. Name………………………………

2.
a) Age…….

b) Sex: M/F…….

3. Designation………………..

4. Organization………………..

5. Address for Correspondence

PHOTO

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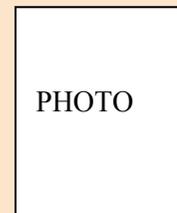
E-mail: …………………………….

Phone/Mobile: …………………………...

6. Highest Academic qualification……………………………………………
………………………………………………….

7. Specialization……………………….......…….……

8. Experience (in years)

    a) Teaching: ……………………..

    b) Industrial: ……………………

Date……….

Place………

Signature of Applicant

Signature of Head of Department

Note: Please note that 100% attendance is compulsory in the course.

Workshop

on

'Mechanical Design Tools/ Software and their Industrial Application'

05-09 March, 2019

<u>SCHEDULE</u>

Date/Day	10:00 am-11:15 am	11:15 -11:30 am	11:30 am - 01:00 pm	01:00 - 2:00 pm	2:00 pm - 4:00 pm	4:00 - 4:30 pm
05.03.2019 Tuesday	**REGISTRATION 09:00 – 10:00 & INAUGRATION**	TEA	Introduction of **Finite Element Method** (Dr. Ajitanshu Mishra)	LUNCH BREAK	Application of **FE Modelling** to Different Industrial Application (Dr. Ajitanshu Mishra)	TEA
06.03.2019 Wednesday	Application of **CAD** in Chemical and Oil Industry (Mr.Md.Irshad Alam)		Introduction of **Design & Simulation** (Mr. Raman Jha)		**Design & Simulation** (Mr. Raman Jha)	
07.03.2019 Thursday	Basics of **ANSYS FLUENT** (Dr. Prabhansu)		Flow Simulation of Cyclone Separator in **ANSYS FLUENT** (Dr. Prabhansu)		Flow Simulation of Cyclone Separator in **ANSYS FLUENT** (Dr. Prabhansu)	
08.03.2019 Friday	Basics of **MATLAB** (Mr. Narayan Kumar)		Numerical Computation Using **MATLAB** (Mr. Narayan Kumar)		Optimization using **MATLAB** (Mr. Narayan Kumar)	
09.03.2019 Saturday	Introduction to **XRD** (Mr. Amit Kumar)		LEARNING EVALUATION-I		**VALEDICTORY FUNCTION**	

Learning Evaluation

Date-09/03/2019   Test Duration- 25 minutes

Instructions

1. Every question carries 1 mark.

2. 0.25 marks will be deducted for each wrong answer.

Details of participant

Name- Kumari Priya Ranjan   Roll no.- 16[CLE]M04

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1. Mini Tab is a :
   a) CAD software
   b) CAM software
   c) Statistical software
   d) Design & Simulation Software

2. Which crystal system allows reflection for unmixed (h+k+l) plane?
   a) S C
   b) D C
   c) F C C
   d) B C C

3. Which of these events can be modeled by a Poisson process?
   a) Getting pooped on by a bird
   b) Tracking the location of a escaped zombie
   c) Dying from a horse kick while serving in the Prussian Army
   d) All of the above

4. Which of the following is a CFD software?
   a) OpenFOAM
   b) AutoCAD
   c) CATIA
   d) None of these

5. Which of the following is a CAD software?
   a) Ansys
   b) MATLAB
   c) Pro-E
   d) None of these

6. Which crystal structure is in the diamond structure?
   a) H C P
   b) Cubic
   c) FCC
   d) FCC + motif(1/4,1/4,1/4)

Answer questions from 7 to 11 based on matrices A and B:

A = [25, 50, 75, 100; 125, 150, 175, 200; 225, 250, 275, 300];

B = size(A);

7. A(2,3) = _____
   a) 250
   b) 175
   c) 300
   d) 200

8. A(:,1) = _____
   a) [25, 50, 75, 100]
   b) [25, 125, 225]
   c) [25; 125; 225]
   d) [25; 50; 75; 100]

9. A(2,:) = _____
   a) [125, 150, 175, 200]
   b) [50, 150, 250]
   c) [125; 150; 175; 200]
   d) [50; 150; 250]

10. B(2) = _____
    a) [3, 4]
    b) [4, 3]

c) 3
d) 4

11. C = [25, 75; 150, 200];
Choose the option which is
equivalent to matrix C
a) [A(1,1), A(1,3); A(2,2), A(2,4)]
b) [A(1,1), A(1,2); A(2,1), A(2,2)]
c) [A(1,1), A(1,3); A(2,1), A(2,3)]
d) [A(1,1), A(1,3); A(3,2), A(3,4)]

