JAIDEV EDUCATION SOCIETY'S
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
Affiliated to DBATU, RTMNU
**Department of Civil Engineering**
**"Building Better Development"**

Education to Eternity

||ज्ञानम् सर्वार्थ साधनम्||

**Session : 2019-20 ( Odd Sem)**

**Date: 08/11/2019**

## Notice

The Student of 3rd semester are hereby informed that Remedial classes are scheduled to commence from 11/11/2019 to 16/11/2019. These sessions aim to provide additional support and assistance to enhance your understanding of course materials. Please make sure to attend these classes promptly to make the most out of this opportunity. Your participation is crucial for your academic success.

## Remedial Classes Time Table

**Year/Sem- II Year/III Sem**

| Date | Day | Time | Subject |
|---|---|---|---|
| 11/11/2019 | Monday | 4.00 pm to 5.00 pm | Mathematics – III |
| 12/11/2019 | Tuesday | 4.00 pm to 5.00 pm | Mechanics of Solids |
| 13/11/2019 | Wednesday | 4.00 pm to 5.00 pm | Hydraulics I |
| 14/11/2019 | Thursday | 4.00 pm to 5.00 pm | Surveying I |
| 15/11/2019 | Friday | 4.00 pm to 5.00 pm | Building Construction |
| 16/11/2019 | Saturday | 4.00 pm to 5.00 pm | Engineering Geology |

**Time Table Incharge**

**Academic Incharge**

**HOD, (Civil)**

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

KATOL ROAD, NAGPUR

Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in

Affiliated to DBATU, RTMNU

**Department of Civil Engineering**

**"Building Better Development"**

Education to Eternity

॥ज्ञानम् सर्वार्थ साधनम्॥

**Session : 2019-20 ( Even Sem)**

**Date: 15/05/2020**

## Notice

The Student of 4th semester are hereby informed that Remedial classes are scheduled to commence from 18/05/2020 to 23/05/2020. These sessions aim to provide additional support and assistance to enhance your understanding of course materials. Please make sure to attend these classes promptly to make the most out of this opportunity. Your participation is crucial for your academic success.

## Remedial Classes Time Table

**Year/Sem- II Year/IV Sem**

| Date | Day | Time | Subject |
|---|---|---|---|
| 18/05/2020 | Monday | 4.00 pm to 5.00 pm | Hydraulics II |
| 19/05/2020 | Tuesday | 4.00 pm to 5.00 pm | Surveying – II |
| 20/05/2020 | Wednesday | 4.00 pm to 5.00 pm | Structural Mechanics-I |
| 21/05/2020 | Thursday | 4.00 pm to 5.00 pm | Product Design Engineering |
| 22/05/2020 | Friday | 4.00 pm to 5.00 pm | Elective I |
| 23/05/2020 | Saturday | 4.00 pm to 5.00 pm | Engineering Management |

**Time Table Incharge**

**Academic Incharge**

**HOD, (Civil)**

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

KATOL ROAD, NAGPUR

Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in

Affiliated to DBATU, RTMNU

**Department of Civil Engineering**

**"Building Better Development"**

**Session : 2019-20 ( Odd Sem)**

**Date: 08/11/2019**

## Notice

The Student of 5th semester are hereby informed that Remedial classes are scheduled to commence from 11/11/2019 to 16/11/2019. These sessions aim to provide additional support and assistance to enhance your understanding of course materials. Please make sure to attend these classes promptly to make the most out of this opportunity. Your participation is crucial for your academic success.

## Remedial Classes Time Table

**Year/Sem- III Year/V Sem**

| Date | Day | Time | Subject |
|---|---|---|---|
| 11/11/2019 | Monday | 4.00 pm to 5.00 pm | Design of Steel Structures |
| 12/11/2019 | Tuesday | 4.00 pm to 5.00 pm | Structural Mechanics-II |
| 13/11/2019 | Wednesday | 4.00 pm to 5.00 pm | Soil Mechanics |
| 14/11/2019 | Thursday | 4.00 pm to 5.00 pm | Environmental Engineering |
| 15/11/2019 | Friday | 4.00 pm to 5.00 pm | Transportation Engineering |
| 16/11/2019 | Saturday | 4.00 pm to 5.00 pm | Elective II |

**Time Table Incharge** **Academic Incharge** **HOD, (Civil)**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

KATOL ROAD, NAGPUR

Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in

Affiliated to DBATU, RTMNU

**Department of Civil Engineering**

**"Building Better Development"**

**Session : 2019-20 ( Even Sem)**

**Date: 15/05/2020**

## Notice

The Student of 6th semester are hereby informed that Remedial classes are scheduled to commence from 18/05/2020 to 23/05/2020. These sessions aim to provide additional support and assistance to enhance your understanding of course materials. Please make sure to attend these classes promptly to make the most out of this opportunity. Your participation is crucial for your academic success.

## Remedial Classes Time Table

**Year/Sem- III Year/VI Sem**

| Date | Day | Time | Subject |
|---|---|---|---|
| 18/05/2020 | Monday | 4.00 pm to 5.00 pm | Design of Concrete Structures I |
| 19/05/2020 | Tuesday | 4.00 pm to 5.00 pm | Foundation Engineering |
| 20/05/2020 | Wednesday | 4.00 pm to 5.00 pm | Concrete Technology |
| 21/05/2020 | Thursday | 4.00 pm to 5.00 pm | Project Management |
| 22/05/2020 | Friday | 4.00 pm to 5.00 pm | Elective III |
| 23/05/2020 | Saturday | 4.00 pm to 5.00 pm | Building Planning and Design |

**Time Table Incharge** **Academic Incharge** **HOD, (Civil)**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

KATOL ROAD, NAGPUR

An Autonomous Institute, with NAAC "A" Grade

Department of Computer Science & Engineering

*"A Place to Learn, A Chance to Grow"*

Session 2019-20 (ODD SEM)

## REMEDIAL CLASSES NOTICE

**Date: 28/11/2019**

All the students of B. Tech III Semester (Computer Science & Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and MSE.

Classes will commence from 01/11/2019 to 10/11/2019 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | M-III |
| Tuesday | 4.00 Pm to 5.00 Pm | DEM |
| Wednesday | 4.00 Pm to 5.00 Pm | M-III |
| Thursday | 4.00 Pm to 5.00 Pm | DEM |
| Friday | 4.00 Pm to 5.00 Pm | M-III |
| Saturday | 4.00 Pm to 5.00 Pm | DEM |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. A. B. Kokate
Academic In-charge

Prof. Madhuri Pal
Head, CSE-IT Dept.
Department of CSE-IT

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**An Autonomous Institute, with NAAC "A" Grade**

**Department of Computer Science & Engineering**

***"A Place to Learn, A Chance to Grow"***

**Session 2019-20 (ODD SEM)**

# REMEDIAL CLASSES NOTICE

**Date: 28/11/2019**

All the students of B. Tech V Semester (Computer Science & Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and MSE.

Classes will commence from 01/11/2019 to 10/11/2019 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | TOC |
| Tuesday | 4.00 Pm to 5.00 Pm | DBMS |
| Wednesday | 4.00 Pm to 5.00 Pm | TOC |
| Thursday | 4.00 Pm to 5.00 Pm | BC |
| Friday | 4.00 Pm to 5.00 Pm | IR |
| Saturday | 4.00 Pm to 5.00 Pm | ML |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. K. B. Kokate
Academic In-charge

Prof. Madhuri Pal
Head, CSE/IT Dept.
Department of CSE-IT

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**An Autonomous Institute, with NAAC "A" Grade**

**Department of Computer Science & Engineering**

***"A Place to Learn, A Chance to Grow"***

**Session 2019-20 (EVEN SEM)**

# REMEDIAL CLASSES NOTICE

**Date: 14/05/2020**

All the students of B. Tech IV Semester (Computer Science & Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and Sessional.

Classes will commence from 18/05/2020 to 30/05/2020 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | PS |
| Tuesday | 4.00 Pm to 5.00 Pm | NM |
| Wednesday | 4.00 Pm to 5.00 Pm | DAA |
| Thursday | 4.00 Pm to 5.00 Pm | IDE |
| Friday | 4.00 Pm to 5.00 Pm | OS |
| Saturday | 4.00 Pm to 5.00 Pm | OOP |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. R. B. Kokate
Academic In-charge

Prof. Madhuri Pal
Head, CSE-IT Dept.
Department of CSE-IT

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

**JAIDEV EDUCATION SOCIETY'S**
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**An Autonomous Institute, with NAAC "A" Grade**
**Department of Computer Science & Engineering**
***"A Place to Learn, A Chance to Grow"***
**Session 2019-20 (EVEN SEM)**

॥ज्ञानम् सर्वार्थ साधनम्॥

# REMEDIAL CLASSES NOTICE

**Date: 14/05/2020**

All the students of B. Tech VI Semester (Computer Science & Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and Sessional.

Classes will commence from 18/05/2020 to 30/05/2020 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | CN |
| Tuesday | 4.00 Pm to 5.00 Pm | CP-II |
| Wednesday | 4.00 Pm to 5.00 Pm | CD |
| Thursday | 4.00 Pm to 5.00 Pm | AI |
| Friday | 4.00 Pm to 5.00 Pm | IOT |
| Saturday | 4.00 Pm to 5.00 Pm | DE |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. A. B. Kokate
Academic In-charge

Prof. Madhuri Pal
Head, CSE-IT Dept.
Department of CSE-IT

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Department Of Electrical Engineering
*"Igniting minds to illuminate the world"*
2019-20 (Odd Sem)

**Date- 10/11/2018**

# Remedial Classes Notice

All the students of B.Tech 3rd Sem are hereby informed that the department is going to arrange remedial classes for students who has scored less than 40 marks in aggregate from class test and MSE. Classes schedule is given below.

| Sr.No | Day | Time | Subject |
|---|---|---|---|
| 1 | 12/11/2018 | 4pm to 5 pm | EM-III |
| 2 | 13/11/2018 | 4pm to 5 pm | NA |
| 3 | 14/11/2018 | 4pm to 5 pm | M&I |
| 4 | 16/11/2018 | 4pm to 5 pm | S&S |
| 5 | 17/11/2018 | 4pm to 5 pm | Engineering Eco |

Time Table Incharge Academic Incharge HOD

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**
**(An Autonomous Institute, with NAAC "A" Grade)**
Department Of Electrical Engineering
*"Igniting minds to illuminate the world"*
**2019-20 (Odd Sem)**

**Date- 10/11/2018**

# Remedial Classes Notice

All the students of B.Tech 5th Sem are hereby informed that the department is going to arrange remedial classes for students who has scored less than 40 marks in aggregate from class test and MSE. Classes schedule is given below.

| Sr.No | Day | Time | Subject |
|---|---|---|---|
| 1 | 12/11/2018 | 4pm to 5 pm | Electrical Machine-II |
| 2 | 13/11/2018 | 4pm to 5 pm | Power System-II |
| 3 | 14/11/2018 | 4pm to 5 pm | Microprocessor and micro Controller |
| 4 | 16/11/2018 | 4pm to 5 pm | Elective-IV |
| 5 | 17/11/2018 | 4pm to 5 pm | Elective-V |

Time Table Incharge  Academic Incharge  HOD

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Department Of Electrical Engineering
*"Igniting minds to illuminate the world"*
**2019-2020 (Even Sem)**

**Date- 25/06/2021**

# Remedial Classes Notice

All the students of B.Tech 4th Sem are hereby informed that the department is going to arrange remedial classes for students who has scored less than 40 marks in aggregate from class test and MSE. Classes schedule is given below.

| Sr.No | Day | Time | Subject |
|---|---|---|---|
| 1 | 30/03/2020 | 4pm to 5 pm | Electrical Machine-I |
| 2 | 31/03/2020 | 4pm to 5 pm | Power System-I |
| 3 | 01/04/2020 | 4pm to 5 pm | Electrical Installation and Estimation |
| 4 | 02/04/2020 | 4pm to 5 pm | Numerical Methods and Programming |
| 5 | 03/04/2020 | 4pm to 5 pm | Analog and Digital electronics |

Time Table Incharge Academic Incharge HOD

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**
**(An Autonomous Institute, with NAAC "A" Grade)**
Department Of Electrical Engineering
*"Igniting minds to illuminate the world"*
**2019-2020 (Even Sem)**

**Date- 25/06/2021**

# Remedial Classes Notice

All the students of B.Tech 6th Sem are hereby informed that the department is going to arrange remedial classes for students who has scored less than 40 marks in aggregate from class test and MSE. Classes schedule is given below.

| Sr.No | Day | Time | Subject |
|---|---|---|---|
| 1 | 26/06/2021 | 4pm to 5 pm | Control System |
| 2 | 28/06/2021 | 4pm to 5 pm | Principles of Electrical Machine Design |
| 3 | 29/06/2021 | 4pm to 5 pm | Power Electronics |
| 4 | 30/06/2021 | 4pm to 5 pm | Elective-VI |

Time Table Incharge Academic Incharge HOD

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
**An Autonomous Institute, with NAAC "A" Grade**
**Department of Electronics Engineering**
***"Rectifying Ideas, Amplifying Knowledge"***
**2019-20 (Odd Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 1. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>2. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICE w.e.f:01/10/19

All the students of B.Tech 3rd Semester ( Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 01/10/19 to 11/10/19 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Tuesday | 4.00 Pm to 5.00 Pm | AC |
| 2 | Thursday | 4.00 Pm to 5.00 Pm | DLD |
| 3 | Friday | 4.00 Pm to 5.00 Pm | NA |
| 4 | Monday | 4.00 Pm to 5.00 Pm | EDC |
| 5 | Wednesday | 4.00 Pm to 5.00 Pm | M3 |
| 6 | Thursday | 4.00 Pm to 5.00 Pm | M3 |
| 7 | Friday | 4.00 Pm to 5.00 Pm | NA |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Electronics Engineering
*"Rectifying Ideas, Amplifying Knowledge"*
**2019-20 (Odd Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 3. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>4. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICE w.e.f:01/10/19

All the students of B.Tech 5th Semester ( Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 01/10/19 to 12/10/19 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Tuesday | 4.00 Pm to 5.00 Pm | DSP |
| 2 | Thursday | 4.00 Pm to 5.00 Pm | DSP |
| 3 | Friday | 4.00 Pm to 5.00 Pm | CSE |
| 4 | Monday | 4.00 Pm to 5.00 Pm | EMF |
| 5 | Wednesday | 4.00 Pm to 5.00 Pm | CA |
| 6 | Thursday | 4.00 Pm to 5.00 Pm | EMF |
| 7 | Friday | 4.00 Pm to 5.00 Pm | CSE |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Electronics Engineering
*"Rectifying Ideas, Amplifying Knowledge"*
**2019-20 (Odd Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 5. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>6. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICE w.e.f:01/11/19

All the students of B.Tech 7th Semester (Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 01/10/19 to 12/10/19 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Tuesday | 4.00 Pm to 4.30 Pm | OC |
| 2 | Thursday | 4.00 Pm to 4.30 Pm | DSPA |
| 3 | Friday | 4.00 Pm to 4.30 Pm | ADSD |
| 4 | Monday | 4.00 Pm to 4.30 Pm | TVE |
| 5 | Wednesday | 4.00 Pm to 4.30 Pm | DSPA |
| 6 | Thursday | 4.00 Pm to 4.30 Pm | ADSP |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Electronics Engineering
*"Rectifying Ideas, Amplifying Knowledge"*
**2019-20 (Even Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 1. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>2. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICE

**w.e.f:30/03/20**

All the students of B.Tech 4th Semester (Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 30/03/20 to 07/04/20 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 4.00 Pm to 5.00 Pm | SS |
| 2 | Tuesday | 4.00 Pm to 5.00 Pm | ACE |
| 3 | Wednesday | 4.00 Pm to 5.00 Pm | MP |
| 4 | Friday | 4.00 Pm to 5.00 Pm | NMCP |
| 5 | Saturday | 4.00 Pm to 5.00 Pm | EMI |
| 6 | Tuesday | 4.00 Pm to 5.00 Pm | NMCP |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Electronics Engineering
*"Rectifying Ideas, Amplifying Knowledge"*
**2019-20 (Even Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 3. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>4. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICEw.e.f:30/03/20

All the students of B.Tech 6th Semester ( Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 30/03/20 to 07/04/20 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 4.00 Pm to 4.30 Pm | PP |
| 2 | Tuesday | 4.00 Pm to 4.30 Pm | AWP |
| 3 | Wednesday | 4.00 Pm to 4.30 Pm | DIP |
| 4 | Friday | 4.00 Pm to 4.30 Pm | E&SD |
| 5 | Saturday | 4.00 Pm to 4.30 Pm | CNCC |
| 6 | Tuesday | 4.00 Pm to 4.30 Pm | CNCC |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering & Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Electronics Engineering
*"Rectifying Ideas, Amplifying Knowledge"*
**2019-20 (Even Sem)**

| VISION | MISSION |
|---|---|
| "To be a Department providing high quality & globally competent knowledge of concurrent technologies in the field of Electronics and Telecommunication." | 5. To provide quality teaching learning process through well-developed educational environment and dedicated faculties.<br>6. To produce competent technocrats of high standards satisfying the needs of all stakeholders. |

## REMEDIAL CLASSES NOTICEw.e.f:30/03/20

All the students of B.Tech 8th Semester ( Electronics & Telecommunication Engineering) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the class test and MSE. Classes will commence from 30/03/20 to 07/04/20 as per the following schedule.

| S.N | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 4.00 Pm to 5.00 Pm | MEMS |
| 2 | Tuesday | 4.00 Pm to 5.00 Pm | MRE |
| 3 | Wednesday | 4.00 Pm to 5.00 Pm | SATCOM |
| 4 | Friday | 4.00 Pm to 5.00 Pm | CMOS |
| 5 | Saturday | 4.00 Pm to 5.00 Pm | DCS |
| 6 | Tuesday | 4.00 Pm to 5.00 Pm | MEMS |

**Prof. Firoz Akhtar**
**Time-Table Incharge**

**Prof. A.K.Ikhar**
**Academic Incharge**

**Dr. P. R. Kshirsagar**
**HOD, ETC**

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

**JAIDEV EDUCATION SOCIETY'S**

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**An Autonomous Institute, with NAAC "A" Grade**

**Department of Information Technology**

***"A Place to Learn, A Chance to Grow"***

**Session 2019-20 (ODD SEM)**

॥ज्ञानम् सर्वार्थ साधनम्॥

# REMEDIAL CLASSES NOTICE

**Date: 28/11/2019**

All the students of B. Tech III Semester (Information Technology) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and MSE.

Classes will commence from 01/11/2019 to 10/11/2019 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | M-III |
| Tuesday | 4.00 Pm to 5.00 Pm | ST & LD |
| Wednesday | 4.00 Pm to 5.00 Pm | OOPS |
| Thursday | 4.00 Pm to 5.00 Pm | CAO |
| Friday | 4.00 Pm to 5.00 Pm | M-III |
| Saturday | 4.00 Pm to 5.00 Pm | OOPS |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. K. B. Kokate
Academic In-charge

HOD IT
H.O.D.
Department of CSE-IT
JDCOEM, Nagpur

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
An Autonomous Institute, with NAAC "A" Grade
Department of Information Technology
*"A Place to Learn, A Chance to Grow"*
**Session 2019-20 (ODD SEM)**

# REMEDIAL CLASSES NOTICE

**Date: 28/11/2019**

All the students of B. Tech V Semester (Information Technology) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and MSE.

Classes will commence from 01/11/2019 to 10/11/2019 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | DBMS |
| Tuesday | 4.00 Pm to 5.00 Pm | DAA |
| Wednesday | 4.00 Pm to 5.00 Pm | SE |
| Thursday | 4.00 Pm to 5.00 Pm | Elective-1 |
| Friday | 4.00 Pm to 5.00 Pm | DBMS |
| Saturday | 4.00 Pm to 5.00 Pm | DAA |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. R. B. Kokate
Academic In-charge

HOD IT
H.O.D.
Department of CSE-IT
JDCOEM, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
An Autonomous Institute, with NAAC "A" Grade
Department of Information Technology
*"A Place to Learn, A Chance to Grow"*
**Session 2019-20 (EVEN SEM)**

# REMEDIAL CLASSES NOTICE

**Date: 14/05/2020**

All the students of B. Tech IV Semester (Information Technology) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and Sessional.

Classes will commence from 18/05/2020 to 30/05/2020 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | MICROPROCESSOR & MICROCONTROLLERS |
| Tuesday | 4.00 Pm to 5.00 Pm | DATA STRUCTURES & APPLICATIONS |
| Wednesday | 4.00 Pm to 5.00 Pm | DISCRETE STRUCTURES & APPLICATIONS |
| Thursday | 4.00 Pm to 5.00 Pm | ELECTIVE 2 |
| Friday | 4.00 Pm to 5.00 Pm | MICROPROCESSOR & MICROCONTROLLERS |
| Saturday | 4.00 Pm to 5.00 Pm | DATA STRUCTURES & APPLICATIONS |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. A. B. Kokate
Academic In-charge

HOD IT
H.O.D.
Department of CSE-IT
JDCOEM, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**An Autonomous Institute, with NAAC "A" Grade**

**Department of Information Technology**

***"A Place to Learn, A Chance to Grow"***

**Session 2019-20 (EVEN SEM)**

# REMEDIAL CLASSES NOTICE

**Date: 14/05/2020**

All the students of B. Tech VI Semester (Information Technology) are hereby informed that the department is going to arrange remedial classes for students who have scored less than 40 Marks in aggregate from the Class test and Sessional.

Classes will commence from 18/05/2020 to 30/05/2020 as per the following schedule.

| Day/Time | Time | Subject Name |
|---|---|---|
| Monday | 4.00 Pm to 5.00 Pm | OS |
| Tuesday | 4.00 Pm to 5.00 Pm | CC |
| Wednesday | 4.00 Pm to 5.00 Pm | OOPS & WE |
| Thursday | 4.00 Pm to 5.00 Pm | Elective 2 |
| Friday | 4.00 Pm to 5.00 Pm | Stream Elective 1 |
| Saturday | 4.00 Pm to 5.00 Pm | OS |

Prof. A. P. Nanotkar
Timetable In-charge

Prof. R. B. Kokate
Academic In-charge

HOD IT
H.O.D.
Department of CSE-IT
JDCOEM, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU
2019-20(ODD SEM)

**w.e.f: 09/11/2019**

## REMEDIAL CLASSES NOTICE

All The students of B. TECH 3rd semester (Mechanical Engineering) are hereby informed that the Department is going to arrange remedial classes for students who have scored less than 40 marks in aggregate from the class test and MSE. Classes will commence form 09/11/2019 to 16/11/2019 as per the following schedule.

| Sr. No | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 04:00 pm to 05:00 pm | M-III |
| 2 | Tuesday | 04:00 pm to 05:00 pm | TOM-I |
| 3 | Wednesday | 04:00 pm to 05:00 pm | FM |
| 4 | Friday | 04:00 pm to 05:00 pm | M-III |
| 5 | Saturday | 04:00 pm to 05:00 pm | TOM-I |
| 6 | Monday | 04:00 pm to 05:00 pm | ET |

**Time Table In-charge**
**DOME, JDCOEM**

**Academic In-Charge**
**DOME, JDCOEM**

Head of Department
Mechanical Engineering

**HOD**
**DOME, JDCOEM**

Department of Mech. Engg.
JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU
2019-20(ODD SEM)

**w.e.f: 09/11/2019**

## REMEDIAL CLASSES NOTICE

All The students of B. TECH 5th semester (Mechanical Engineering) are hereby informed that the Department is going to arrange remedial classes for students who have scored less than 40 marks in aggregate from the class test and MSE. Classes will commence form 09/11/2019 to 16/11/2019 as per the following schedule.

| Sr. No | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 04:00 pm to 05:00 pm | HT |
| 2 | Tuesday | 04:00 pm to 05:00 pm | TOM II |
| 3 | Wednesday | 04:00 pm to 05:00 pm | AT |
| 4 | Friday | 04:00 pm to 05:00 pm | HT |
| 5 | Saturday | 04:00 pm to 05:00 pm | TOM II |
| 6 | Monday | 04:00 pm to 05:00 pm | AT |

**Time Table In-charge**
**DOME, JDCOEM**

**Academic In-Charge**
**DOME, JDCOEM**

Head of Department
Mechanical Engineering

**HOD**
**DOME, JDCOEM**

Department of Mech. Engg.
JDCOEM

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU
2019-20(EVEN SEM)

**w.e.f: 30/03/2020**

## REMEDIAL CLASSES NOTICE

All The students of B. TECH 4th semester (Mechanical Engineering) are hereby informed that the Department is going to arrange remedial classes for students who have scored less than 40 marks in aggregate from the class test and MSE. Classes will commence form 30/03/2020 to 06/04/2020 as per the following schedule.

| Sr. No | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 04:00 pm to 05:00 pm | SOM |
| 2 | Tuesday | 04:00 pm to 05:00 pm | FM |
| 3 | Wednesday | 04:00 pm to 05:00 pm | ME-II |
| 4 | Friday | 04:00 pm to 05:00 pm | SOM |
| 5 | Saturday | 04:00 pm to 05:00 pm | FM |
| 6 | Monday | 04:00 pm to 05:00 pm | ME-II |

**Time Table In-charge**
**DOME, JDCOEM**

**Academic In-Charge**
**DOME, JDCOEM**

Head of Department
Mechanical Engineering

**HOD**
**DOME, JDCOEM**

Department of Mech. Engg.
JDCOEM

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU
2019-20(EVEN SEM)

**w.e.f: 30/03/2020**

## REMEDIAL CLASSES NOTICE

All The students of B. TECH 6th semester (Mechanical Engineering) are hereby informed that the Department is going to arrange remedial classes for students who have scored less than 40 marks in aggregate from the class test and MSE. Classes will commence form 30/03/2020 to 06/04/2020 as per the following schedule.

| Sr. No | Day | Time | Subject |
|---|---|---|---|
| 1 | Monday | 04:00 pm to 05:00 pm | DOM |
| 2 | Tuesday | 04:00 pm to 05:00 pm | OR |
| 3 | Wednesday | 04:00 pm to 05:00 pm | AT |
| 4 | Friday | 04:00 pm to 05:00 pm | DOM |
| 5 | Saturday | 04:00 pm to 05:00 pm | OR |
| 6 | Monday | 04:00 pm to 05:00 pm | AT |

**Time Table In-charge**
**DOME, JDCOEM**

**Academic In-Charge**
**DOME, JDCOEM**

Head of Department
Mechanical Engineering

**HOD**
**DOME, JDCOEM**

Department of Mech. Engg.
JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# NOTICE

## REMEDIAL CLASSES

## ACADEMIC YEAR 2019-20

The students of **Semester-I** of the Department of Management are hereby informed to attend the remedial classes as per the below Time Table. The list of students who have to attend the remedial classes is attached herewith. Kindly refer the same.

| Sr. No. | Date | Day | Name of Course | Timing |
|---|---|---|---|---|
| 1 | 26/12/2019 | Thursday | Financial Reporting, Statements and Analysis | 09:30 am- 10:30 am |
| 2 | 26/12/2019 | Thursday | Financial Reporting, Statements and Analysis | 10:30 am- 11:30 am |
| 3 | 26/12/2019 | Thursday | Managerial Economics | 11:30 am- 12:20 pm |
| 4 | 26/12/2019 | Thursday | Managerial Economics | 01:00 pm- 02:00 pm |
| 5 | 27/12/2019 | Friday | Business Statistics and Analytics for Decision Making | 09:30 am- 10:30 am |
| 6 | 27/12/2019 | Friday | Business Statistics and Analytics for Decision Making | 10:30 am- 11:30 am |
| 7 | 27/12/2019 | Friday | Business Research | 11:30 am- 12:20 pm |
| 8 | 27/12/2019 | Friday | Legal and Business Environment | 01:00 pm- 02:00 pm |

Time Table Incharge

Academic Coordinator

HOD- MBA

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# CIRCULAR

## REMEDIAL CLASSES

## ACADEMIC YEAR 2019-20

All the faculty members of the Department of Management Studies are hereby requested to engage the remedial classes as per the below Time Table. The Attendance record of the remedial classes must be maintained by respective course in charge.

| Sr. No. | Date | Day | Name of Course | Timing |
|---|---|---|---|---|
| 1 | 26/12/2019 | Thursday | Financial Reporting, Statements and Analysis | 09:30 am- 10:30 am |
| 2 | 26/12/2019 | Thursday | Financial Reporting, Statements and Analysis | 10:30 am- 11:30 am |
| 3 | 26/12/2019 | Thursday | Managerial Economics | 11:30 am- 12:20 pm |
| 4 | 26/12/2019 | Thursday | Managerial Economics | 01:00 pm- 02:00 pm |
| 5 | 27/12/2019 | Friday | Business Statistics and Analytics for Decision Making | 09:30 am- 10:30 am |
| 6 | 27/12/2019 | Friday | Business Statistics and Analytics for Decision Making | 10:30 am- 11:30 am |
| 7 | 27/12/2019 | Friday | Business Research | 11:30 am- 12:20 pm |
| 8 | 27/12/2019 | Friday | Legal and Business Environment | 01:00 pm- 02:00 pm |

Time Table Incharge

Academic Coordinator

HOD- MBA

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# NOTICE

## REMEDIAL CLASSES

## ACADEMIC YEAR 2019-2020

The students of **Semester-II** of the Department of Management are hereby informed to attend the remedial classes as per the below Time Table. The list of students who have to attend the remedial classes is attached herewith. Kindly refer the same.

| Sr. No. | Date | Day | Name of Course | Timing |
|---|---|---|---|---|
| 1 | 16/07/2020 | Thursday | Financial Management | 09:30 am- 10:30 am |
| 2 | 16/07/2020 | Thursday | Financial Management | 10:30 am- 11:30 am |
| 3 | 16/07/2020 | Thursday | Human Resource Management | 11:30 am- 12:20 pm |
| 4 | 16/07/2020 | Thursday | Operations Management | 01:00 pm- 02:00 pm |
| 5 | 17/07/2020 | Friday | Strategic Management | 09:30 am- 10:30 am |
| 6 | 17/07/2020 | Friday | Marketing Management | 10:30 am- 11:30 am |
| 7 | 17/07/2020 | Friday | Cost Accounting | 11:30 am- 12:20 pm |
| 8 | 17/07/2020 | Friday | Cost Accounting | 01:00 pm- 02:00 pm |

Time Table Incharge

Academic Coordinator

HOD- MBA

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU

Education to Eternity

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# CIRCULAR

## REMEDIAL CLASSES

## ACADEMIC YEAR 2019-20

All the faculty members of the Department of Management Studies are hereby requested to engage the remedial classes as per the below Time Table. The Attendance record of the remedial classes must be maintained by respective course in charge.

| Sr. No. | Date | Day | Name of Course | Timing |
|---|---|---|---|---|
| 1 | 16/07/2020 | Thursday | Financial Management | 09:30 am- 10:30 am |
| 2 | 16/07/2020 | Thursday | Financial Management | 10:30 am- 11:30 am |
| 3 | 16/07/2020 | Thursday | Human Resource Management | 11:30 am- 12:20 pm |
| 4 | 16/07/2020 | Thursday | Operations Management | 01:00 pm- 02:00 pm |
| 5 | 17/07/2020 | Friday | Strategic Management | 09:30 am- 10:30 am |
| 6 | 17/07/2020 | Friday | Marketing Management | 10:30 am- 11:30 am |
| 7 | 17/07/2020 | Friday | Cost Accounting | 11:30 am- 12:20 pm |
| 8 | 17/07/2020 | Friday | Cost Accounting | 01:00 pm- 02:00 pm |

Time Table Incharge

Academic Coordinator

HOD- MBA

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| "To be the Department providing strong human quotient thereby making our students top class professionals and entrepreneurs." | 13. To provide the world class training for the students through continuous training modules.<br>14. To improve industry institute relationship.<br>15. To enhance students interest towards entrepreneurship and business strategies. |

## Super 40 Students (2019-20)

Training and Placement department in association with all departments of our college will form super-40 students groups.

The criteria for selection of Super-40 groups students are as follow:

| Sr. No | Selection Process |
|---|---|
| 1 | 60% Aggregate throughout SSC onward. |
| 2 | Aptitude Test |
| 3 | Group Discussion |
| 4 | Technical Interview |
| 5 | Personal Interview |
| 6 | Overall Performance in the department as suggested by HOD and senior faculty |

On the basis of above criteria, we will form Super-40 group at college level

| Sr.no. | Name of the student | Department | Phone no |
|---|---|---|---|
| 1 | Vaishnavi V.Bhoyar | CSE | 8698965682 |
| 2 | Rushali S. Badhane | CSE | 9637729430 |
| 3 | Swati D. Baghele | CSE | 7219235608 |
| 4 | Samrudhi N. Titarmare | CSE | 7219572281 |
| 5 | Shraddha Tirpude | CSE | 8857896540 |
| 6 | Diksha R. Bhagat | CSE | 9511706436 |
| 7 | Sharvari P. Urane | CSE | 7028442801 |
| 8 | Tanvi R. Bopche | CSE | 9130828193 |
| 9 | Vaishnavi Parteki | CSE | 8669471066 |
| 10 | Sonali Kaleshwar | CSE | 8390465063 |
| 11 | Prerna Meshram | CSE | 7558617467 |
| 12 | Anant Sinha | CSE | 7705067880 |
| 13 | Vishal Dixit | CSE | 8805914066 |
| 14 | Vinay Mishra | CSE | 8459659761 |
| 15 | Sandip M.Shinde | CSE | 9673090465 |
| 16 | Nilesh R. Shivankar | CSE | 9909844973 |
| 17 | Lakhan Mangtani | CSE | 8421813153 |
| 18 | Ankit Chopkar | CSE | 9730513009 |
| 19 | Aakash Chouhan | CSE | 9096596550 |
| 20 | Nitin Dighore | CSE | 8087105087 |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
An Autonomous Institute, with NAAC "A" Grade
Department of Training and Placement
2019-20

| VISION | MISSION |
|---|---|
| "To be the Department providing strong human quotient thereby making our students top class professionals and entrepreneurs." | 13. To provide the world class training for the students through continuous training modules.<br>14. To improve industry institute relationship.<br>15. To enhance students interest towards entrepreneurship and business strategies. |

| | | | |
|---|---|---|---|
| 21 | Easter Jaiswal | IT | 8830551636 |
| 22 | Rashami Pandey | IT | 9673187668 |
| 23 | Ayashlu Mesharam | IT | 8390758793 |
| 24 | Birpal Singh Kapoor | IT | 7038274970 |
| 25 | Krushna V. Tayde | EE | 9623587576 |
| 26 | Rupali D. Sonane | EE | 9503255923 |
| 27 | Stuti S. Patil | EE | 7218896117 |
| 28 | Shrutika Giramkar | ETC | 7721882708 |
| 29 | Yamini R. Potbhare | ETC | 9130365572 |
| 30 | Bhushan Pawar | ETC | 8446049838 |
| 31 | Shubham Lenghe | Civil | 7709492395 |
| 32 | Mansi Bawaria | Civil | 9284661016 |
| 33 | Akash Gondane | MECH | 9657373051 |
| 34 | Mohd Asif Mansari | MECH | 9021767424 |
| 35 | Mohd Asif Ansari | MECH | 7757807975 |
| 36 | Kartik S. Devasani | MECH | 8698103963 |
| 37 | Manish Yadav | MECH | 8329054755 |
| 38 | Utkarsh Rangakar | MECH | 8180900105 |
| 39 | Sourabh Jadhav | MECH | 9834156298 |

Training and Placement Department
J D College of Engineering & Management
Khandala, Katol Road
Nagpur 441501
Training & Placement Officer

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *

JAIDEV EDUCATION SOCIETY'S
JD COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
Affiliated to DBATU & RTMNU
Department of Civil Engineering
"Building Better Development"
Session 2019-20

| VISION | MISSION |
|---|---|
| To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering | • Provide quality education and excellent learning Environment for overall development of students.<br>• Making Sustainable efforts for integrating academics with Industry. |

# CE Student NPTEL Certificate- 2019-20


**CE- 2019-20**

**HOD, (CE)**

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
JD COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
Affiliated to DBATU & RTMNU
Department of Civil Engineering
"Building Better Development"
Session 2019-20

| VISION | MISSION |
|---|---|
| To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering | • Provide quality education and excellent learning Environment for overall development of students.<br>• Making Sustainable efforts for integrating academics with Industry. |

# CE Student NPTEL Certificate- 2019-20


**CE- 2019-20**

**HOD, (CE)**

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

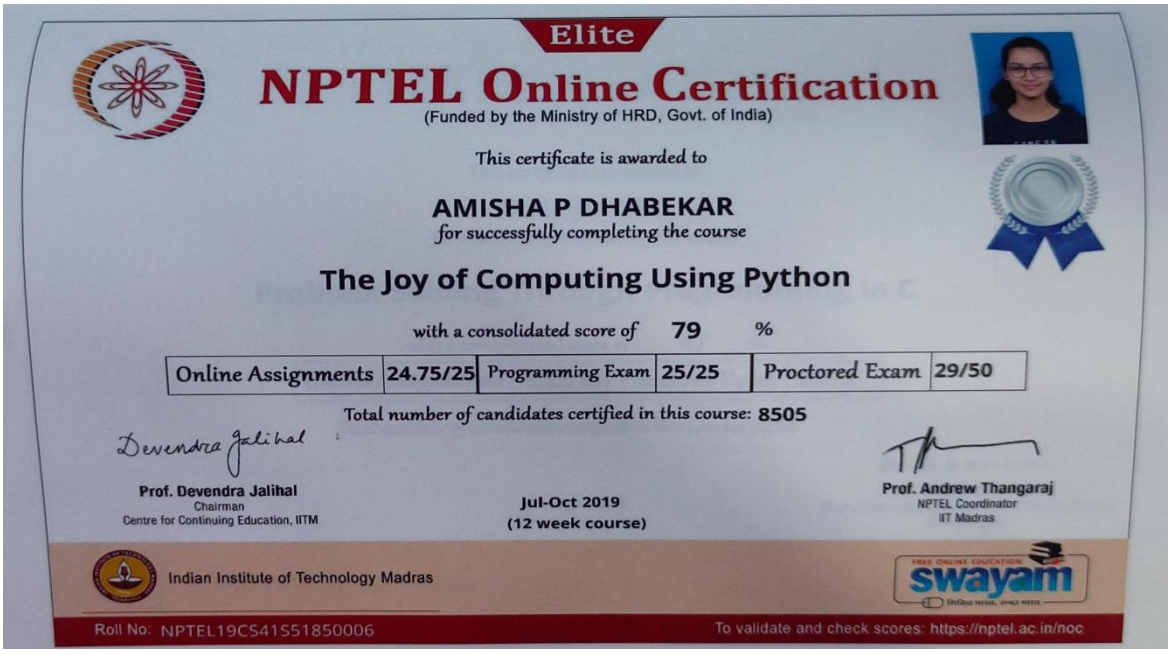
KATOL ROAD, NAGPUR

**Department of Computer Science & Engineering**

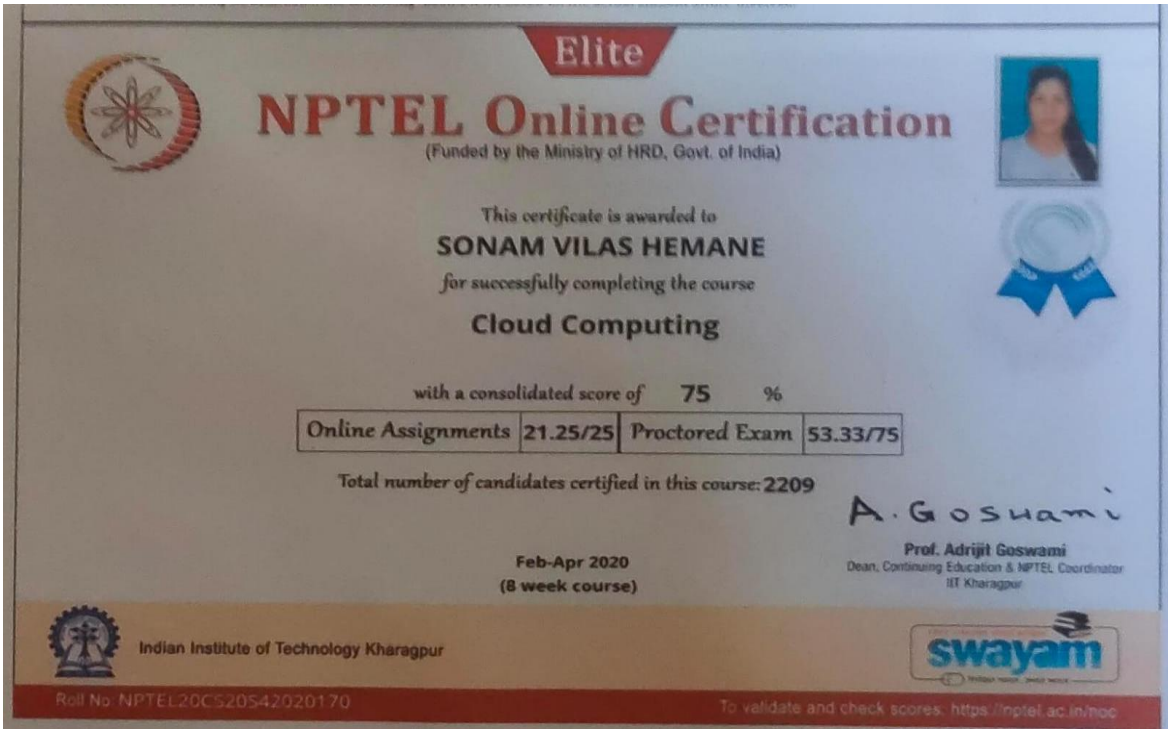
*"A Place to Learn, A Chance to Grow"*

**Session 2019-20**

## CSE Student NPTEL Certificate 2019-20




2019-20 CSE NPTEL Certificate




2019-20 CSE NPTEL Certificate

Prof. Madhuri Pal
HOD, CSE

HOD
Computer Science & Engineering
JDCOEM, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

**JAIDEV EDUCATION SOCIETY'S**

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**

**(An Autonomous Institute, with NAAC "A" Grade)**

**Department Of Electrical Engineering**

***"Igniting minds to illuminate the world"***

**2019-20**

# EE Student NPTEL Certificate 2019-20


NPTEL Certificate 2019-20 EE Department

H.O.D

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT**

**KATOL ROAD, NAGPUR**

**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**

**(An Autonomous Institute, with NAAC "A" Grade)**

**Department Of Electrical Engineering**

***"Igniting minds to illuminate the world"***

**2019-20**

# EE Student NPTEL Certificate 2019-20


NPTEL Certificate 2019-20 EE Department

H.O.D

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

KATOL ROAD, NAGPUR

Department of Electronics and Telecommunication Engineering

An Autonomous Institute, with NAAC "A" Grade

Affiliated to DBATU & RTMNU

*"Rectifying Ideas, Amplifying Knowledge"*

2019-20

## ETC Student NPTEL Certificate 2019-20

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

HARSHAL KESHAV MESHRAM

for successfully completing the course

Data Base Management System

with a consolidated score of 52 %

| Online Assignments | 21.88/25 | Proctored Exam | 30/75 |
|---|---|---|---|

Total number of candidates certified in this course: 3475

A. Goswami

Prof. Adrijit Goswami
Dean, Continuing Education & NPTEL Coordinator
IIT Kharagpur

Jul-Sep 2019
(8 week course)

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL19CS46S21720214

To validate and check scores: https://nptel.ac.in/noc

2019 ETC NPTEL Certificate

NPTEL Online Certification

(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to

PRANALI YADAV PAUNIKAR

for successfully completing the course

Data Base Management System

with a consolidated score of 46 %

| Online Assignments | 10.00/25 | Proctored Exam | 36/75 |
|---|---|---|---|

Total number of candidates certified in this course: 3475

A. Goswami

Prof. Adrijit Goswami
Dean, Continuing Education & NPTEL Coordinator
IIT Kharagpur

Jul-Sep 2019
(8 week course)

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL19CS46S21720168

To validate and check scores: https://nptel.ac.in/noc

2019 ETC NPTEL Certificate

HOD, Dept. of EN/ETC
JD College of Engineering
& Management, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

# IT Student NPTEL Certificate 2019-20

*Annexure-III*

**NPTEL Elite Certificate**

Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
KSHITIJ CHOUBEY
for successfully completing the course