12. The art of sub dividing a structure
into a convenient number of smaller
components in FEM is known as :
a) Node
b) Elementization
c) Discretization
d) Numbering

13. A small unit having definite shape of
geometry and node is known as
a) Discrete Element
b) Finite Element
c) Assembled Element
d) None of these

14. Which of the following may alter
the mechanical properties of
reinforced composites?
a) Constituent properties
b) Fiber Length
c) Fiber Orientation
d) All of the above

15. Which type of software can be used
for Sheet Metal Dies manufacturing?
a) CFD
b) CAD
c) Both (a) and (b)
d) None of these

16. Application of CFD can help in
solving:
a) Fluid flow problems
b) Heat transfer problems
c) Both (a) & (b)
d) None of the above

17. Glass is a mixture of :
a) Non metallic Silicates
b) Metallic Silicates
c) Metallic Acetates

d) Non Metallic Acetates

18. How many symmetries can be there
in a crystal structure?
a) 5
b) 6
c) 4
d) Both (b) & (c)

19. In which of the following sectors
CAD software are used extensively?
a) Aerospace Sector
b) Automotive Sector
c) Ship Building
d) All of the above

20. Which of the following strategies is
used by industries now a days to
ensure quality?
a) Inspection
b) Statistical Process Control
c) Six Sigma
d) Taguchi Methods

ANSWERS

1. — c
2.
3. — a
4. — a
5. — c
6. — d
7. — b
8. — c
9. — a
10.
11. — a
12. — c
13. — b
14. — d
15. — b
16. — c
17. — a ✗
18. — b ✗
19. — a
20. — b ✗

To be filled by Examiner

No. of correct answers: 15
No. of wrong answers: 3

15
−0.75

Marks obtained : 14.25 /20

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MUZAFFARPUR INSTITUTE OF TECHNOLOGY
MUZAFFARPUR
(under Department of science and Technology, Govt. of Bihar)
Muzaffarpur-842003, Bihar, India

DEPARTMENT OF MECHANICAL ENGINEERING

WORKSHOP ON "Mechanical Design Tools/Software and Their Industrial Applications"
DATE: 5TH TO 9TH MARCH 2019

Feedback Form

Your feedback, our Improvement

NAME: Nawlesh Kumar

BATCH: 2K16

ROLL NO.: 16MD5

EMAIL: nawlesh2k16 @ gmail. com

Please respond below with 1,2,3,4 or 5. Where 1 one is strongly degree and 5 is strongly agree.

Design of Workshop:

		Yes/No
A.	Were objectives of course clear to you?	yes
B.	The Workshop met with your expectations.	No
C.	The Workshop was well planned	yes
D.	The contents illustrated with adequate examples	yes
E.	The workshop exposed you to new knowledge and practices	yes

Conduct of Workshop:

A.	The presentations of the workshop	4
B.	Suggestion from is well documented	3
C.	Session interactivity	3
D.	Please give overall rating of the workshop in 1-5 (1 is poor and 5 is excellent)	3

Please give suggestions for the improvement of the Workshop.

Some models should be presented. These should be individual workshop of all the software introduced.

Nawlesh Kumar

signature

MUZAFFARPUR INSTITUTE OF TECHNOLOGY, MUZAFFARPUR

WORKSHOP ON "Mechanical Design Tools/Software and Their Industrial Applications"
DATE: 5TH TO 9TH MARCH 2019

ATTENDANCE SHEET

S. NO.	NAME	ROLL NO.	5/3/2019		6/3/2018	
			FORENOON SESSION	AFTERNOON SESSION	FORENOON SESSION	AFTERNOON SESSION
1	RAJHANS KUMAR	16M20	Rajhans Kumar	Rajhans Kumar	Rajhans Kumar	Rajhans Kumar
2	ABHISHEK KUMAR	16M03	Abhishek Kumar	Abhishek Kumar	Abhishek Kuma	Abhishek Kum
3	SHIWANGI KUMARI	16M58	Shiwangi Kumari	Shiwangi kumari	Shiwangi kumari	Shiwangi kumari
4	ABHISHEK ANAND	16M12	Abhichek Arand	Abhichek Arand	Abhishek Anand	Abhishek Anand
5	VISHAL KUMAR	16M58	Vishal Kumar	Vishal kumar	Vishal kumar	Vishal kumar
6	RAUSHAN KUMAR	16M43	Raushan kumar	Raushan kumar	Raushan kumar	Raushan kumar
7	SANGAM KUMAR	17(LE)M02	Sangam kumar	Sangam kumar	Sangam kumar	Sangam kumar
8	AMIT KUMAR	16M54	Amit kumar	Amit kumar	Amit kumar	Amit kumar
9	KUMARI PAYAL	16M60	Kumari Payal	Kumari Payal	Kumari Payal	Kumari Payal
10	CHANDAN KUMAR	17(LE)M01	Chandan kumar	Chandan kumar	Chandan kumar	Chandan kumar
11	MD AKRAM ALAM	16M02	MD Akra. Alam	MD Akra. Alam	MD Akra. Alam	MD Akra. Alam
12	VISHAL KUMAR	16M27	Vishal kumar	Vishal kumar	Vishal kumar	Vishal kumar
13	FAIZ ANWAR	16M38	Faiz Anwar	Faiz Anwar	Faiz Anwar	Faiz Anwar
14	KUMAR RAHUL	16M36	Kumar Rahul	Kumar Rahul	Kumar Rahul	Kumar Rahul
15	SHASHI KUMAR	16M24	Shashi Kumar	Shashi kumar	Shashi kumar	Shashi kumar
16	SHATRUDHAN KUMAR	16M23	Shatrudhan kumar	Shatrudhan kr	Shatrudhan ku.	Shatrudhan kumar
17	NIDHI KUMARI GUPTA	16M49	Nidhikumarigupta	Nidhikumarigupta	Nidhikumarigupta	Nidhikumarigupta