Cloud Computing

with a consolidated score of 64 %

| Online Assignments | 22.29/25 | Proctored Exam | 41.66/75 |
|---|---|---|---|

Total number of candidates certified in this course: 2209

Sep-Nov 2020
(8 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

To validate and check scores: https://nptel.ac.in/noc

Elite

NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

This certificate is awarded to
VIPUL GAJBHIYE
for successfully completing the course

Cloud Computing

with a consolidated score of 60 %

| Online Assignments | 22.50/25 | Proctored Exam | 37.25/75 |
|---|---|---|---|

Total number of candidates certified in this course: 2209

Prof. G P Raja Sekhar
Dean, Continuing Education
IIT Kharagpur

Sep-Nov 2020
(8 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL20CS65542020192

To validate and check scores: https://nptel.ac.in/noc

37

*Figure 1NPTEL CERTIFICATE_IT_2019-20*

HOD IT

H.O.D.
Department of CSE-IT
JDCOEM, Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

KATOL ROAD, NAGPUR

Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in

**(An Autonomous Institute, with NAAC "A" Grade)**

**Department of Mechanical Engineering**

**Session: 2019-20**

Education to Eternity

।।ज्ञानम् सर्वार्थ साधनम्।।

## ME Student NPTEL Certificate 2019-20


NPTEL STUDENT CERTIFICATE 2019-20


NPTEL STUDENT CERTIFICATE 2019-20

Department of Mech. Engg. JDCOEM

Bhushan R.Mahajan
Head of Department,
DOME
JDCOEM, Nagpur

Mechanical Engineering
J D College of Engineering & Management
Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# MBA Student NPTEL Certificate 2019-20

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://nptel.ac.in/noc/

Roll No: NPTEL19MG34S21720489

To
GOPAL HARI RATHOD
AT YARAMAL PO BHANSARA TQ ARNI DI
YAVATMAL
YARAMAL
YAVATMAL
MAHARASHTRA
445103
PH. NO :9767052251

| Score | Type of Certificate |
|---|---|
| >=90 | Elite+Gold |
| 75-89 | Elite+Silver |
| >=60 | Elite |
| 40-59 | Successfully Completed |
| <40 | No Certificate |

**No. of credits recommended by NPTEL:1**
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

## NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

*This certificate is awarded to*

**GOPAL HARI RATHOD**

*for successfully completing the course*

**Leadership**

*with a consolidated score of* 49 %

| Online Assignments | 14.17/25 | Proctored Exam | 34.5/75 |
|---|---|---|---|

*Total number of candidates certified in this course:* 2330

A. Goswami

**Prof. Adrijit Goswami**
Dean, Continuing Education & NPTEL Coordinator
IIT Kharagpur

**Jul-Aug 2019**
**(4 week course)**

Indian Institute of Technology Kharagpur

Roll No: NPTEL19MG34S21720489 To validate and check scores: https://nptel.ac.in/noc

1. **MBA: 2019-20**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

This certificate is computer generated and can be verified by scanning the QR code given below. This will display the certificate from the NPTEL repository, https://nptel.ac.in/noc/

Roll No: NPTEL19MG34S21720493

To
SURYAKANT ANKULU DURGE
MAHAGAON
AHERI
GADCHIROLI
MAHARASHTRA
442705
PH. NO :8788011827

| Score | Type of Certificate |
|---|---|
| >=90 | Elite+Gold |
| 75-89 | Elite+Silver |
| >=60 | Elite |
| 40-59 | Successfully Completed |
| <40 | No Certificate |

**No. of credits recommended by NPTEL:1**
An additional 1 credit may be awarded if the University deems it fit, based on the actual student effort involved.

# NPTEL Online Certification
(Funded by the Ministry of HRD, Govt. of India)

*This certificate is awarded to*

**SURYAKANT ANKULU DURGE**

*for successfully completing the course*

**Leadership**

*with a consolidated score of* **51** %

| Online Assignments | 19.58/25 | Proctored Exam | 31.5/75 |
|---|---|---|---|

*Total number of candidates certified in this course:* **2330**

A. Goswami

**Prof. Adrijit Goswami**
Dean, Continuing Education & NPTEL Coordinator
IIT Kharagpur

**Jul-Aug 2019**
**(4 week course)**

Indian Institute of Technology Kharagpur

FREE ONLINE EDUCATION swayam

Roll No: NPTEL19MG34S21720493 To validate and check scores: https://nptel.ac.in/noc

## 2. MBA: 2019-20

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**HOD- MBA**

Dept. of Management Studies (MBA)
J.D. College of Engineering & Management
Nagpur

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

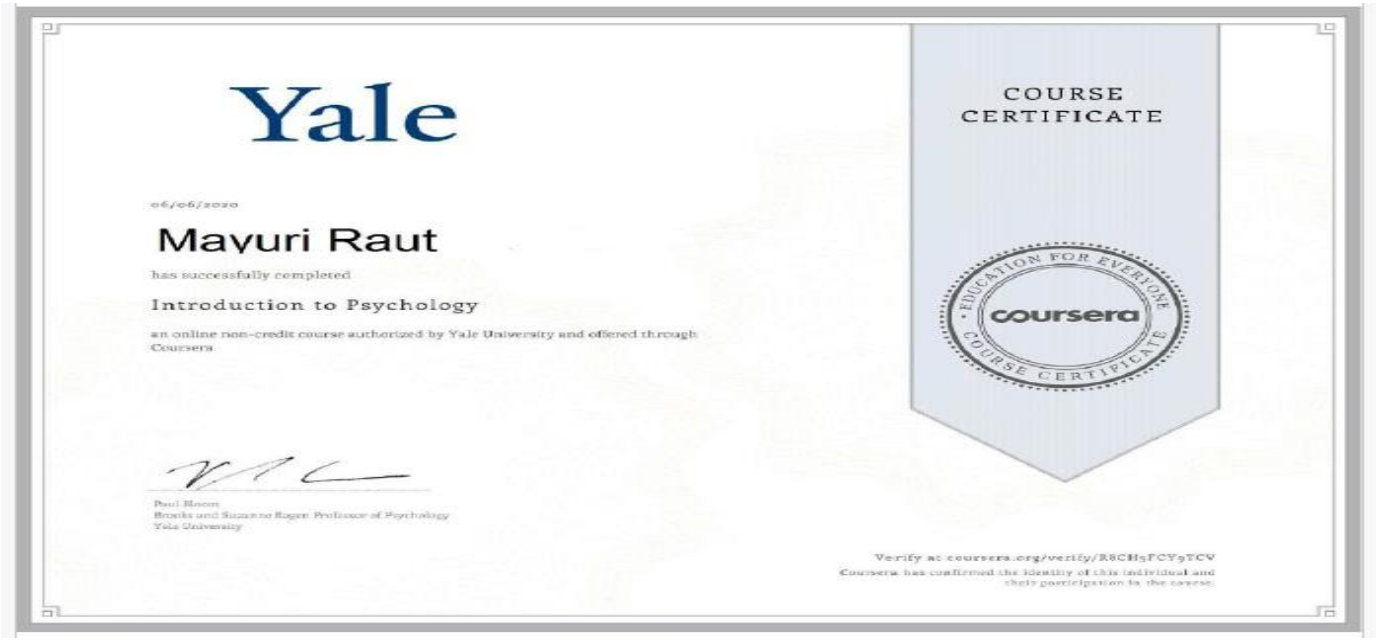
KATOL ROAD, NAGPUR

**Department of Computer Science & Engineering**

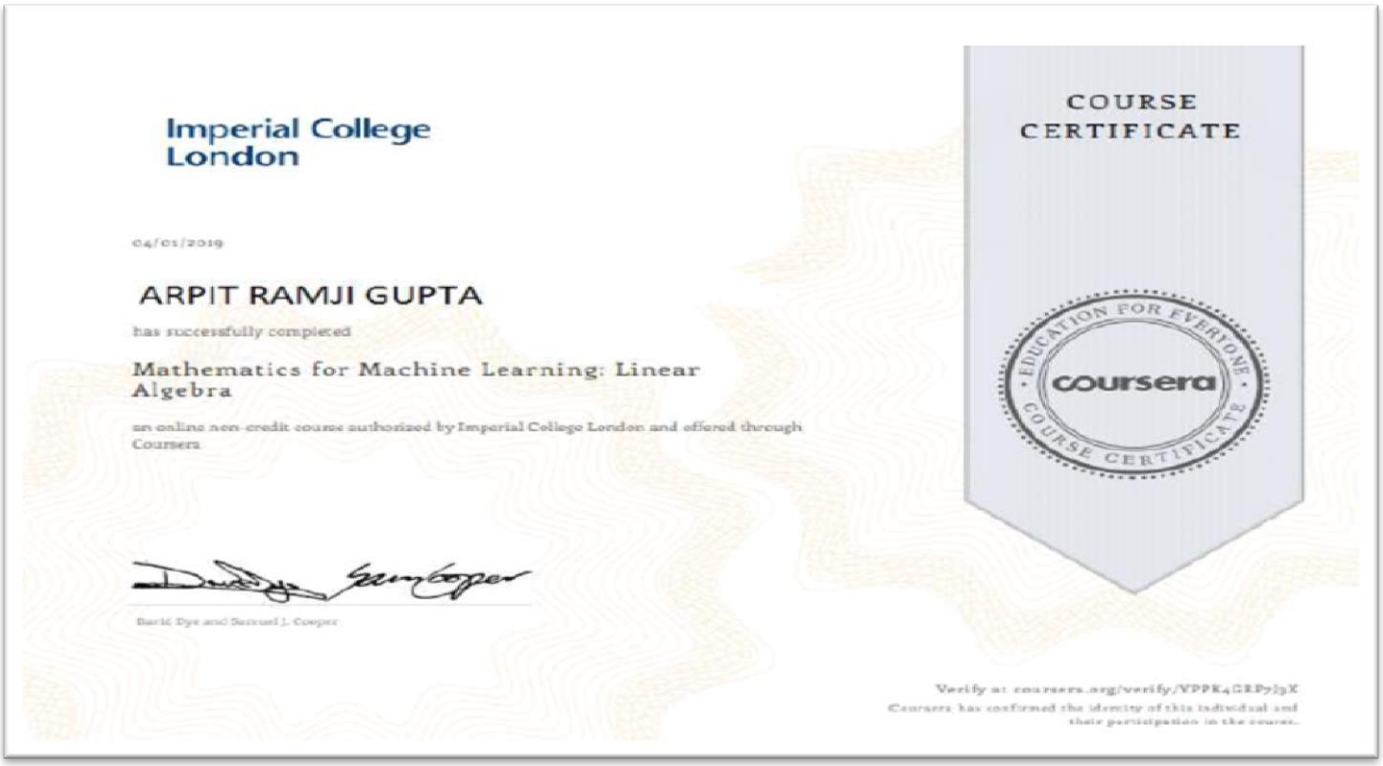
*"A Place to Learn, A Chance to Grow"*

**Session 2019-20**

## CSE Student Coursera Certificate 2019-20




2019-20 CSE Coursera Certificate




2019-20 CSE Coursera Certificate

**Prof. Madhuri Pal**
**HOD, CSE**

HOD
Computer Science & Engineering
JDCOEM, Nagpur

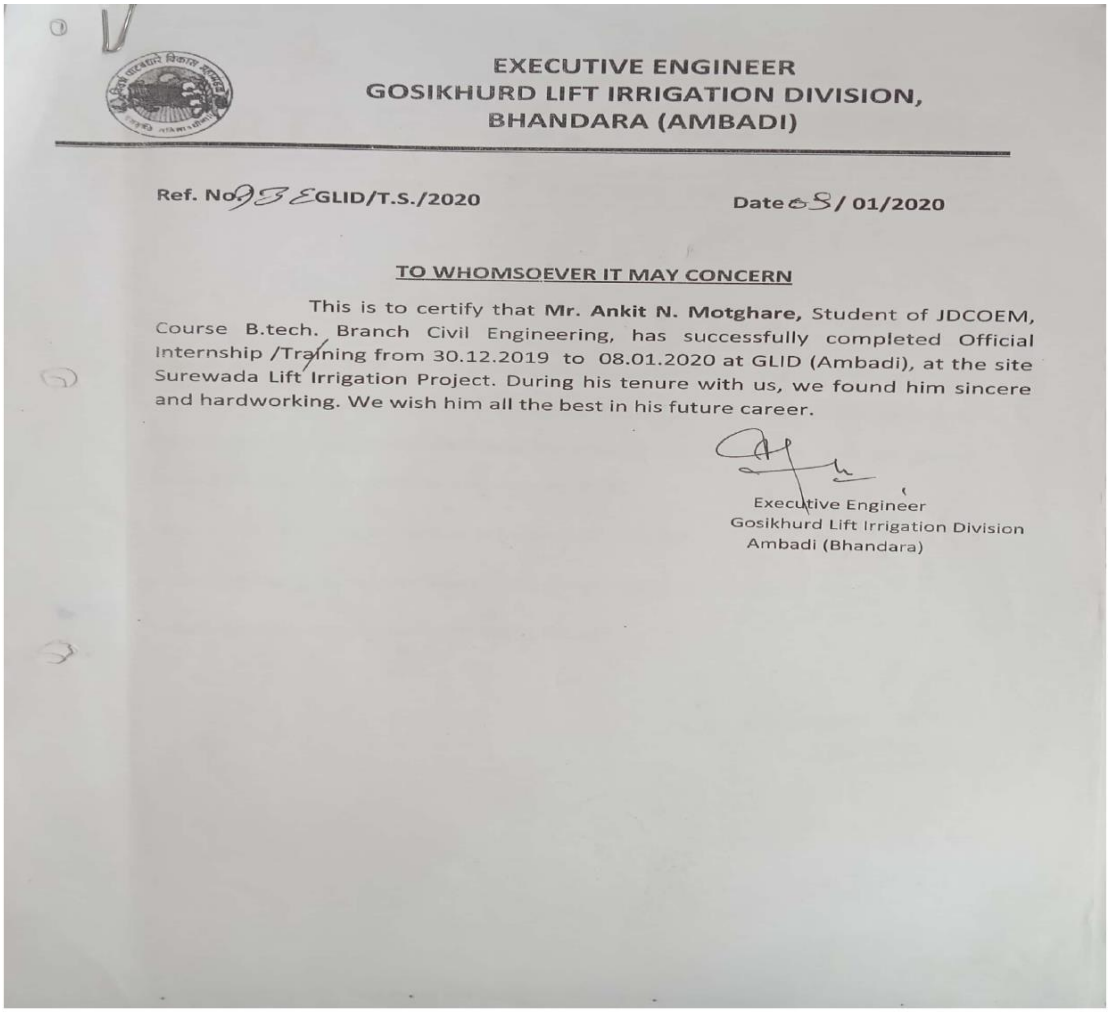
**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**JAIDEV EDUCATION SOCIETY'S**
**JD COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**
**Department of Civil Engineering**
**"Building Better Development"**
**Session 2019-20**

Education to Eternity

।।ज्ञानम् सर्वार्थ साधनम्।।

| VISION | MISSION |
|---|---|
| To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering | • Provide quality education and excellent learning Environment for overall development of students.<br>• Making Sustainable efforts for integrating academics with Industry. |



EXECUTIVE ENGINEER
GOSIKHURD LIFT IRRIGATION DIVISION,
BHANDARA (AMBADI)

Ref. No. 93 EGLID/T.S./2020 Date 08 / 01/2020

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Ankit N. Motghare,** Student of JDCOEM, Course B.tech. Branch Civil Engineering, has successfully completed Official Internship /Training from 30.12.2019 to 08.01.2020 at GLID (Ambadi), at the site Surewada Lift Irrigation Project. During his tenure with us, we found him sincere and hardworking. We wish him all the best in his future career.

Executive Engineer
Gosikhurd Lift Irrigation Division
Ambadi (Bhandara)

Scanned with CamScanner

**Student Internship Completion Cerificate (CE)- 2019-20**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

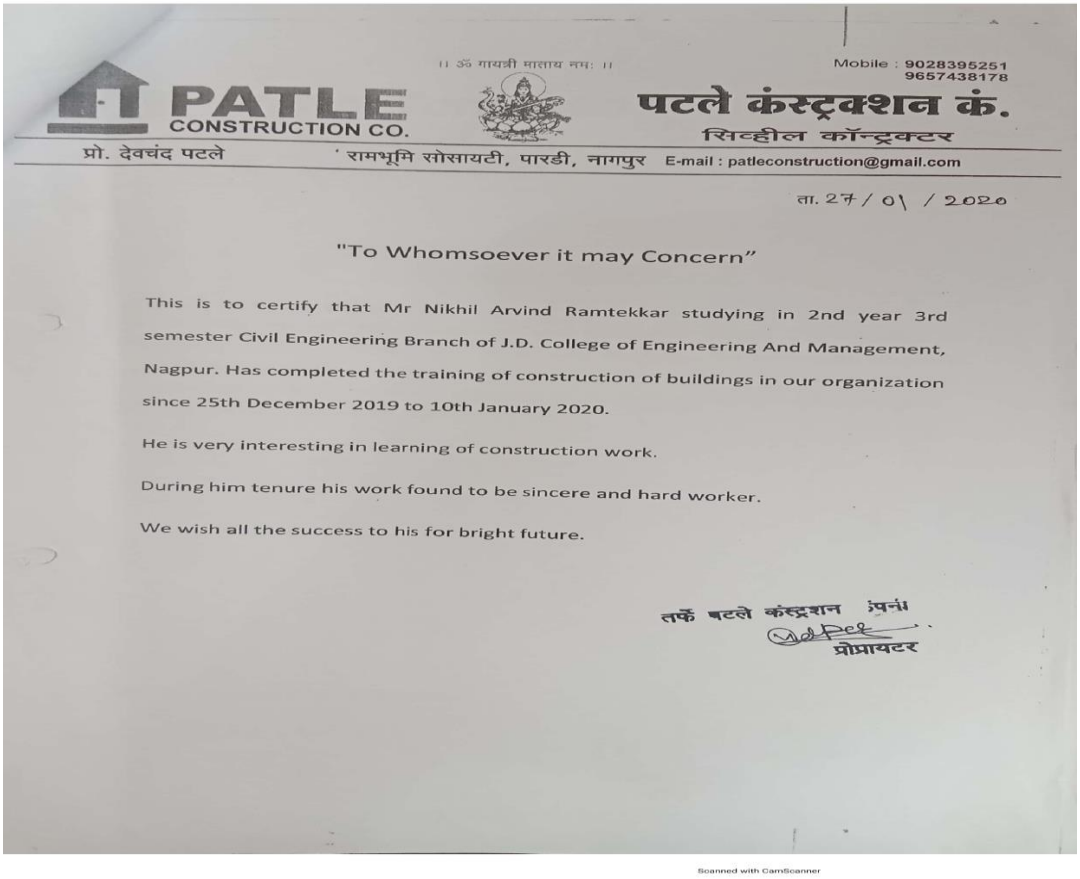
HOD, (CE)

**JAIDEV EDUCATION SOCIETY'S**
**JD COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**
**Department of Civil Engineering**
**"Building Better Development"**
**Session 2019-20**

Education to Eternity

।।ज्ञानम् सर्वार्थ साधनम्।।

| VISION | MISSION |
|---|---|
| To be a well-known center for shaping professional leaders of Global Standards in Civil Engineering | • Provide quality education and excellent learning Environment for overall development of students.<br>• Making Sustainable efforts for integrating academics with Industry. |



।। ॐ गायत्री माताय नमः ।।

PATLE CONSTRUCTION CO.

Mobile : 9028395251
9657438178

पटले कंस्ट्रक्शन कं.
सिव्हील कॉन्ट्रक्टर

प्रो. देवचंद पटले 'रामभूमि सोसायटी, पारडी, नागपुर E-mail : patleconstruction@gmail.com

ता. 27 / 01 / 2020

"To Whomsoever it may Concern"

This is to certify that Mr Nikhil Arvind Ramtekkar studying in 2nd year 3rd semester Civil Engineering Branch of J.D. College of Engineering And Management, Nagpur. Has completed the training of construction of buildings in our organization since 25th December 2019 to 10th January 2020.

He is very interesting in learning of construction work.

During him tenure his work found to be sincere and hard worker.

We wish all the success to his for bright future.

तर्फे पटले कंस्ट्रक्शन कंपनी
प्रोप्रायटर

Scanned with CamScanner

**Student Internship Completion Cerificate (CE)- 2019-20**

**HOD, (CE)**

Principal
Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

**JAIDEV EDUCATION SOCIETY'S**

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

**KATOL ROAD, NAGPUR**

**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**

**(An Autonomous Institute, with NAAC "A" Grade)**

## Department Of Electrical Engineering

***"Igniting minds to illuminate the world"***

**2019-20**

A VENTURE OF GOYAL GROUP

JAIDEV EDUCATION SOCIETY'S

J D College Of Engineering & Management

Ref. No.: JDCOEM/EE/T&P/2019-20/ Date: 26-12-2019

**To,**
**Gautam Magaswargiya**
**Kapus Utpadak**
**Sahakari Sootgirni Ltd.**
**Nimba**

**Subject: Request for Permission of Industrial Training and Internship**

Respected Madam/Sir,

It gives us a great pleasure to communicate you on behalf of **"GOYAL GROUP'S", JD College of Engineering and Management, Nagpur (An Autonomous Institute).** Yours being a premier engineering organization having state of the art technical facilities and using modern management techniques, we are requesting you to **kindly grant the permission for training and internship** to our engineering perusing student in your reputed organization. This really helps the students to understand the way industry works.

Following is our student of Electrical Engineering who is keen to do internship at your premises under yours guidance.

| S No. | Name of the students | Semester | Mo. number | Email ID |
|---|---|---|---|---|
| 1 | Vishnu Mankar | V | 9518723849 | vishnumankarvm@gmail.com |
| 2 | Yashwant Borkar | V | 8605353190 | Yashborkar1999@gmail.com |

We request you to kindly permit her for industrial internship and enable her to enrich the knowledge and skills.

Thanking you,

**Ms.Y. Malhotra**
T&P Officer
JDCOEM, Nagpur

**Y.P.Mundhada**
TPC, EE
JDCOEM, Nagpur

**Dr.S.R.Vaishnav**
HoD, EE
JDCOEM, Nagpur

HOD
Dept.of Electrical Engineering
J.D. College of Engineering & Management, Nagpur

**Dr. S. R. Chaudhari**
Principal
JDCOEM, Nagpur

Principal
J.D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Internship Certificate 2019-20 EE Department

H.O.D

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

**KATOL ROAD, NAGPUR**

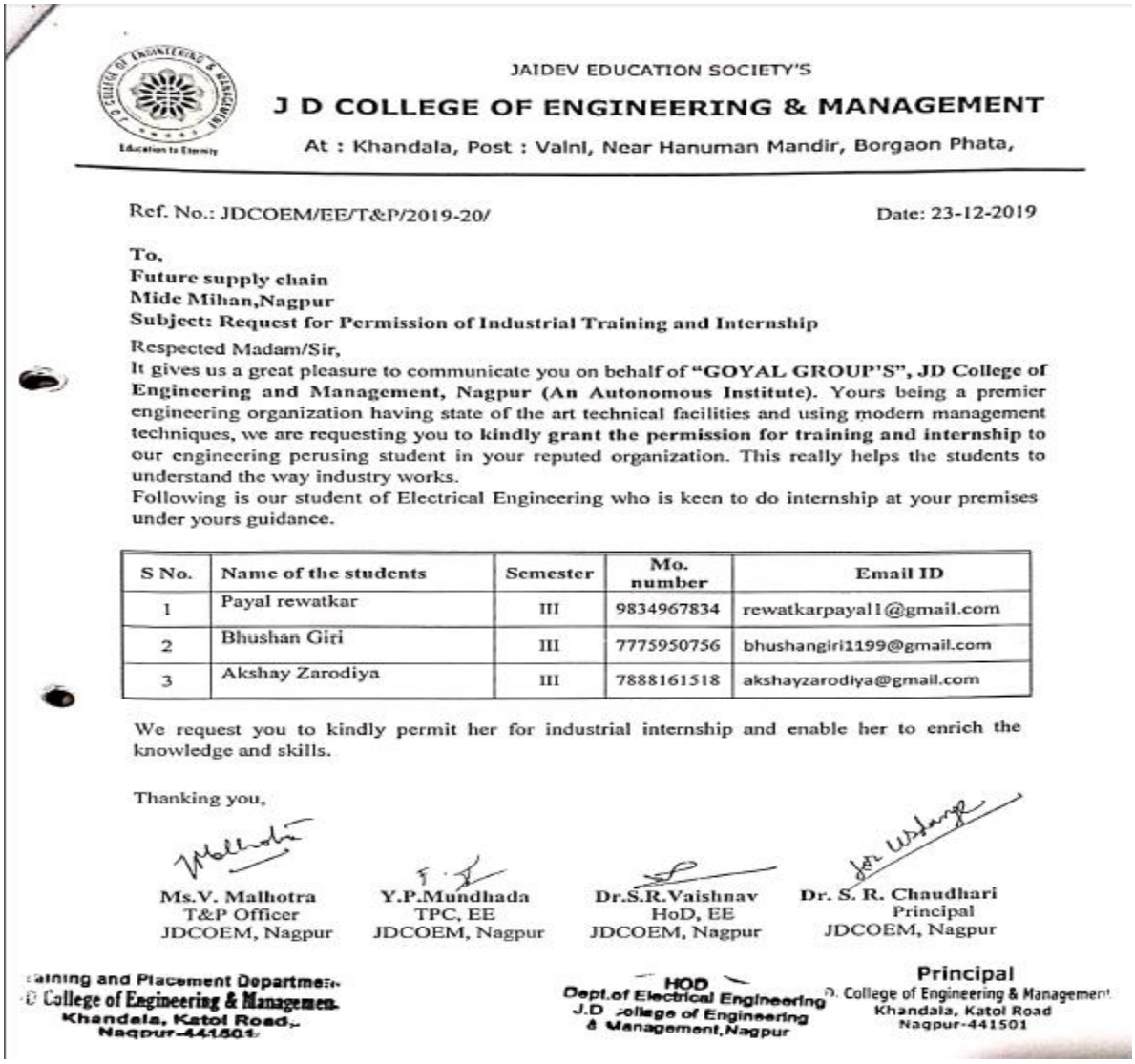
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**

**(An Autonomous Institute, with NAAC "A" Grade)**

**Department Of Electrical Engineering**

***"Igniting minds to illuminate the world"***

**2019-20**



JAIDEV EDUCATION SOCIETY'S

J D COLLEGE OF ENGINEERING & MANAGEMENT

At : Khandala, Post : Vainl, Near Hanuman Mandir, Borgaon Phata,

Ref. No.: JDCOEM/EE/T&P/2019-20/ Date: 23-12-2019

To,
Future supply chain
Mide Mihan,Nagpur
Subject: Request for Permission of Industrial Training and Internship

Respected Madam/Sir,

It gives us a great pleasure to communicate you on behalf of "GOYAL GROUP'S", JD College of Engineering and Management, Nagpur (An Autonomous Institute). Yours being a premier engineering organization having state of the art technical facilities and using modern management techniques, we are requesting you to kindly grant the permission for training and internship to our engineering perusing student in your reputed organization. This really helps the students to understand the way industry works.

Following is our student of Electrical Engineering who is keen to do internship at your premises under yours guidance.

| S No. | Name of the students | Semester | Mo. number | Email ID |
|---|---|---|---|---|
| 1 | Payal rewatkar | III | 9834967834 | rewatkarpayal1@gmail.com |
| 2 | Bhushan Giri | III | 7775950756 | bhushangiri1199@gmail.com |
| 3 | Akshay Zarodiya | III | 7888161518 | akshayzarodiya@gmail.com |

We request you to kindly permit her for industrial internship and enable her to enrich the knowledge and skills.

Thanking you,

Ms.V. Malhotra
T&P Officer
JDCOEM, Nagpur

Y.P.Mundhada
TPC, EE
JDCOEM, Nagpur

Dr.S.R.Vaishnav
HoD, EE
JDCOEM, Nagpur

Dr. S. R. Chaudhari
Principal
JDCOEM, Nagpur

Training and Placement Department
J D College of Engineering & Management
Khandala, Katol Road,
Nagpur-441501

HOD
Dept.of Electrical Engineering
J.D College of Engineering & Management,Nagpur

Principal
J. D. College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Internship Certificate 2019-20 EE Department

H.O.D

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**MAHARASHTRA STATE ROAD TRANSPORT CORPORATION**
**BHANDARA , DIVISION BHANDARA**
**National Highway No. 06 Nagpur Road, Bhandara**

Ref No.ST/MEO/BHN/DWS/training/2019-20 Date:-11/01/2020

To,
The Principal
J D College of Engineering
& Management
Nagpur

Subject:- Industrial training to Divisional Workshop S.T. Bhandara
Reference No:- DOME/2019-20 T&P/20 Dt: 20.12.2019

With reference to above subject the student Name **Mr. ROHIT Z.GAIDHANE** of 3TH Semester Second year from your college visited our Divisional Workshop on dated 02/01/2020 to 11/01/2020 & studied various activities and working procedures in the workshop. A symbiotic interaction between Institute & Industry is a Must. In his Future.

He Has completed industrial training successfully.

We wish students for their bright future.

Mechanical Engg. (opn)
S.T. Bhandara

Mechanical Engineer (OPN)
S. T. Bhandara.

**STUDENT INTERNSHIP 2019-20**

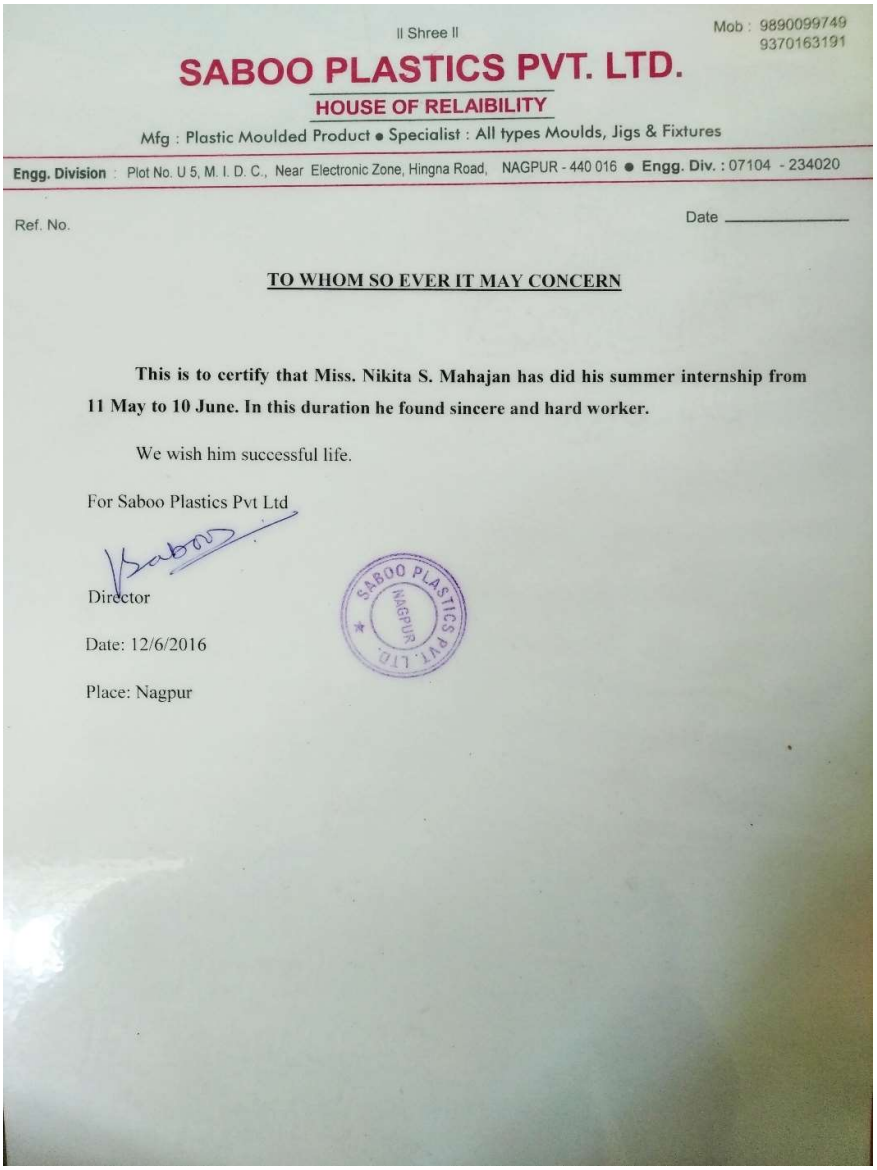
J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501


**STUDENT INTERNSHIP 2019-20**

**Principal**
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *



II Shree II

Mob : 9890099749
9370163191

# SABOO PLASTICS PVT. LTD.

HOUSE OF RELAIBILITY

Mfg : Plastic Moulded Product • Specialist : All types Moulds, Jigs & Fixtures

**Engg. Division** : Plot No. U 5, M. I. D. C., Near Electronic Zone, Hingna Road, NAGPUR - 440 016 • **Engg. Div.** : 07104 - 234020

Ref. No.

Date _____

**TO WHOM SO EVER IT MAY CONCERN**

**This is to certify that Miss. Nikita S. Mahajan has did his summer internship from 11 May to 10 June. In this duration he found sincere and hard worker.**

We wish him successful life.

For Saboo Plastics Pvt Ltd

Director

Date: 12/6/2016

Place: Nagpur

SABOO PLASTICS PVT. LTD. NAGPUR

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Bhushan R.Mahajan
Head of Department,
DOME
JDCOEM, Nagpur

Head of Department
Mechanical Engineering
J D College of Engineering & Management
Nagpur

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# MBA: 2019-20

# INTERNSHIP CERTIFICATES

Haldiram's

**CERTIFICATE**

**This is certify that , Gopal Hari Rathod Student Of Master Of Business Administration Of JD COLLEGE OF ENGINEERING AND MANAGEMENT , Nagpur university has successfully completed a summer internship in the field of finance from 1 June 2019 to 30 June 2019 under the guidance of Mr. MOHIT SHARMA.**

**During the period of his internship program with us he had been exposed to different process was found punctual, hard working and inquisitive.**

**We wish her all the best for his future endeavors.**

**Authorised signatory**

**199, Raigad Apartment , Narveer Tanaji Wadi, Shivajinagar, Nagpur .**

**Email : http://www.haldiram.com.**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# Nagpur Nagarik Sahakari Bank Ltd.

**(Multistate Scheduled Bank)**

नागपुर नागरिक सहकारी बैंक लि.

**ESTD. 1962**

HEAD OFFICE : 79, Dr. Ambedkar Chowk, Central Avenue, Nagpur - 440 008 (M.S.)
Tel : 2761386, 2764313, 2763301; Fax : (0712) 2760156
E-mail : info@nnsbank.com Web site : www.nnsbank.co.in

HO/STAFF/ 262 72019-20

## TO WHOMSOEVER IT MAY CONCERN CERTIFICATE

This is to certify that **Ms. Amruta Baban Thakre** MBA student from J.D. College of Engineering and Management, Nagpur, pursuing MBA -I Year has Successfully undergone the Practical Training (Internship/fieldwork), from 21st May, 2019 to 28th June, 2019, at our Sadar Branch.

GENERAL MANAGER

Place : Nagpur

Date : 16.09.2019

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

**Akola Merchant Co-op. Bank Ltd., Akola**
Plot No.6, Jawahar Nagar Chowk, Akola.
0724-2458092, Fax No.0724-2454600
Email-akolamerchantcoopbankltd@gmail.com

AMB/Certificate/24-A /2019-2020 Date 01/08/2019

To,
The Principal
J.D.College of Engineering & Management
Nagpur

Certify that, Miss Neha Rajendra Thakre has completed summer Intership from dt. 01/06/2019 to 31/07/2019. And subject was a Study of Bank Operation.

Akola Merchant Co-op. Bank Ltd. H.O. AKOLA

Dr. Omprakash W. Talokar
Chairman
Akola Merchant Co-op Bank Ltd., Akola

**Internship In- charge** **Academic Coordinator** **HOD- MBA**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Head
Dept. of Management Studies (MBA)
J.D. College of Engineering & Management
Nagpur

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

JAIDEV EDUCATION SOCIETY'S

**JD COLLEGE OF ENGINEERING & MANAGEMENT,Nagpur**

**(An Autonomous Institute, with NAAC "A" Grade)**

## Basic Science & Humanities Department

**Semester-I_SESSION: 2019-20**

# Subject: Engineering Physics (BTBS102/202)

## Assignment I

**Date of Assignment: 18.09.2019** **Date of Submission: 25.09.2019**

## Unit I: Oscillation and Ultrasonic's and Dielectric Materials

**Q.1** Define the term free oscillation, damped oscillation and forced oscillation also give suitable examples.

**Q.2** Derive the differential wave equation.

**Q.3** Derive the differential wave equation of damped oscillation

**Q.4** Derive the differential wave equation of forced oscillation

**Q.5** Explain Sharpness of resonance.

**Q.6** What are Ultrasonic waves? State any two properties of Ultra sonic waves.

**Q.7** What is Magnetostriction effect? Explain the principle of and production of ultrasonic wave using this effect.

**Q.8** What is Piezo electric effect? Explain the principle of and production of ultrasonic wave using this effect.

**Q.9** Write short notes on Quartz crystals

**Q.10** Explain the concept of flaw detection, and cavitations.

**Q.11** How one can use ultrasound for :

(a) Drilling (b) Soldering (c) Welding (d) Cleaning

**Q.12** Explain medical application of Ultrasonic Waves.

**Q.13** Explain various types of polarization mechanism in a dielectric.

**Q.14** Discuss the effect of temperature and frequency on dielectric.

**Q.15** What do you mean by dielectric? Define Dielectric constant, Polarizibility and Electric Susceptibility

Dr.Bhavna Ilamkar
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOE

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**JD COLLEGE OF ENGINEERING & MANAGEMENT,Nagpur**

**(An Autonomous Institute, with NAAC "A" Grade)**

**Affiliated to DBATU, RTMNU & MSBTE Mumbai**

## Basic Science & Humanities Department

**Semester-I_SESSION: 2019-20**

---

**Year/Semester:** 1st Semester (First Year)

# Engineering Mathematics-I

## Assignment-I

**Date: 10.09.2019** **Max Marks: 20**

| Q.No. | Questions | CO's | Marks |
|---|---|---|---|
| Q1 | Reduce the following matrix to its normal form and find its rank. $A=\begin{bmatrix}4 & 2 & -1 & 2\\ 1 & -1 & 2 & 1\\ 2 & 2 & -2 & 0\end{bmatrix}$ | CO2/2 | 4 |
| Q2 | Find non-singular matrices P and Q such that PAQ is in normal form hence find the rank. $A=\begin{bmatrix}1 & 1 & 1 & 2\\ 3 & -3 & 1 & 2\\ 2 & 1 & -3 & -6\end{bmatrix}$ | CO3/3 | 4 |
| Q3 | Using Gauss- Jordan method to find the inverse of the matrix $A=\begin{bmatrix}8 & 4 & -3\\ 2 & 1 & 1\\ 1 & 2 & 1\end{bmatrix}$ | CO4/4 | 4 |
| Q4 | Find $\frac{dy}{dx}$ $if$ $(\cos x)^y=(siny)^x$ | CO3/3 | 4 |
| Q5 | Examine for functionally dependent, for $u=e^x \sin y$; $v=e^x \cos y$ | CO4/4 | 4 |

**Last Date of Submission: 17/09/2019**

Mr.Sagar S. Kathalkar
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
**JD COLLEGE OF ENGINEERING & MANAGEMENT,Nagpur**
**(An Autonomous Institute, with NAAC "A" Grade)**
**Basic Science & Humanities Department**
**Semester-II_SESSION: 2019-20**

# Subject: Engineering Physics (BTBS102/202)

## Assignment II

**Date of Assignment: 15.01.2020** **Date of Submission: 22.01.2020**

## Unit II: Optics, Fibre Optics and Laser

**Q.1** Derive the path difference formula for reflected light for thin film and hence give condition of maxima and minima.

**Q.2** Explain the change in conditions in transmitted light for the thin films.

**Q.3** Show that fringe width remains constant in case of wedge shaped thin films.

**Q.4** Derive theory of Newton's Ring.

**Q.5** Why Newton's Ring are circular and wedge shaped films are straight.

**Q.6** Distinguish between plane polarized and unpolarized light.

**Q.7** Explain polarization by reflection.

**Q.8** State Brewster's Law and use it to prove that when light is incident on a transparent substance at polarizing angle, the reflected and refracted rays are at right angles to each other.

**Q.9** What is double refraction and what are double refracting crystals?

**Q.10** Explain Huygens's theory of double reflection.

**Q.11** Explain spontaneous emission, stimulated emission population inversion and metastable state.

**Q.12** Explain the working of Ruby laser.

**Q.13** Explain the working of He-Ne Laser.

**Q.14** What are Optical Fibers?

**Q.15** Derive Numerical aperture and Acceptance angle for SI fiber.

Mr.U.V.Rathod,
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**JD COLLEGE OF ENGINEERING & MANAGEMENT,Nagpur**

**(An Autonomous Institute, with NAAC "A" Grade)**

**Affiliated to DBATU, RTMNU & MSBTE Mumbai**

## Basic Science & Humanities Department

**Semester-II_SESSION: 2019-20**

---

**Year/Semester:** 1st Semester (First Year)

# Engineering Mathematics-II

## Assignment-I

**Date: 15.01.2020** **Max Marks: 20**

| Q.No. | Questions | CO's/Level | Marks |
|---|---|---|---|
| Q1 | Solve the equation $x^{10} + 11x^5 + 10$ | CO4/4 | 4 |
| Q2 | To separate real and imaginary part of $tan^{-1}(x + iy)$ | CO3/3 | 4 |
| Q3 | Solve $(1 + x^2)\frac{dy}{dx} + y = e^{tan^{-1}x}$ | CO4/4 | 4 |
| Q4 | Solve $(1 + xy)ydx + (1 - xy)xdy = 0$ | CO4/4 | 4 |
| Q5 | Solve $\frac{dy}{dx} = \frac{x^2+y^2+1}{2xy}$ | CO4/4 | 4 |

**Last Date of Submission: 22.01.2020**

Ms.Prerna M.Parkhi,
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Education to Eternity

**JAIDEV EDUCATION SOCIETY'S**

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

**KATOL ROAD, NAGPUR**

**Website:** www.jdcoem.ac.in **E-mail:** info@jdcoem.ac.in

**An Autonomous Institute, with NAAC "A" Grade**

**Department Of Electrical Engineering**

***"Igniting minds to illuminate the world"***

**2019-20 (Odd Sem)**

| | |
|---|---|
| *Subject* | Elective-II [ARES] |
| *Subject code* | EE5TE02 |
| *Semester/Year* | V/ 3rd |
| **Unit No. I** | Biomass Energy |
| *Submission date* | 03/07/2019 |

**Question: Solve**

1. Explain the factors that depend to improve the efficiency of biogas generation.
2. Compare Fixed dome and floating drum type biogas plant.
3. Explain biomass energy conversion technologies.
4. Discuss Anaerobic digestion process.
5. List the different biogas plant developed in India
6. List the rules used for sizing biogas plants or for estimating their performance.
7. How briquette is made from biomass?

Subject teacher-ARES | Academic incharge | HOD EE

PRINCIPAL

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING & MANAGEMENT, NAGPUR**

Department of Electronics / Electronics &Telecommunication Engineering

***"Rectifying Ideas, Amplifying Knowledge"***

**2019-20**

# ASSIGNMENT 1

**Subject : VLSI Signal Processing** **Sem / Branch : 7th / ETC**

---

Date: 14/08/2019

Que 1) Consider a direct form implementation of FIR filter.

$y(n) = ax(n) + bx(n-1) + cx(n-2)$

Explain the pipelining of above FIR Digital Filter

Que 2) Design a parallel system for

$y(n) = ax(n)+bx(n-1)+cx(n-2)$

With L (level of parallel processing) = 3, n (Iteration factor) = 3 k, Where K = no. of clock cycle.

Que 3) How parallel processing can be used to reduce power consumption? Explain in detail.

Que 4) Explain the terms:

i) Data Broadcast structure.

ii) Fine grain pipelining.