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S. NO.	NAME	ROLL NO.	5/3/2019		6/3/2018	
			FORENOON SESSION	AFTERNOON SESSION	FORENOON SESSION	AFTERNOON SESSION
18	RAUSHAN KUMAR	16M41	*signature*	*signature*	*signature*	*signature*
19	MITHUN KUMAR	16M22	*signature*	*signature*	*signature*	*signature*
20	KANHAIYA KUMAR	16M35	*signature*	*signature*	*signature*	*signature*
21	RUPESH KUMAR	16M40	*signature*	*signature*	*signature*	*signature*
22	SURENDRA KUMAR	16M15	*signature*	*signature*	*signature*	*signature*
23	ISHA SHARMA	15M55	*signature*	*signature*	*signature*	*signature*
24	ANMOL	15M09	*signature*	*signature*	*signature*	*signature*
25	SUMIT KUMAR	15M64	*signature*	*signature*	*signature*	*signature*
26	RAJ KAMAL	15M02	*signature*	*signature*	*signature*	*signature*
27	ROHIT KUMAR	16(LE)M03	*signature*	*signature*	*signature*	*signature*
28	KUMARI PRIYA RANJAN	16(LE)M04	*signature*	*signature*	*signature*	*signature*
29	GANGA RAM MANDAL	15M40	*signature*	*signature*	*signature*	*signature*
30	VIKAS KUMAR SAXENA	15M63	*signature*	*signature*	*signature*	*signature*
31	MUKESH KUMAR ROY	15M15	*signature*	*signature*	*signature*	*signature*
32	AMAN KUMAR JHA	15M46	*signature*	*signature*	*signature*	*signature*
33	MD AFTAB ALAM	15M20	*signature*	*signature*	*signature*	*signature*
34	VIKRANT KUMAR	16(LE)M07	*signature*	*signature*	*signature*	*signature*
35	HIMANSHU CHANDRA	16(LE)M10	*signature*	*signature*	*signature*	*signature*

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S. NO.	NAME	ROLL NO.	5/3/2019		6/3/2018	
			FORENOON SESSION	AFTERNOON SESSION	FORENOON SESSION	AFTERNOON SESSION
36	MERAJ AHMED	15M58	Meraj Ahmed	Meraj Ahmed	Meraj Ahmed	Meraj Ahmed
37	NEHAL ANSARI	15M29	Nehal Ansari	Nehal Ansari	Nehal Ansari	Nehal Ansari
38	GAURAV KUMAR ROY	18MM16	Gaurav	Gaurav	Gaurav	Gaurav
39	PRASHANT VIMAL	18MM15	Prashant vimal	Prashant vimal	vimal	pr Vimal
40	RAJESH KUMAR RAUSHAN	18MM17	Rajesh Kumar Raush	Rajesh Kumar Raush	Rajesh Kumar Ro	Rajesh Ku Ra
41	GULSHAN KUMAR	18MM04	Gulshan kumar	Gulshan kumar	Gulshan kumar	Gulshan kumar
42	AMAN RAJ KUMAR	18MM06	Aman Raj Kumar	Aman Raj Kumar	Aman Raj Kumar	Aman Raj Kumar
43	AMIT RAJ	17MM10	Amit Raj	Amit Raj	Amit Raj	Amit Raj
44	PANKAJ KUMAR	17MM16	Pankaj Kumar	Pankaj Kumar	Pankajkumar	Pankaj Kumar
45	YUVRAJ	17MT02	Yuvraj	Yubraj	Yuvraj	Yuvraj