**Date of Submission : 19/08/2019**

**Prof. Avinash K. Ikhar**

**Course Coordinator / Academic Incharge**

**Dr. Pravin Kshirsagar**

**HOD (ETC)**

**Principal**

J D College of Engineering & Management

Khandala, Katol Road

Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

**J D COLLEGE OF ENGINEERING AND MANAGEMENT, KATOL ROAD, NAGPUR**

**(An Autonomous Institute, Affiliated to Technological University of Maharashtra)**

**DEPARTMENT OF MECHANICAL ENGINEERING**

**Session 2019-20**

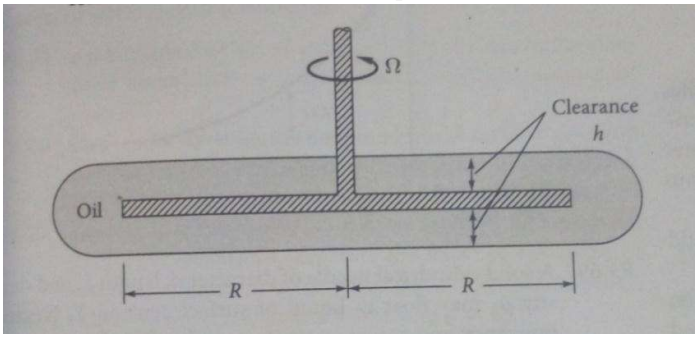
**Subject Teacher:** Prof. J. S. Pachbhai
**Subject Name:** Fluid Mechanics and Fluid machinery (ME4T006)
**Semester:** IV **Section:** A

## Assignment No.1 (Unit no. 1 & 2)

**1)** State Newton's law of viscosity. What is the effect of temperature on viscosity of water and air?

**2)** Determine the intensity of shear of an oil having viscosity = 1 poise. The oil is used for lubricating the clearance between a shaft of diameter 10 cm and its journal bearing. The clearance is 1.5 mm and the shaft rotates at 150 rpm.

**3)** A disk of radius R rotates at an angular velocity ω inside a disk shaped container filled with oil of viscosity μ, as shown in fig. Assuming a linear velocity profile and neglecting shear stress on the outer disk edges, derive a formula for the viscous torque (T) on the disc.




**4)** An annular plate 4m external diameter and 2m internal diameter with its greatest and least depth below the surface being 3m and 1.5m respectively. Calculate the magnitude, direction & location of force acting upon one side of plate due to water pressure.

**5)** A rectangular plate 0.6 m wide and 1.2 m deep is submerged an oil bar of specific gravity 0.8. The maximum and minimum depths of the plate are 1.6 m and 0.75 m from the free surface. Calculate the hydrostatic force on face of plate and depth of the centre of pressure.

**6)** Derive the continuity equation in Cartesian co-ordinate form.

Prof. S. G. Chakrabarty
Subject Teacher

Prof. D. A. Agrawal
Academic In charge

Bhushan R.Mahajan
Head of Department,
DOME

Head of Department
JDCOEM
Mechanical Engineering
J D College of Engineering & Management
Nagpur

Department of Mech. Engg.
JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU

Education to Eternity

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

**Semester: - MBA I Semester** **Subject Code:-1T1**
**Subject Name: - Financial Statement Reporting and Analysis** **Assignment: 2019-20**

==========

All Questions are Compulsory:

Q.1.A. Indian Oil is a bulk distribution of high Octane Petrol. A periodic inventory of period on hand is taken when the books are closed at the end of each month. The following summary of information is available for the month.

| | | |
|---|---|---|
| Sales (between 2nd and 29th june) | Rs. 945000 | Purchases (Including freight in-ward): |
| General administration cost | Rs. 25000 | June 1, 200000 litres @ Rs. 2.85 per litre |
| Opening stock: 100000 litres @ Rs. 3 per litre | Rs. 300000 | June 30, 100000 litre @ Rs. 3.03 per litre<br>June 30, Closing stock 130000 litres |

Compute the following data by FIFO & LIFO method of Inventory
1. Value of Inventory on June, 30.
2. Amount of cost of goods sold for June.
3. Profit/Loss for the month of June.

OR

Q.1.B. In the books of Optic Fiber Ltd., plant and machinery stood at Rs.6,32,000 on 1.4.2013. However on scrutiny it was found that machinery worth Rs.1,20,000 was included in the purchases on 1.6.2013. in part exchange of a new machine costing Rs.2,56,000. The company charges depreciation @ 20% WDV on plant and machinery. You are required to calculate as per AS 6:

i (i) Depreciation to be charged to P/L

ii (ii) Book value of Plant and Machinery A/c as on 31.3.2014

Q.2.A. ABC ltd. was registered with a nominal capital of Rs. 500000 divided into share of Rs. 100 each. The following trial balance is extracted from the books on 31st March 2011:

| Particular | Dr. Amount | Particular | Cr. Amount |
|---|---|---|---|
| Buildings | 290000 | Sales | 520000 |
| Machinery | 100000 | Salaries outstanding | 2000 |
| Closing stock | 90000 | Provision for doubtful debt | |
| Purchase (adjusted) | 210000 | (1/4/2011) | 3000 |
| Salaries | 60000 | Share capital | 200000 |
| Director fees | 12000 | General reserve | 40000 |
| Rent | 26000 | Profit & Loss A/c (1/4/2011) | 25000 |
| Depreciation | 20000 | Creditors | 92000 |
| Bad Debts | 6000 | Provision for depreciation: | |
| Interest Accrued on Investment | 2000 | Building 50000 | |
| 12000 share of A ltd of Rs. 10 each | | Machinery 55000 | 105000 |
| Rs. 8 Paid-up | 120000 | 14% debenture | 200000 |
| Debenture interest | 28000 | Interest on debenture accrued | |
| Loose tools | 23000 | But not due | 14000 |
| Advance tax | 60000 | Interest on investment | 12000 |
| Sundry expenses | 18000 | Unclaimed dividend | 5000 |
| Debtor | 125000 | | |
| Bank | 28000 | | |
| | 1218000 | | |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

You are required to prepare trading and profit & loss a/c for the year ending 31st march 2011 and balance sheet as at that date after taking into consideration the following information:

1. Closing stock is more than opening stock by Rs. 80000
2. Provide for doubtful debts @ 4% on debtors.
3. Make a provision for income tax @ 35%
4. Depreciation expenses includes depreication of Rs. 8000 on building and that of Rs. 12000 on machinery.

Or

B. Following are the trial balance of KEC Company Ltd. As on 31st March, 2016. Prepare balance Sheet as on 31st March, 2016.

| Particulars | Dr. Amount | Cr. Amount |
|---|---|---|
| Stock | 7500 | |
| Sales | | 35000 |
| Purchases | 24500 | |
| Wages | 5000 | |
| Discount | 700 | |
| Salaries | 750 | |
| Rent | 497 | |
| General Expenses | 1705 | |
| Profit & Loss A/c (31st March 2012) | | 1503 |
| Dividend Paid | 900 | |
| Capital | | 10000 |
| Sundry Debtors & Creditors | 3750 | 1750 |
| Plant & Machinery | 2900 | |
| Cash in Hand | 1620 | |
| Reserves | | 1550 |
| Bad debts | 483 | |
| | 50303 | 50303 |

Adjustments:

1. Closing stock is value at Rs. 8200
2. Depreciation on Machinery at 10%.
3. Provide 5% discount on Debtors
4. Allow 2.5% discount on creditors
5. Provide managing Director Commission 15% on the net profit before deducting the commission.
6. One month rent Rs. 45 is due on 31st march 2016
7. Six Month insurance is unexpired Rs. 38 which is included in general expenses.

Q.3.A. "Cash flow statement deals with flow of cash fund but does not consider movement among cash, bank balance and cash equivalent" comment.

OR

Q.3.B.

**Illu.1 : From the following balance sheets prepare Cash Flow Statement:**

| Liabilities | 31-3-2005 Rs. | 31-3-2006 Rs. | Assets | 31-3-2005 Rs. | 31-3-2006 Rs. |
|---|---|---|---|---|---|
| Share capital | 20,000 | 28,000 | Goodwill | 16,000 | 13,000 |
| Profit & Loss a/c | 10,000 | 13,000 | Land | 10,000 | 20,000 |
| General Reserve | 8,000 | 10,000 | Machinery | 25,000 | 50,000 |
| 12% Debentures | 25,000 | 35,000 | Investments | 10,000 | 12,000 |
| Creditors | 26,000 | 30,000 | Stock | 20,000 | 15,000 |
| Provision for tax | 10,000 | 14,000 | Debtors | 10,000 | 13,000 |
| | | | Cash | 8,000 | 7,000 |
| | 99,000 | 1,30,000 | | 99,000 | 1,30,000 |

**Additional Information:**

**(a) Investments costing Rs.5,000 sold for Rs.6,000 during the year.**

**(b) Depreciation charged on Machinery was Rs.5,000**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Q.4.A. In projecting the financial plan of firm, the use of the following accounting ratio is made: Estimated Annual Sales: 200000, Sales to Net Worth: 2.5, Current Debt to Net Worth: 25%, Total Debt to Net Worth 60%, Current

Ratio: 3.6, Net Sales to Inventory: 4Times, Average Collection Period (Year = 360 days): 36days, Fixed Assets to Net Worth: 70%. On the above basis, prepare Proforma Balance Sheet of the firm.

OR

Q.4.B. From the following particulars draw up the balance sheet of the company:

Current Ratio: 2.5, Liquid Ratio : 1.5, Net Working Capital: Rs. 30000, Stock Turn Over Ratio: (Cost of Sales/Closing Stock) 6 Times, Gross Profit Ratio: 20%, Fixed Assets Turnover Ratio: (cost of sales) 2 Times,

Q.5.A. From the following data relating to the assets of Balance Sheet of ABC Ltd., for the period ended March 31, 2011 to March 31, 2014, calculate trend percentages.

| (Rs. in lakhs) Particulars | 2010-11 | 2011-12 | 2012-13 | 2013-14 |
|---|---|---|---|---|
| Cash | 100 | 120 | 80 | 140 |
| Debtors | 200 | 250 | 325 | 400 |
| Stock | 300 | 400 | 350 | 500 |
| Other current assets | 50 | 75 | 125 | 150 |
| Land | 400 | 500 | 500 | 500 |
| Building | 800 | 1,000 | 1,200 | 1,500 |
| Plant | 1,000 | 1,000 | 1,200 | 1,500 |

OR

Q.5.B.

**Question 1. From the following Profit and Loss Account and Balance sheet of XYZ Ltd for the year ended 2017 and 2018. You are required to prepare a Comparative Income Statement and Comparative Balance sheet. Also give comments on the Profitability and Financial performance of the XYZ Ltd**

**Profit and Loss Account**

Dr. Cr.

| Particulars | 2017 | 2018 | Particulars | 2017 | 2018 |
|---|---|---|---|---|---|
| To cost of goods sold | 6000 | 7500 | By, Net Sales | 8000 | 10000 |
| To Operating Expenses : | | | | | |
| Administrative | 200 | 200 | | | |
| Selling | 300 | 400 | | | |
| To, Net Profit | 1500 | 1900 | | | |
| | 8000 | 10000 | | 8000 | 10000 |

**Balance Sheet as on 31st December**

| Liabilities | 2017 | 2018 | Assets | 2017 | 2018 |
|---|---|---|---|---|---|
| Bills Payable | 500 | 750 | Cash | 1000 | 1400 |
| Sundry Creditors | 1500 | 2000 | Debtors | 2000 | 3000 |
| Tax Payable | 1000 | 1500 | Stock | 2000 | 3000 |
| 6% Debenture | 1000 | 1500 | Land | 1000 | 1000 |
| 10% Preference Capital | 3000 | 3000 | Building | 3000 | 2700 |
| Equity Capital | 4000 | 4000 | Plant | 3000 | 2700 |
| Reserves | 2000 | 2450 | Furniture | 1000 | 1400 |
| | 13000 | 15200 | | 13000 | 15200 |

**Subject In charge** **Dept. Academic Incharge** **Dept. Head MBA**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Dept. of Management Studies (MBA)
J. D. College of Engineering & Management

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

**Semester: - MBA II Semester** **Subject Code:- 2T5**

**Subject Name: - Cost Accounting** **Assignment: 2019-20**

==========

All Questions are Compulsory:

**Q.1.A**. Mr. Gopal furnishes the following data relating to the manufacture of a standard product during the month of April 2013:

| | |
|---|---|
| Raw Material Consumed | Rs.15000 |
| Direct labour charges | Rs.9000 |
| Machine hour worked | 900 |
| Machine hour rate | Rs.5 |
| Administration overhead | 20% on work cost |
| Selling overhead | Rs.0.50 per unit |
| Unit produced | 17,100 |
| Unit sold | 16000 at Rs.4 per unit |

You are required to prepare a cost sheet from the above, showing;

a. The cost per unit
b. Cost per unit sold and profit for the year

OR

**Q.1.B.** Discuss the Opportunity cost. Explain the element of Costing.

**Q.2.A.** Present the following information to show to the management: (a) the marginal product cost and the contribution per unit: (b) the total contribution and profits resulting from each of the following sales mixtures:

| | | Product | Per Unit Rs. |
|---|---|---|---|
| D. materials | | A | 10 |
| | | B | 9 |
| D. wages | A Rs.3, B Rs. 2. | Sale Price for A Rs. 20, B Rs. 15 | |

Fixed expenses Rs. 800
Variable expenses are allocated to products as 100% of direct wages
Sales Mixtures:
1000 units of product A and 2000 units of B
1500 units of Product A and 1500 units of B
2000 units of product A and 1000 units of B

OR

**Q.2.B.** A company had incurred fixed expenses of Rs.450000 with sales of Rs.1500000 and earned a profit of Rs. 300000 during the first half year. In the secod half year, it suffered a loss of Rs.150000. calculate:
i. the profit-volume ratio, break -even point and margin of safety for the first half year.
ii. Expected sales volume for the second half year assuming that selling price and fixed expenses remain unchanged during the second half year
iii. the break -even point and margin of safety for the whole year.

**Q.3.A.** The Road Transport Co. which keeps fleet of Lorries, gives the following information:

| | |
|---|---|
| Kilometer run for April | 30000 |
| Wages for April | Rs. 2000 |
| Petrol oil, etc for April | Rs.4000 |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Original Cost of vehicles Rs.100000
Depreciation to be allowed @ 25% per annum on original cost
Repair for the month of April Rs. 6000
Garage Rent etc for April Rs. 1000
License, Insurance etc for the year Rs.6000
Prepare a statement for April, showing the fixed and variable cost per running km.

OR

**Q.3.B.** Shanker has been promised a contract to run a tourist car on a 20 km. long mute for the chief executive of a multinational firm. He buys a car costing Rs.1,50,000. The annual cost of insurance and taxes are Rs. 4,500 and Rs.900 respectively. He has to pay Rs.500 per month for a garage where he keeps the car when it is not in use.
The annual repair costs are estimated at Rs.4,000. The car is estimated to have a life of 10 years, at the end of which the scrap value is likely to be Rs.50,000.

**Q.4.A.** . From the following forecast of income & expenditure prepare a cash budget for the three month commencing 1st june, when the bank balance was Rs. 100000.

| | Sales | Purchase | Wages | Factory Exp. | Admin. & Selling Exp. |
|---|---|---|---|---|---|
| April | 80000 | 41000 | 5600 | 3900 | 10000 |
| May | 76500 | 40500 | 5400 | 4200 | 14000 |
| June | 78500 | 38500 | 5400 | 5100 | 15000 |
| July | 90000 | 37000 | 4800 | 5100 | 17000 |
| August | 95000 | 35000 | 4700 | 6000 | 13000 |

A sales commission of 5% on sales, due 2 month after sales, is payable in addition to selling expenses. Plant valued at Rs. 65000 will be purchased and paid for in August, and the dividend for the last financial year of Rs. 15000 will be paid in July. There is a two month credit period allowed to customer and received from supplier.

OR

**Q.4.B.** A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month. The present cost break up for one bucket is as under:
Materials Rs.10
Labour Rs.3
Overheads Rs.5 (60% fixed)
The selling price is Rs.20 per bucket. If it is desired to work the factory at 50% capacity the selling price falls by 3%. At 90% capacity the selling price falls by 5% accompanied by a similar fall in the price of material. You are required to prepare a statement the profit at 50% and 90% capacities and also calculate the break- even points at this capacity production.

**Q.5.A.** From the following information compute (i) Material Cost Variance (ii) Material Price Variance(iii) Material Usage Variance (iv) Material Mix Variance and (v) Material Sub-usage Variance.

| **Material** | **Standard** | | | | **Actual** | | |
|---|---|---|---|---|---|---|---|
| | **Qty.** | **Rate** | **Amount** | | **Qty.** | **Rate** | **Amount** |
| A | 10 | 2 | 20 | | 5 | 3 | 15 |
| B | 20 | 3 | 60 | | 10 | 6 | 60 |
| C | 20 | 6 | 120 | | 15 | 5 | 75 |
| **Total** | **50** | | **200** | | **30** | | **150** |
| | | | | | | | |

OR

**Q.5.B.** What do you understand by standard costing? Discuss in detail. Also explain how standard costing can be used as management tool in a business.

**Subject In charge** **Dept. Academic Incharge** **Dept. Head MBA**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Dept. of Management Studies (MCA)
J. D. College of Engineering & Management
Nagpur

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU

Education to Eternity

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

**Semester: - MBA III Semester** **Subject Code:- 4T2**

**Subject Name: - Entrepreneurship Development** **Assignment: 2019-20**

==========

All Questions are Compulsory:

Q.1.A. Explain the term Entrepreneur. What are the importance roles of Entrepreneurs in Economic Development?

OR

Q.1.B. Kiran Mazumdar Shaw initially faced many problems regarding funds for her business. Banks were hesitant to give loan to her as biotechnology was a totally new field at that point of time and she was a woman entrepreneur, which was a rare phenomenon. Discuss

Q.2.A. Explain the sources of Business Ideas. Also explain various methods of generating New Business Ideas.

OR

Q.2.B. What is a Business Plan ? Discuss various elements of Business Plan.

Q.3.A. What do you understand by feasibility study ? Explain market; technical and financial feasibility.

OR

Q.3.B. Marketing research is of utmost importance before starting the new venture.' Discuss the statement

Q.4.A. What are the activities and objectives of Khadi and Village Industries Commission?

OR

Q.4.B. There are various measures taken by Govt. of India to tackle the problems faced by MSME's. Discuss

Q.5. Write short notes on :

(A) Social Entrepreneurship

(B) Errors in preparation of Business Plan

(C) Concept of Project Appraisal

(D) Corporate Social Responsibility

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**Subject In charge** **Dept. Academic Incharge** **Dept. Head MBA**

Dept. of Management Studies (MBA)
J. D. College of Engineering & Management

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

KATOL ROAD, NAGPUR

An Autonomous Institute, with NAAC "A" Grade

## Subject: Engineering Physics

**By:Dr.Umashanakrsingh V. Rathod**

## Question Bank

**Section-A**

| Sr. No. | Question |
|---|---|
| 1 | What is LASER? comment how it is differ from ordinary light. |
| 2 | What is the principle on which optical signal propagate through an optical fibre? |
| 3 | What is Optical fibre? Comment the principle on which signals propagates through optical fibre. |
| 4 | Clarify, how the Semiconductor are negative temeperature coefficient material. |
| 5 | Exaplain, How N-type semiconductor form? |
| 6 | Define Fermi energy in solids. |
| 7 | What do you mean by Forward bias of PN junction diode? |
| 8 | What is intrinsic & extrinsic semiconductors? |
| 9 | Comment, How, Fermi energy level vary with doping concentration in N-type semiconductor. |
| 10 | What do you mean by Reverse bias of PN junction diode? |
| 11 | What is Lorentz force? |
| 12 | What kind of force charge particle experience in magnetic field? |
| 13 | What kind of force charge particle experience in Electric field? |
| 14 | What is meant by equi-potential surface? |
| 15 | What is crossed field configuration? |
| 16 | Explain the force experienced by charge particle in uniform Electric field E and Magnetic field B. |
| 17 | Write the applications of CRO in medical field. |
| 18 | Explain the motion of electron in parallel uniform magnetic field B. |
| 19 | Explain the force experienced by charge particle in uniform Magnetic field B. |
| 20 | Explain the motion of electron in parallel uniform Electric field E. |
| 21 | What is a function of aquadag coating in CRT? |
| 22 | Define Interference in wave optics. |
| 23 | What is thin film? |
| 24 | State Brewster's law. |
| 25 | Define polarization of light. |
| 26 | Why the wedge shape fringes are straight, parallel and equi-spaced? Comment. |
| 27 | What is antireflection coating? |
| 28 | Why the Newton's rings are circular? Comment. |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| | |
|---|---|
| 29 | What are the conditions for thin film to be antireflection coating? |
| 30 | What is meant by electromagnetic waves? |
| 31 | What do you mean by electromagnetic waves? How it propagates through free space? |

**Section-B**

| Sr. No. | Question |
|---|---|
| 1 | Discuss four level pumping scheme for Laser. |
| 2 | Discuss three level pumping scheme for Laser. |
| 3 | Why two level pumping scheme is difficult to achieve? |
| 4 | What is the difference between step index fiber and graded index fiber? |
| 5 | What is the difference between single mode fiber and multimode fiber? |
| 6 | Elaborate the phenomena of Total Internal Reflection of light in an optical fibre. |
| 7 | Show that Fermi level in an intrinsic semiconductor lies in the middle of the energy gap. |
| 8 | Explain, how Fermi Energy varies with doping concentration in N-type semiconductor. |
| 9 | Show that the velocity acquired by an electron in uniform electrostatic field varies as the square root of potential difference through which it is accelerated. |
| 10 | Explain the formation of a depletion region in a PN junction diode. |
| 11 | Explain the terms: 1.Drift Current 2.Diffusion Current |
| 12 | Explain P-N junction diode and illustrate its I-V characteristics in forward and reverse biased. |
| 13 | Write comparision between Snell's law and Bethe's law. |
| 14 | What is CRO? Draw a block diagram of CRO. |
| 15 | Interpret with an expression that electron follows parabolic path in transverse uniform electric field. |
| 16 | Obtain an expression for fringe width obtained in wedge shape thin film. |
| 17 | What is Brewster's law? Derive an expression for polarizing angle. |
| 18 | Obtain an expression for the path difference in case of interference in thin films due to reflected light. |

**Section-C**

| Sr. No. | Question |
|---|---|
| 1 | Explain with neat diagram the process of 1.absorption transition 2. spontaneous emission 3. stimulated emission of light. |
| 2 | Explain the construction and working of Ruby LASER with necessary energy level diagram. |
| 3 | Explain the construction and working of He-Ne LASER with necessary energy level diagram. |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

| | |
|---|---|
| 5 | What is Hall effect? Derive the expression for Hall coefficient, Hall voltage, Hall angle and Hall mobility in extrinsic semiconductor. |
| 6 | Draw the Band energy diagram of PN junction diode connected in Forward and Reversed biased mode. |
| 7 | Discuss the motion of charged particle in transverse uniform magnetic field and obtain the expression for radius, time period and frequency of circular motion. |
| 8 | Draw block diagram of CRO. Explain the function of time base circuit in CRO. |
| 9 | Draw an energy band diagram for p-n junction when (i) Unbiased (ii) Forward biased (iii) Reverse biased. |
| 10 | Write a note on electrical conductivity in Intrinsic semiconductor and derive its expression in terms of Band gap. |
| 11 | What is Hall effect? Derive an expression for Hall Coefficient. |
| 12 | A n-type germanium sample has a doner density of $10^{21}$ $m^{-3}$. It is arranged in Hall experiment having magnetic field of 0.5 tesla and current density is 500 $A/m^2$. Find the Hall voltage if the sample is 3 mm wide. |
| 13 | Write a note on electrical conductivity in Intrinsic semiconductor and derive its expression in terms of Band gap. |
| 14 | Find the conductivity of Intrinsic Germanium at 300 $^0$K. Given that Intrinsic carrier density is 2.5 x $10^{19}$ $m^{-3}$ and electron and holes mobility is 0.39 and 0.19 $m^2V^{-1}.S^{-1}$ respectively. |
| 15 | Draw an energy band diagram for p-n junction when (i) Forward biased (ii) Reverse biased. |
| 16 | Show that an electron with uniform velocity follows a parabolic path in transverse uniform electric field. |
| 17 | What is Bethe's law? Discuss the refraction of the electron beam across an equi-potential surface. Show how this concept is symmetrical with electrostatic lens. |
| 18 | Derive an expression for the radius, time period, frequency and pitch for an electron moving with an angle ø in magnetic field. |
| 19 | What is CRO? Explain in details the working of CRT. |
| 20 | Derive an expression for the radius, time period, frequency and pitch for an electron moving with an angle ø in magnetic field. |
| 21 | What is Bethe's law? Discuss the refraction of the electron beam across an equi-potential surface. Explain how it resembles with Snell's law. |
| 22 | Derive the condition for path difference for interference in thin parallel film due to reflected light. |
| 23 | What is fringe width? Obtain an expression for fringe width in a wedge shape thin film experiment. |
| 24 | Write the four Maxwell's equations in differential form & Derive a wave equation for electromagnetic wave in free space. |
| 25 | What is Poynting vector? Derive an expression to show that Poynting vector S is vector product of E and H. |

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

**Section-D**

| Sr. No. | Question |
|---|---|
| 1 | Give the construction and working of He-Ne laser. Draw necessary energy level diagram. |
| 2 | Write four modern application of LASER. |
| 3 | Derive an expression for acceptance angle for step index fiber with the help of suitable diagram. |
| 4 | Find the Numerical aperture for an optical fiber with refractive indices of core and cladding as 1.5 and 1.49 respectively. |
| 5 | Outline the construction of Optical fibre and build a relationship of acceptance angle with Numerical aperture. |
| 6 | Calculate the numerical aperture, acceptance angle and fractional Refractive index change of an optical fibre whose core and cladding are made of materials of refractive index 1.6 and 1.5 respectively. |
| 7 | Show how acceptance angle is related to numerical Aperture, also explain the meaning of acceptance angle. |
| 8 | A step-index fibre has a numerical aperture of 0.26 and a core refractive index is 1.5. Calculate the refractive index of cladding and acceptance angle. |
| 9 | What is Hall effect? Derive the expression for Hall coefficient, Hall voltage, Hall angle and Hall mobility in extrinsic semiconductor. |
| 10 | What is Hall Effect? Derive the formula for Hall voltage and Hall coefficient with necessary diagram and interpretation. |
| 11 | A n-type germanium sample has a donor density of $10^{21}$ $m^{-3}$. It is arranged in Hall experiment having magnetic field of 0.5 Tesla and current density is 500 $A/m^2$. Find the Hall voltage if the sample is 3 mm wide. |
| 12 | Discuss the motion of charged particle in transverse uniform magnetic field and obtain the expression for radius, time period and frequency of circular motion. |
| 13 | Draw block diagram of CRO. Explain the time base circuit in CRO. |
| 14 | An Electron accelerated of 250 V enters the electric field at an angle of incidence of $50^0$ and get refracted through an angle of $30^0$. Find the potential difference between two regions. |
| 15 | Derive the condition for path difference for interference in thin parallel film due to reflected light. |
| 16 | What is Bethe's law? Derive an expression for it. In what way it resembles and differs from Snell's law. |
| 17 | Write the four Maxwell's equations in integral form. Derive a wave equation for electromagnetic wave in free space and show that electromagnetic wave travel with velocity of light C=3 x$10^8$ m/s in free space. |

Dr.U.V.Rathod,
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S

# J D COLLEGE OF ENGINEERING AND MANAGEMENT

KATOL ROAD, NAGPUR

An Autonomous Institute, with NAAC "A" Grade

## IMP QUESTION BANK

## ENGINEERING MATHEMATICS-II

1) For the curve $x = t^3 + 1$, $y = t^2$, $z = t$, find the magnitude of tangential and normal component of acceleration for a particle moving on the curve at $t = 1$.

2) A particle describes the cardioid $r = a(1 + \cos\theta)$ under attraction of a force directed towards the pole. Find the law of force.

3) A particle describe the curve $r = 2a\cos\theta$ with constant angular speed $\omega$. Find the radial and transverse components of velocity and acceleration.

4) The position vector of a point at a time t is given by $\bar{r} = e^t(\cos t\,\hat{\imath} + \sin t\,\hat{\jmath})$ . Show that $\bar{a} = 2\bar{v} - 2\bar{r}$ *where* $\bar{a}$ *and* $\bar{v}$ *are acceleration and velocity of the particle*. Also prove that the angle between the radius vector $\bar{r}$ and acceleration $\bar{a}$ is constant.

5) Find $\nabla\emptyset$ *for* $(i)\emptyset = x^2 + y^2 + z^2$ *at* $(1,1,1)$ (ii) $\emptyset = r^m$, *where* $\bar{r} = x\bar{\imath} + y\bar{\jmath} + z\bar{k}$

(iii) $\emptyset = e^{-r}r^3$ (iv) $\nabla f(r) = \frac{f'(r)}{r}\bar{r}$, *where* $\bar{r} = x\bar{\imath} + y\bar{\jmath} + z\bar{k}$

6) Find the directional derivative of $\emptyset = xy^2 + yz^3$ at $(1,-1,1)$, (i) along the vector $\vec{\imath} + 2\vec{\jmath} + 2\vec{k}$ (ii) towards the point $(2,1,-1)$ (iii) along the direction normal to the surface $x^2 + y^2 + z^2 = 9$ at $(1,2,2)$.

10) The directional derivative of $\emptyset(x,y)$ at the point $A(3,2)$ towards the point $B(2,3)$ is $3\sqrt{2}$ and towards the point $C(1,0)$ is $\sqrt{8}$ . Find the directional derivative at the point $A$ towards the point $D(2,4)$.

11) Find the directional derivative of $\emptyset = e^{2x}\cos yz$ at $(0,0,0)$ in the direction of tangent to the curve $= a\sin t$ ; $y = a\cos t$; $z = at$ at $t = \frac{\pi}{4}$.

12) For constant vector $\vec{a}$ , show that; (i) $\nabla(\vec{a}.\vec{r}) = \vec{a}$ (ii) $\nabla \times (\vec{a} \times \vec{r}) = 2\vec{a}$

(iii) $\nabla\left(\frac{\vec{a}.\vec{r}}{r^n}\right) = \frac{\vec{a}}{r^n} - \frac{n(\vec{a}.\vec{r})}{r^{n+2}}\vec{r}$

13) Show that (i) $\nabla^2\left[\nabla.\left(\frac{\vec{r}}{r^2}\right)\right] = \frac{2}{r^4}$ (ii) $\nabla \times \left(\frac{\vec{a}\times\vec{r}}{r^3}\right) = -\frac{\vec{a}}{r^3} + \frac{3(\vec{a}.\vec{r})}{r^5}\vec{r}$

14) Show that $\vec{F} = (6xy + z^3)\vec{\imath} + (3x^2 - z)\vec{\jmath} + (3xz^2 - y)\vec{k}$ is irrotational. Find scalar $\emptyset$ such that $\vec{F} = \nabla\emptyset$.

15) Show that $\vec{F} = (ye^{xy}\cos z)\vec{\imath} + (xe^{xy}\cos z)\vec{\jmath} - (e^{xy}\sin z)\vec{k}$ is irrotational. Find scalar $\emptyset$ such that $\vec{F} = \nabla\emptyset$.

16) Show that

(i) $\nabla.\left(\frac{\vec{a}\times\vec{r}}{r}\right) = 0$ (ii) $\nabla\left(\frac{\vec{a}\times\vec{r}}{r^n}\right) = \frac{(2-n)}{r^n}\vec{a} - \frac{n(\vec{a}.\vec{r})}{r^{n+2}}\vec{r}$

Mr.Sagar S. Kathalkar
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

Jaidev Education Society's

**JD COLLEGE OF ENGINEERING AND MANAGEMENT**

**DEPARTMENT OF FIRST YEAR**

**Session 2019-20**

# Question Bank on Unit I & II

1. Find the rank of the following matrices by reducing them to normal form

   A= $\begin{bmatrix} 2 & 3 & -1 & -1 \\ 1 & -1 & -2 & -4 \\ 3 & 1 & 3 & -2 \\ 6 & 3 & 0 & -7 \end{bmatrix}$ (4M)

2. For the matrix A= $\begin{bmatrix} 2 & 3 & -1 & -1 \\ 1 & -1 & -2 & -4 \\ 3 & 1 & 3 & -2 \\ 6 & 3 & 0 & -7 \end{bmatrix}$ ,find the nonsingular matrices P and Q such that PAQ is in normal form. (6M)

3. Use Gauss-Jordan method to find the inverse of the following Matrices $A = \begin{bmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{bmatrix}$. (4M)

4. For what values of k is the following system of equations consistent and hence solve for them $x + y + z = 1; x + 2y + 4z = k, x + 4y + 10z = k^2$. (6M)

5. Show that the equations $x + 2y - z = 3; 3x - y + 2z = 1; 2x - 2y + 3z = 2; x - y + z = -1$. (4M)

6. Show that the equations $3x + 4y + 5z = a; 4x + 5y + 6z = b; 5x + 6y + 7z = c$ do not have a solution unless $a + c = 2b$ .(4M)

7. Find the characteristic vectors of the matrix $A = \begin{bmatrix} -2 & 2 & -3 \\ 2 & 1 & -6 \\ -1 & -2 & 0 \end{bmatrix}$. (6M)

8. Find the eigen values and the eigen vectors of the matrix $A = \begin{bmatrix} -2 & 2 & 2 \\ 1 & 1 & 1 \\ 1 & 3 & -1 \end{bmatrix}$ (6M).

9. Use the Cayley-Hamilton theorem to find $A^{-1}$ , if the matrix $A = \begin{bmatrix} 1 & 1 & 3 \\ 1 & 3 & -3 \\ -2 & -4 & -4 \end{bmatrix}$ (4M).

10. If $A = \begin{bmatrix} 2 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 2 \end{bmatrix}$, find $A^{-1}$. Find $B = A^8 - 5A^7 + 7A^6 - 3A^5 + A^4 - 5A^3 + 8A^2 - 2A + I$.(6M)

11. If $y^{\frac{1}{m}} + y^{\frac{-1}{m}} = 2x$, prove that $(x^2 - 1)y_{n+2} + (2n + 1)xy_{n+1} + (n^2 - m^2)y_n = 0$ (4M).

12. If $y = \frac{\sinh^{-1} x}{\sqrt{1+x^2}}$, show that $(1 + x^2)y_{n+2} + (2n + 3)xy_{n+1} + (n + 1)^2 y_n = 0$. (4M)

13. Using Taylor's theorem,express the polynomial $f(x) = 2x^3 + 7x^2 + x - 6$ in powers of $(x - 1)$. (4M).

14. Prove that $logsinx = logsina + (x - a)cota - \frac{1}{2}(x - a)^2 cosec^2 a + \cdots$ (4M)

15. Expand $f(x) = e^{\sin^{-1} x}$ by Maclaurin's series or otherwise upto the term containing $x^4$ (6M).

16. For a homogeneous function $u(x, y)$ of degree $n$ in $(x, y)$,
    $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} = nu$.

17. Given that $z = x^n f_1\left(\frac{y}{x}\right) + y^{-n} f_2\left(\frac{x}{y}\right)$, prove that

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

$$x^2\frac{\partial^2 z}{\partial x^2} + 2xy\frac{\partial^2 z}{\partial x \partial y} + y^2\frac{\partial^2 z}{\partial y^2} + x\frac{\partial z}{\partial x} + y\frac{\partial z}{\partial y} = n^2 z.$$ (6M)

18. If $z = \log(x^2 + xy + y^2)$, show that $\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} = 2$ . (4M)

19. Evaluate :- $\lim_{x\to\frac{\pi}{2}} (cosecx)^{\tan^2 x}$

20.Find the values of a and b such that $\lim_{x\to 0} \frac{asin2x - btanx}{x^3} = 1$

Ms.Prerna M.Parkhi,
Subject Teacher

Dr.A.N.Gupta,
HOD, BSHD,JDCOEM

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
(An Autonomous Institute, with NAAC "A" Grade)
Affiliated to DBATU, RTMNU

Education to Eternity

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

**MBA 4th Semester**

**Question Bank: International Business Management**

**Academic Year 2019-20**

1. Explain the concept of International Trade along with need and importance of IT
2. Discuss trade block and its classification
3. Discuss trade barriers. What are various tariff and non tariff barriers
4. Discuss Foreign trade. Explain Flow and trends of FDI
5. Discuss in brief of EXIM Policy
6. State Govt. Institute supporting foreign trade in brief.
7. Differentiate between Balance of trade and Balance of Payment
8. Explain the concept of Exchange Rate Management and type of ERM
9. What do you understand by Determination of Rate of Exchange?
10. What are the Role of RBI in foreign exchange management?
11. Discuss the various Factors Affecting in International Business Environment.
12. Discuss in brief IMF and WTO

**HOD MBA**

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

# JD College of Engineering & Management

## Department of Civil Engineering

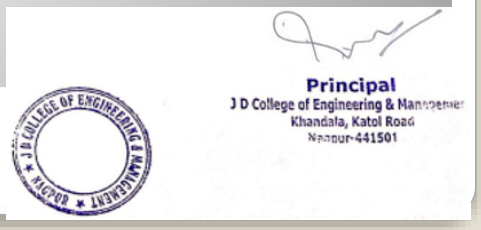
# SUBJECT: CONSTRUCTION ECONOMICS AND FINANCE

# UNIT II

PREPARED BY:-
Prof. Shital A. Navghare

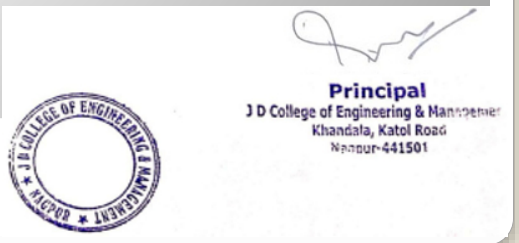
# Content

- Factors of production with special reference to construction industry
- Definition and Nature of Turnkey
- Construction Projects
- Numerical problem based on calculation of Rate of Return and Net Present Value.



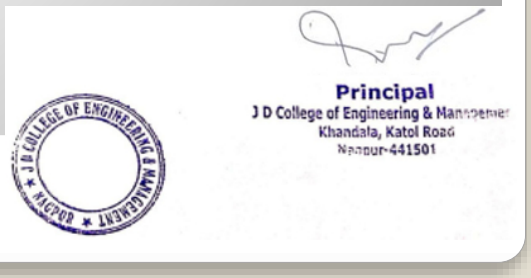
# What is Production?

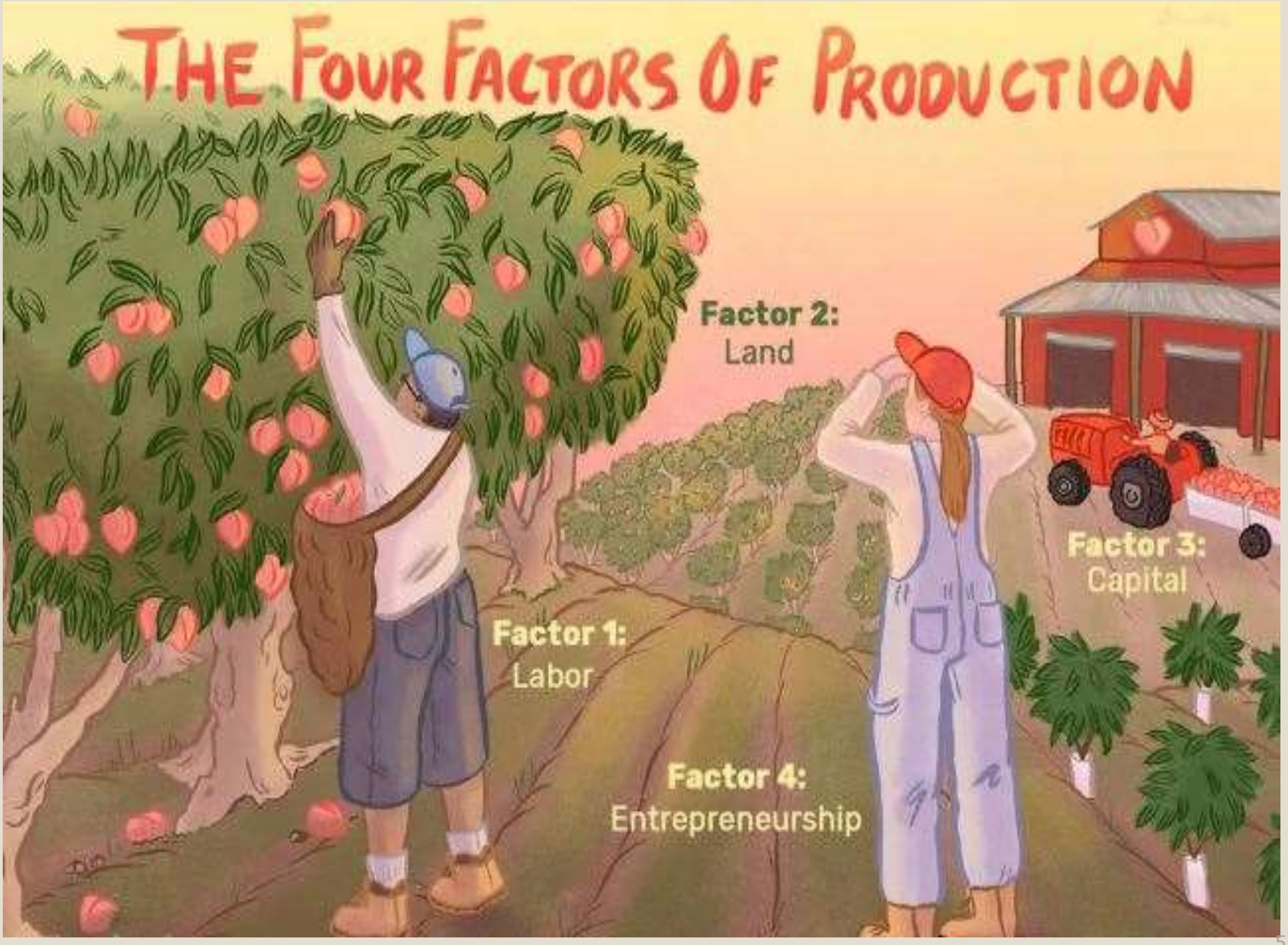
- Production is an outcome of an economic activity.
- Prof. J. R. Hicks defines Production as "any activity directed towards the satisfaction of other peoples wants through exchange."



# What is Factors of Production?

- Anything that assist production is termed as factor of production.
- But mere existence is not necessarily a factor of production.
- It become a factor of production only when it actually assist or contributes to production.




THE FOUR FACTORS OF PRODUCTION
Factor 2:
Land
Factor 3:
Capital
Factor 1:
Labor
Factor 4:
Entrepreneurship

# Factors of Production (Factor Inputs)

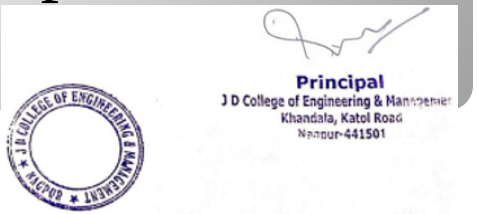
Factors of production are the inputs available to supply goods and services in an economy.


Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

# Land as a Factor of Production

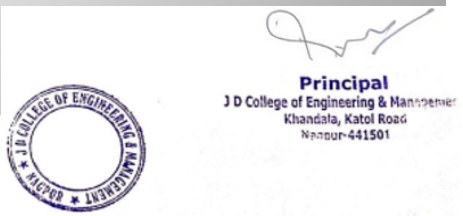
1. Land is the original and primary factor of production.
2. Without land the production process cannot exceed further.
3. In Economics all the natural resources that are available –
   a) on the surface of the earth
   b) below the surface of the earth
   c) above the surface of the earth

and which are used in the production process is called LAND.



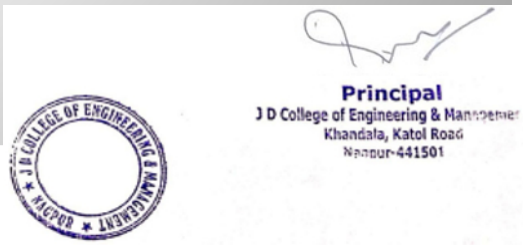
# Features of Land

1. Land is a free gift of nature.
2. Land has no cost of production.
3. The supply of land perfectly inelastic.
4. Land is subject to Law of Diminishing Return.
5. Land is immobile.



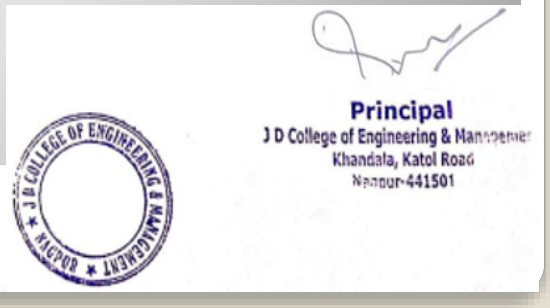
# Labour as a Factor of Production

1. Labour is a human factor of production.
2. In economics labour is defined as - “Economic activity of man with HEAD and HAND.”
3. LABOUR is human factor of any kind, manual or mental, skilled or unskilled, scientific or artistic undertaken with a view of creating or adding utility.



# Features of Labour

- Labour is a human factor.
- Active factor.
- Labour cannot be stored.
- No two labours are identical



# Capital as a Factor of Production

- Capital is a man-made resource of production used to produce further wealth.
- It refers to the stock of capital assets such as factories, machines, tools & equipments, raw material, transport vehicles etc…
- Therefore capital is defined as "Produced means of production"

# Features of Capital

- Capital is man-made factor of production.
- Supply of capital is elastic.
- Capital has mobility.
- All capital is wealth but all wealth is not capital.

# Entrepreneur as a Factor of Production

1. Entrepreneur is a person who brings in land, labour & capital in one place & uses it for the production process.
2. He is the person who decides-
   a) What to produce?
   b) How to produce?
   c) Where to produce?
3. The person who takes these decisions along with the risk associated with them is known as ‘Entrepreneur’.

# Features of Entrepreneur

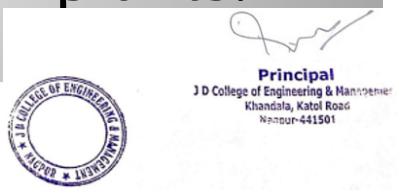
- He must be a good administrator.
- He must possess complete knowledge.
- He must be a person of imagination.
- He must be a man of action.

# Definition of Turnkey

"It is a contract under which a firm agrees to fully design, construct and equip a manufacturing/business/servic e facility and turn the project over to the purchaser when it is ready for operation for a remuneration."

# Turnkey Projects

- The turnkey project is one in which the contractor agrees to the client, in exchange for a fee, usually a flat rate, to design, build and operate a particular work that he previously projected.
- Turnkey operation it assumes responsibility for the design and construction of the entire operation, in return or the completion of the project the company receives a fee.
- Turnkey generally involve projects such as the construction of airports, dams, roads and factory complexes such as refineries and chemical plants.



# Process of Turnkey projects

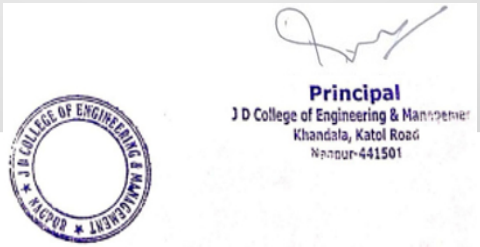
**Contractor**

Tender for the project

- Wanted: who is eligible and what is the best contract

**Execution**

project delivery and execution

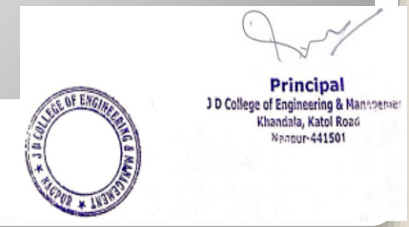


# Example of Turnkey Project

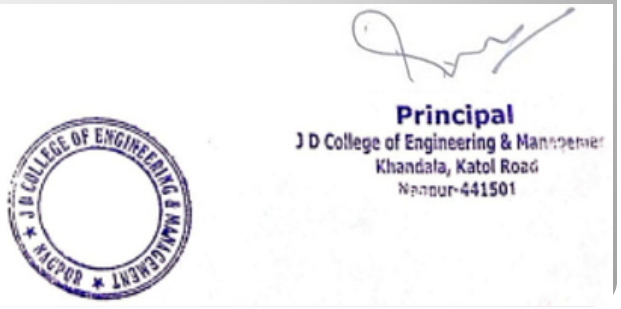
- A bid (also called **tender or contract** the public and private sector) is the administrative procedure for the procurement of supplies, performance of services or works that celebrate the entities, agencies and entities within the Public Sector.

- Ex. For the construction of a highway, local government makes a contest and choose the best proposal for the construction of this.

- It is paid in cash or through negotiation pays part and the rest is left to the management of the group that built to kick in a certain time in this case money through tolls.



# Thank You……


Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501
J D COLLEGE OF ENGINEERING & MANAGEMENT
NAGPUR

**JAIDEV EDUCATION SOCIETY'S**
**J D COLLEGE OF ENGINEERING AND MANAGEMENT**
**KATOL ROAD, NAGPUR**
**Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in**
**(An Autonomous Institute, with NAAC "A" Grade)**
**Department Of Electrical Engineering**
***"Igniting minds to illuminate the world"***
**2019-20 (Odd Sem)**

**Subject ECA**
**6th Sem EE**

## Why Earthing is necessary?

• Earthing is the process of flow of excessive amount of fault current of the electrical energy directly into the ground with the help of the low resistance wire is called earthing. The electrical earthing is done by connecting the non-current carrying part of the equipment or neutral of the supply system to the ground. It helps in the dissipation of the excessive amount of fault current directly into the ground and ensures safety. Let us discuss the necessity of earthing.

### The necessity of earthing

- Secures the safety of human beings from the excessive amount of electric shock.
- Guarantees the safety of electrical appliances and devices from the excessive amount of electric current.
- Assures safety from the fire which may be occurred from the current leakage.
- Provides the way to default current even after the failure of the insulation.
- Protects the appliances from high voltage surges and lightning discharge.
- It provides an alternative path for leakage of current.
- Earthing keeps the voltage constant in the healthy phase.
- It protects the Electric system and buildings from lightning.
- Earthing avoids the risk of fire in the electrical installation system.

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

## Types of Electrical Earthing

- Electrical system earthing can be classified into two types.
- Neutral Earthing • Equipment Earthing.
- Neutral Earthing
- In neutral earthing, the neutral of the system is directly connected to earth by the help of the GI wire. The neutral earthing is also called the system earthing. Such type of earthing is mostly provided to the system which has star winding. For example, the neutral earthing is provided in the generator, transformer, motor etc.
- Equipment Earthing
- Such type of earthing is provided to the electrical equipment. The non-current carrying part of the equipment like their metallic frame is connected to the earth by the help of the conducting wire. If any fault occurs in the apparatus, the shortcircuit current to pass the earth by the help of wire. Thus, protect the system from damage.


- **PLATE EARTHING:** In this type of earthing, a plate made up of galvanized copper or iron is buried vertically at a depth of not less than 3m from ground level. The plate connects all the conductors to the earth.

- **PIPE EARTHING:** In this type of earthing, a galvanized steel perforated pipe is buried vertically connecting all the electrical conductors to the earth where the depth of the pipe depends on the soil conditions. Pipe earthing is an economical type of earthing compared to other earthing methods.

## PLATE EARTHING PROCEDURE -

- To implement a plate type earthing, a plate made up of either copper or galvanized iron (GI) with dimensions 600mm x 600mm x6.35mm is buried vertically in the earth which is not less than 3m from the ground level. For successful completion of the plate type earthing, an earth pit must be dug, plate electrodes should be inserted, earthing and water connections are to be made, the pit must be backfilled and an inspection chamber should be built. The plate type of earthing is generally carried out in a muddy area where the most percentage of the earth's soil is loose.

- **EARTH PIT**: Excavation is done at a feasible spot in the substation and an earth pit of minimum size 900mm x900mm and a depth of 3m below the surface is created.

- **PLATE ELECTRODE**: A GI plate of minimum size 600mm x600mm and thickness of 6.3 mm is used and in the case of a copper plate a minimum thickness of 3.15mm can be used. The plate is placed in such a manner that the earthing plate is surrounded by an alternate layer of charcoal and salt.

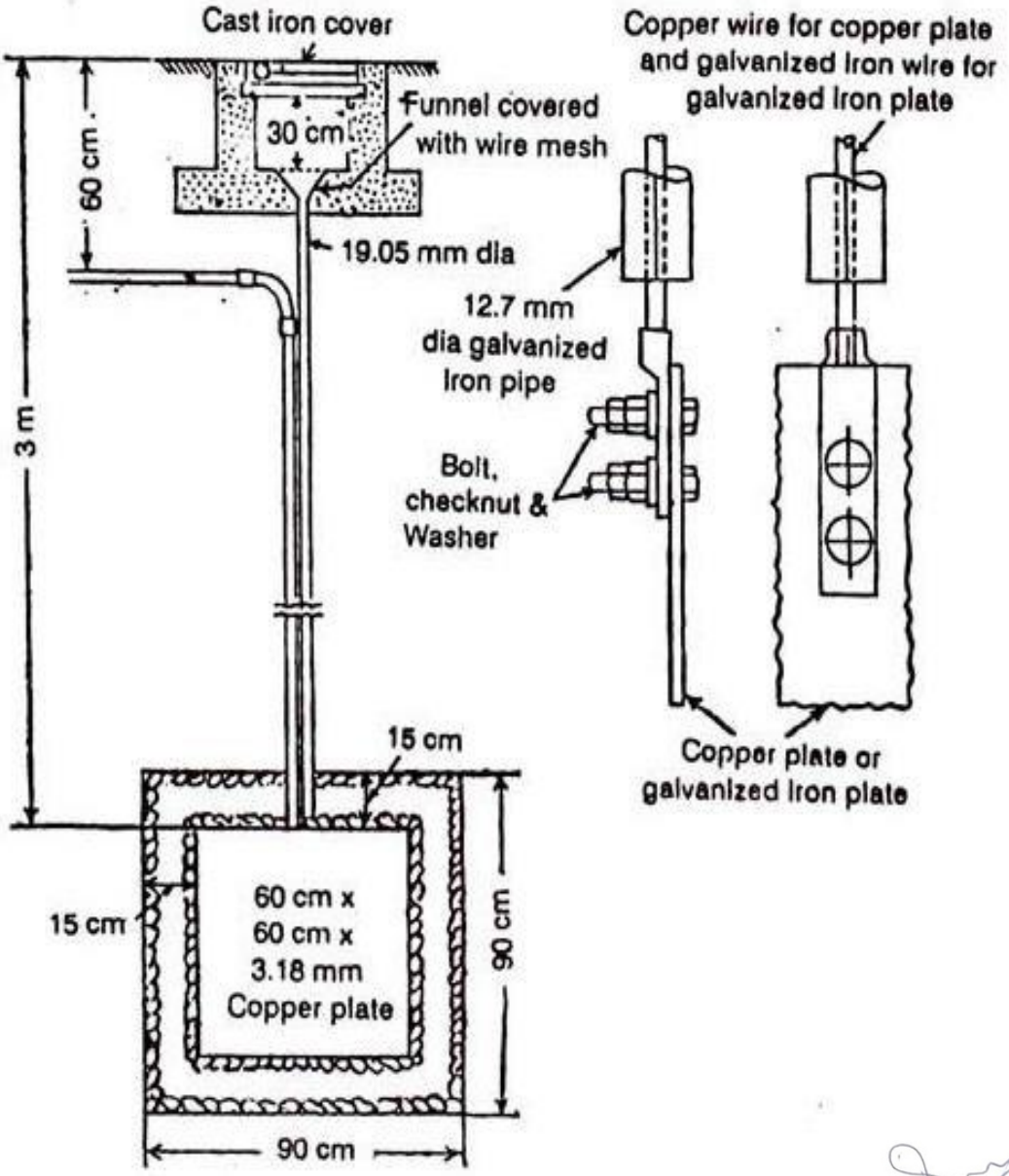
- **EARTHING CONNECTION**: In an earthing connection a GI strips of a minimum 50mm x 6mm to GI plate firmly with a GI nut, bolt and washer where each strip is fixed and welded to the plate at two different locations. These connections are made stronger as any loose earthing can lead to an adverse effect on the electrode system resistivity.

- **WATER CONNECTION:** To maintain moist conditions around the earth plate, a fixed GI pipe of diameter 25mm is attached at the top covered with a wire mesh and

water is poured through this pipe after which the excavated pit is backfilled with soil which is free of stones and lumps.

- **INSPECTION CHAMBER**: A brick chamber is built around the earth pit over a P.C.C layer of size 450mm x 450mm x 450mm with a thickness of 100mm placed at 100mm above the ground level where the top cover is placed with cast iron (CI) hinges to CI frame.

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

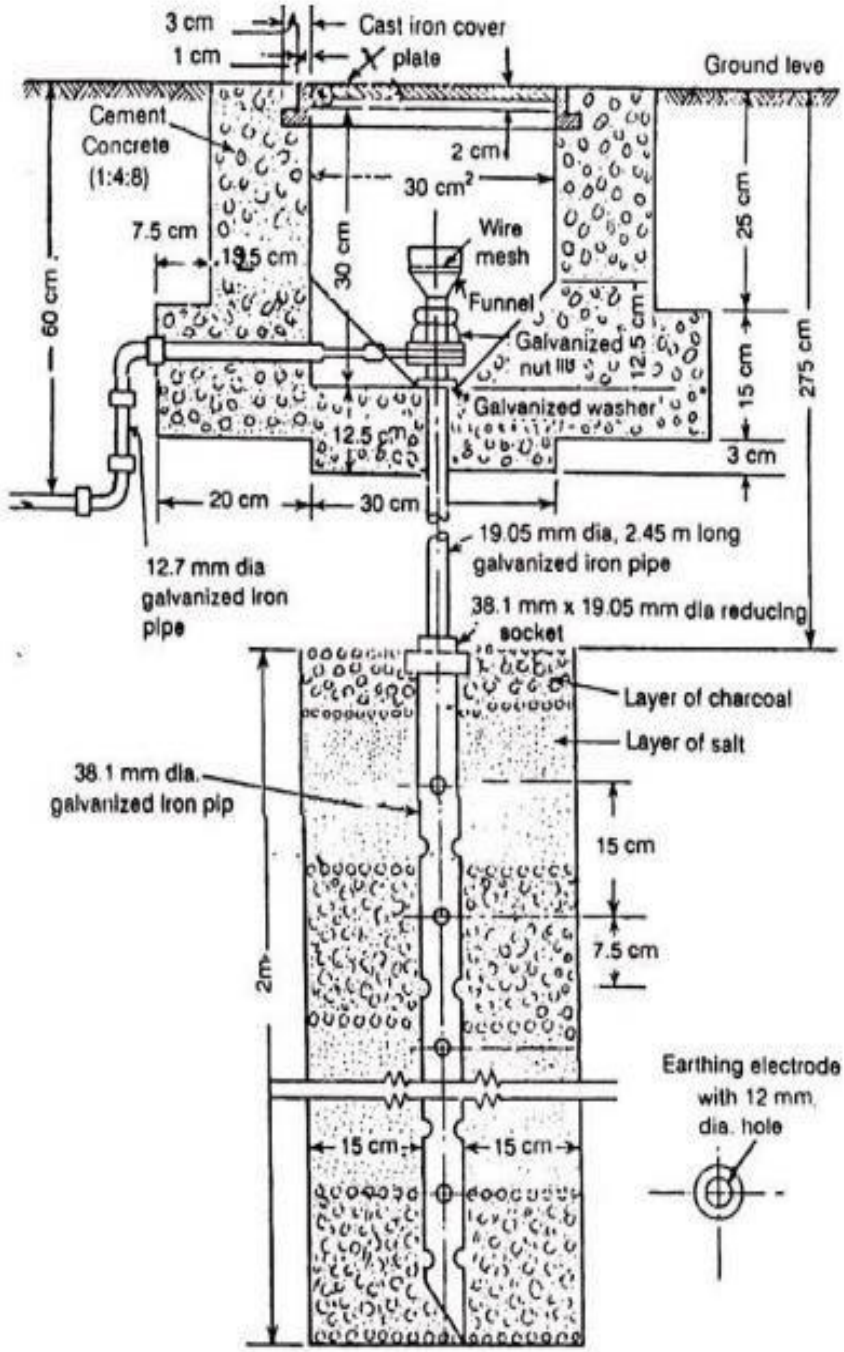



Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

## Pipe Earthing

- A pit is made 70 cm long, 70 cm wide and 3.75 meters deep in the ground for Pipe Earthing. a G.I., 38mm in diameter and 2 meters long. The Pipe is used as the earth electrode in that pit.
- The entire surface of that Pipe has 12mm holes. Which are made at a spacing of 7.5 cm. This means the electrode is fitted with a reducing socket with a diameter of 19mm and two such 12.7mm diameter G.I. Pipes are connected.
- A funnel is attached at the top end of the 19mm diameter Pipe. The funnel is used to water the Earthing. An open conductor for the earth lead is connected to the earth electrode through a 12.7mm diameter Pipe.
- The purpose is that the earth lid should not be damaged anywhere.
- Earth is laid around every layer of electrode at an interval of 15-15cm with sandy, sand and coal layer by layer.
- Meaning the pit above the electrode is covered with soil.
- The earth conductor, which is lifted out of a Pipe of 12.7mm diameter, is carried forward 60 cm below the ground, to the place where Earthing is to be done.
- A 30 × 30 cm cement concrete tank is built around the funnel. It is covered with a lid of cast iron.
- This type of Pipe is used for wiring installation of Earthing low and medium voltage.


Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501




Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

Soil resistivity measurement. Why determine the soil resistivity?

- Soil resistivity is most necessary when determining the design of the grounding system for new installations (green field applications) to meet your ground resistance requirements. Ideally, you would find a location with the lowest possible resistance. It is recommended that the ground rods be placed as deep as possible into the earth, at the water table if possible. For a grounding system to be effective, it should be designed to withstand the worst possible conditions

Earth Tester for earth resistance measurement

**Definition:** The **instrument used for measuring the resistance of the earth is known as earth tester.** All the equipment of the power system is connected to the earth through the earth electrode. The earth protects the equipment and personnel from the fault current. The **resistance of the earth is very low**. The fault current through the earth electrode passes to the earth. Thus, protects the system from damage.

The earth electrodes control the high potential of the equipment which is caused by the high lightning surges and the voltage spikes. The neutral of the three-phase circuit is also connected to the earth electrodes for their protection.

• Before providing the earthing to the equipment, it is essential to determine the resistance of that particular area from where the earthen pit can be dug. The earth should have low resistance so that the fault current easily passes to the earth. The resistance of the earth is determined by the help of earth tester instrument.

## Construction of Earth Tester

- The earth tester uses the hand driven generator. The **rotational current reverser and the rectifier are the two main parts of the earth tester**. The current reverser and the rectifier are mounted on the shaft of the DC generator. The earth tester
  works only on the DC because of the rectifier

- The tester has two commutators place along with the current reverser and rectifier. The each commutator consist four fixed brushes. The commutator is a device used for converting the direction of flows of current. It is connected in series with the armature of the generator. And the brushes are used for transferring the power from the stationary parts to the moving parts of the devices.

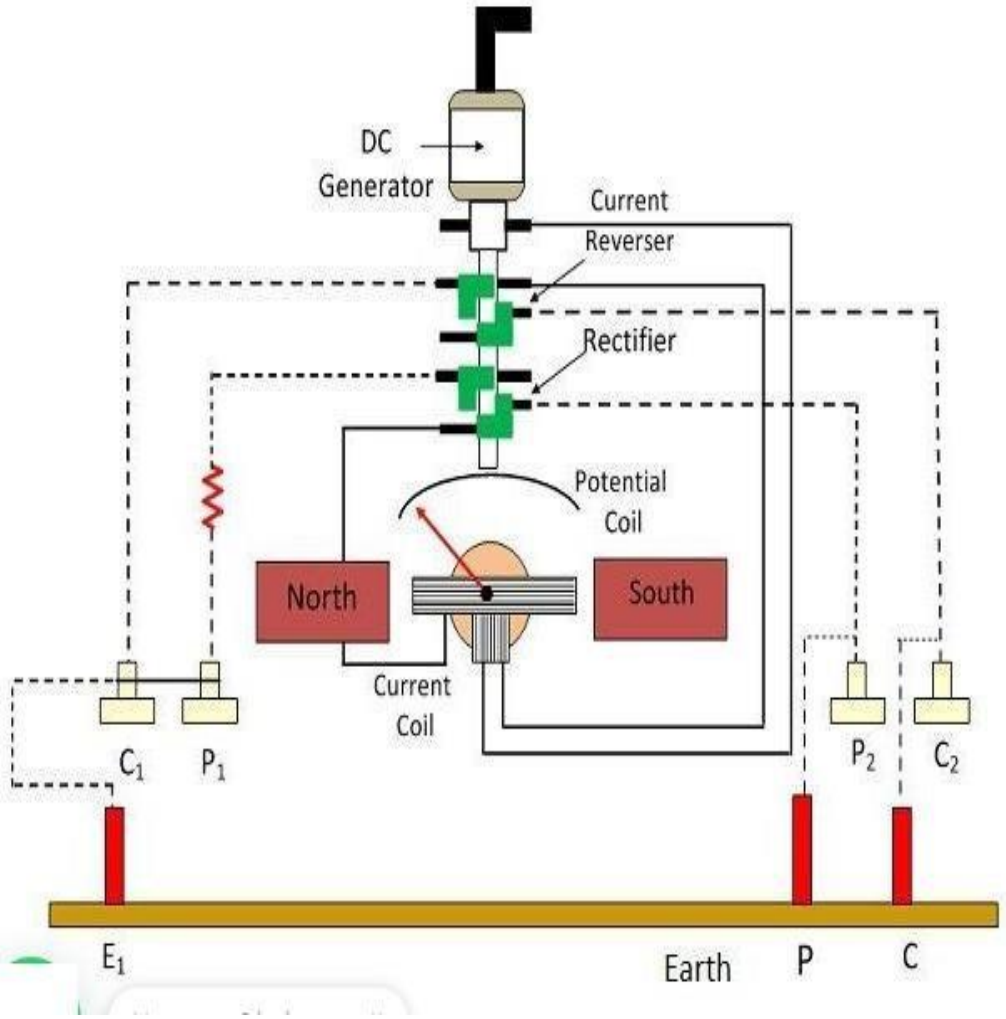
- The arrangement of the brushes can be done in such a way that they are alternately connected with one of the segments even after the rotation of the commutator. The brushes and the commutators are always connected to each other.

- The **earth tester consists two pressures and the current coils.** The each coil has two terminals. The pair of the pressure coil and the current coil are placed across the permanent magnet. The one pair of current and pressure coil is shortcircuited, and it is connected to the auxiliary electrodes.

- The one end terminal of the pressure coil is connected to the rectifier, and their other end is connected to the earth electrode. Similarly, the current coil is connected to the rectifier and earth electrode.

- The earth tester consists the potential coil which is directly connected to the DC generator. The potential coil is placed between the permanent magnet. The coil is connected to the pointer, and the pointer is fixed on the calibrated scale. The pointer indicates the magnitude of the earth resistance. The **deflection of the pointer depends on the ratio of the voltage of pressure coil to the current of the current coil.**

- The short-circuit current passes through the equipment to the earth is alternating in nature. Thus, we can say that the alternating current flows in the soil. This alternative current reduces the unwanted effect of the soil, which occurs because of chemical action or because of the production of back emf.




Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

Definitions

- Earth: The conductive mass of the earth, whose electrical potential at any point is conventionally taken as zero.

- Earth electrode: A conductor mild steel (MS) pipe, or group of conductors in intimate contact with and providing an electrical connection to earth.

- Earthing grid: A system of a number of interconnected, horizontal bare conductors buried in the earth, providing a common ground for electrical devices and metallic structures, usually in one specific location.

- Equipment earthing: Earthing of all metal work of electrical equipment other than parts which are normally live or current carrying. This is done to ensure effective operation of the protective gear in the event of leakage through such metal work, the potential of which with respect to neighbouring objects may attain a value which would cause danger to life or risk of fire.

- System earthing: Earthing done to limit the potential of live conductors with respect to earth to values which the insulation of the system is designed to withstand and thus to ensure the security of the system.

- Earthing conductors The earthing conductor is commonly called the earthing lead. It joins the installation earthing terminal to the earth electrode or to the earth terminal provided by the Electricity Supply Company. It is a vital link in the protective system, so care must be taken to see that its integrity will be preserved at all times.

Subject Teacher

HOD EE

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

JAIDEV EDUCATION SOCIETY'S
J D COLLEGE OF ENGINEERING AND MANAGEMENT
KATOL ROAD, NAGPUR
Affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere
Website: www.jdcoem.ac.in E-mail: info@jdcoem.ac.in
An Autonomous Institute, with NAAC "A" Grade
Department of Mechanical Engineering
Session 2019-20

Education to Eternity

# Lecture Notes
# UNIT 1 (Fluid Mechanics)

# APPLICATIONS OF BERNOULLI EQUATION

Presented By:

JITENDRA PACHBHAI

DOME, JDCOEM

# WHAT IS BERNOULLI EQUATION ?

It was Proposed by the Swiss scientist Daniel Bernoulli (1700–1782).

"Bernoulli's equation states that for an incompressible and inviscid fluid, the total mechanical energy of the fluid is constant" .

# ENERGY FORM:

$$\frac{P_2}{\rho} + \frac{V_2^2}{2} + gz_2 = \frac{P_1}{\rho} + \frac{V_1^2}{2} + gz_1$$

Pressure energy + Kinetic energy + potential energy = constant

# HEAD FORM:

$$\frac{P_2}{\rho g} + \frac{V_2^2}{2g} + z_2 = \frac{P_1}{\rho g} + \frac{V_1^2}{2g} + z_1$$

Pressure head + kinetic head + potential head = constant

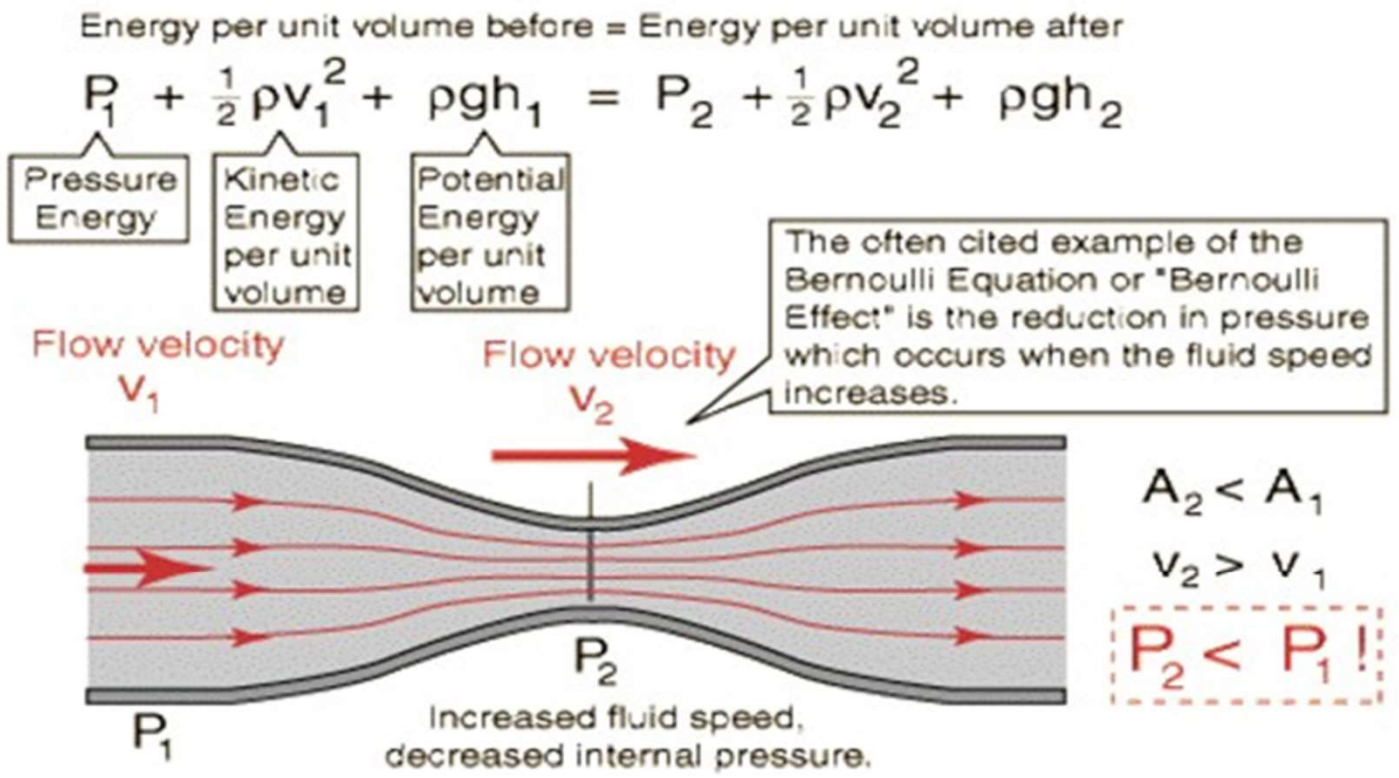
# PRESSURE FORM:

$$P_2 + \rho\frac{V_2^2}{2} + \rho g z_2 = P_1 + \frac{\rho V_1^2}{2} + \rho g z_1$$

Static pressure + dynamic pressure + hydrostatic pressure = constant


Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

# WHAT IS BERNOULLI EQUATION ?




Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

# APPLICATIONS:

- Sizing of Pumps
- Flow sensors
- Ejectors
- Carburetor
- Siphon
- Pitot tube

# APPLICATION IN PUMPS:

Volute in the casing of centrifugal pumps converts velocity of fluid into pressure energy by increasing area of flow.

The conversion of kinetic energy into pressure is according to the Bernoulli equation.

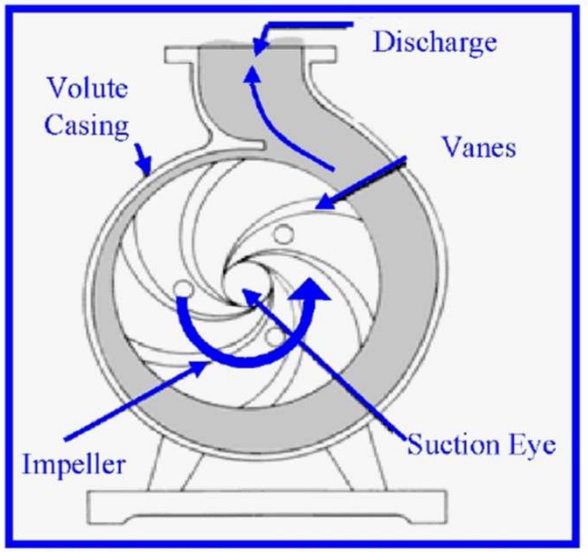
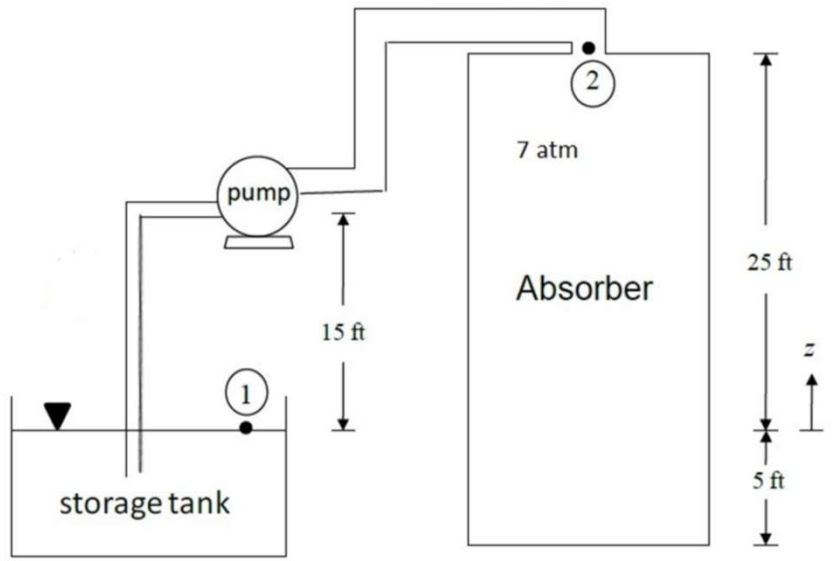



**Figure A.01: Liquid flow path inside a centrifugal pump**

# SIZING OF PUMPS:

$$\frac{P_2}{\rho} + \frac{V_2^2}{2} + gz_2 = \frac{P_1}{\rho} + \frac{V_1^2}{2} + gz_1 - losses - w_s$$

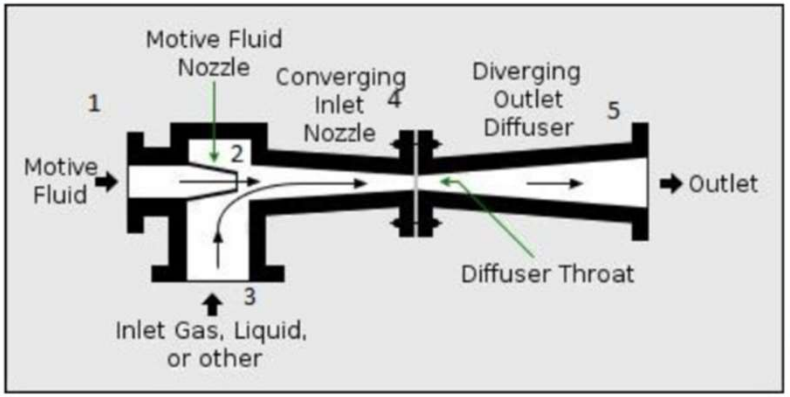
$$-w_s = loss + \frac{V_2^2}{2} + g(z_2$$

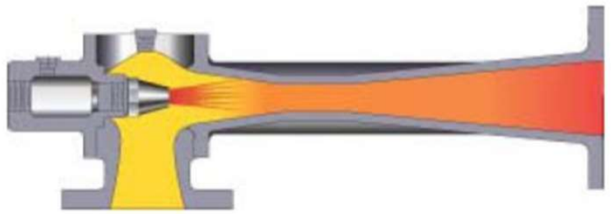


# EJECTORS:

Ejectors are designed to convert the pressure energy of a motivating fluid to velocity energy to entrain suction fluid … and then to recompress the mixed fluids by converting velocity energy back into pressure energy.

Ejectors are composed of three basic parts: a nozzle, a mixing chamber and a diffuser. The diagram illustrates a typical ejector



Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *

# PITOT TUBE

Pitot tube is a pressure measurement instrument Used to measure fluid flow velocity.

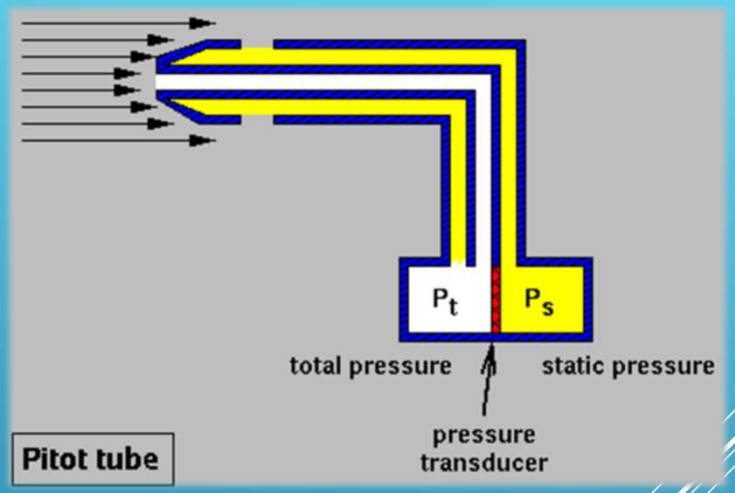
Pitot tubes can be used to indicate fluid flow velocity by measuring the difference between the static and dynamic pressures in fluids.

The principle is based on the Bernoulli Equation.

$$P_2 + \frac{\rho V_2^2}{2} + g\rho z_2 = P_1 + \frac{\rho V_1^2}{2} + g\rho z_1$$

$$P_2 = P_1 + \frac{\rho V_1^2}{2}$$

$$V_1 = \sqrt{\frac{2(P_t - P_s)}{\rho}}$$



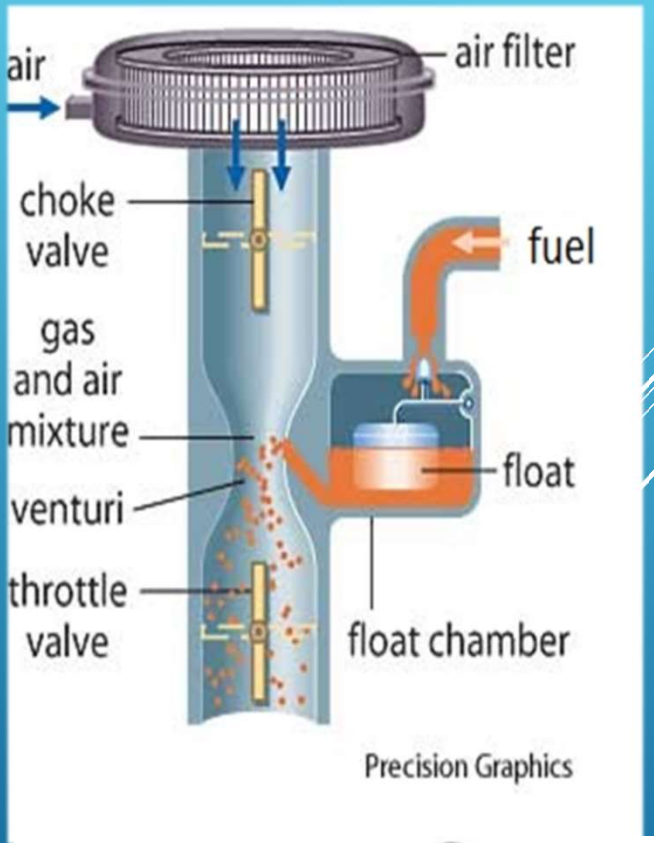

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *

# CARBURETOR:

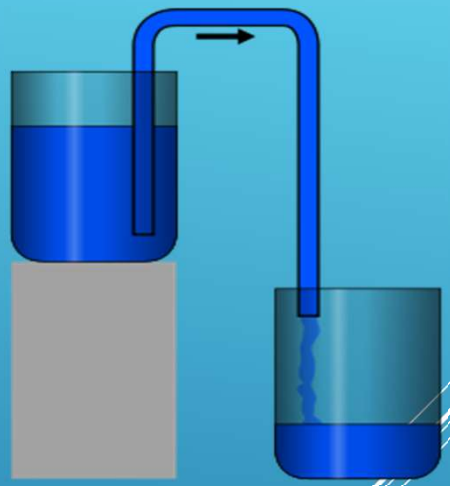
The carburetor works on Bernoulli principle: the faster air moves, the lower its static pressure, and the higher its dynamic pressure.

The throttle (accelerator) linkage does not directly control the flow of liquid fuel. Instead, it actuates carburetor mechanisms which meter the flow of air being pulled into the engine. The speed of this flow, and therefore its pressure, determines the amount of fuel drawn into the airstream.



# SIPHON

Siphon, a bent tube used to move a liquid over an obstruction to a lower level without pumping. A siphon is most commonly used to remove a liquid from its container. The siphon tube is bent over the edge of the container, one end in the liquid and the other outside end at a lower level than the surface of the liquid in the container.



Static pressure + dynamic pressure + hydrostatic pressure=constant

$$\frac{P_2}{\rho} + \frac{V_2^2}{2} + gz_2 = \frac{P_1}{\rho} + \frac{V_1^2}{2} + gz_1$$

$$0 + \frac{V_2^2}{2} + 0 = 0 + 0 + gH$$

$$V_2 = \sqrt{2gH}$$

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT NAGPUR

# THANK YOU !

Have Questions in mind ?

| VISION | MISSION |
|---|---|
| To be a center of excellence imparting professional education satisfying societal and global needs. | 1. Transforming students into lifelong learners through, quality teaching, training and exposure to concurrent technologies.<br>2. Fostering conducive atmosphere for research and development through well-equipped laboratories and qualified personnel in collaboration with global organizations. |

# Academic Year 2019-20

# MBA Semester- III

# Subject: Industrial Relation & Labor Law (4T4)

# UNIT I: INDUSTRIAL RELATIONS

## DEFINITION:

Industrial Relation is a relation between employer and employees, employees and employees and employees and trade unions. – (Industrial dispute Act 1947)

It is defined as "Process by which people and their organizations interact at the place of work to establish the terms and conditions of employment."

The Industrial relations are also called as labour - management, employee-employers relations.

## FEATURES OF INDUSTRIAL RELATIONS

1. Existence of the two parties, i.e. labour and management.
2. Industrial Relations are characterized by both conflict and co-operations. So the focus of Industrial Relation is on the study of the attitudes, relationships, practices and procedure developed by the contending parties to resolve or at least minimize conflicts.
3. Study of Industrial Relation also includes vital environmental issues like country's political, economical, social environment, technology of the workplace, nation's labour policy (legal environment), attitude of trade unions workers and employers.
4. Industrial Relations also studies the laws, rules regulations agreements, awards of courts, customs and traditions, as well as policy framework laid down by the governments for eliciting co-operations between labour and management.

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

## OBJECTIVES OF INDUSTRIAL RELATION:

Following are the important objectives of industrial relation:

1. To safeguard the interest of labour and management by promoting mutual understanding and good-will
2. To avoid industrial conflict or strife and develop harmonious relations
3. To enhance productivity to a higher level by reducing employee turnover and absenteeism.
4. To promote growth of an Industrial Democracy
5. To eliminate, as far as is possible and practicable, strikes, lockouts and gheraos by providing reasonable wages, improved living and working conditions, said fringe benefits.
6. To establish government control of plants and units which are running at a loss or in which productions has to be regulated in the public interest
7. Improvements in the economic conditions of workers
8. Control exercised by the state over industrial undertaking with a view to regulating production and promoting harmonious industrial relations.
9. Socializations of industries by making the state itself a major employer.

## APPROACHES TO INDUSTRIAL RELATIONS:

The industrial relations scenario and factors affecting it, has been perceived differently by different practitioners and theorists. Some have viewed IR problems in terms of class conflict; some have viewed it in terms of mutuality of interests of different groups; some have viewed it as a consequence of interaction of various factors both within an organization and outside it; and so.

Based on these orientations, several approaches have been developed to explain the dynamics of IR. These approaches are unitary approach, systems approach, pluralistic approach, Marxist approach, and strategic management approach. Understanding of these approaches is helpful in devising effective IR strategy.

### 1. UNITARY APPROACH-

a. The basic assumption in unitary approach is that everyone benefits when the focus is on common interest and promotion of harmony.
b. IR is grounded on mutual cooperation, individual treatment of employees, teamwork, and shared goals.
c. Employees cooperate with management and accept their right to manage the affairs of the organization.
d. Workplace conflict is seen as a temporary aberration resulting from poor management of employees, or the mismatch between employees and organizational culture.

e. The earlier theorists have emphasized employee-oriented organizational processes to integrate the employees with the organization. This approach appears to be good in its orientation as it emphasizes employees in the organization.
f. However, it has failed to consider different variables affecting IR within individual organizations and the total industrial sector. Various such approaches like paternalistic and philanthropic have failed because of the wrong assumptions made about the work behaviour of employees. This approach has been criticized on the basis that it is manipulative and exploitative.

**2. PLURALIST APPROACH-**

a. This philosophy is applicable mainly in Britain, Japan and America. Allan Flaunders, Clegg and other are the main profounder.
b. The basic emphasis of pluralistic approach is that an organization is a coalition of interested groups
c. The top management serves the long-term needs of the organization as a whole by paying due concern to all the interest groups affected — employees, shareholders, consumers, and society.
d. There is possibility that the management may pay insufficient heed to the needs and claims of employees
e. The pluralistic approach assumes that labour and management have many conflicting interests, but such conflicts are not only natural but even necessary
f. Employees may unite to bring collaborative force for the acceptance of these needs and claims.
g. According to this approach, collective bargaining is the mode of participation and is the method of solving the disputes between management and the workers by negotiation.
h. Thus, the stability in IR system is the product of concessions and compromises between management and unions.
i. The role of State is quite limited in IR system and should not have excessive influence on any party to IR.
j. This approach has certain basic limitations. The basic assumption that in a free society, labour and management will arrive at an acceptable negotiated term does not hold good. This may be a costly affair, at least, in the short-run.
k. A society may be free but power distribution is not necessarily equal among the competing forces. Therefore, some kind of State intervention has become necessary to bring two parties involved in a conflict on equal terms.

## 3. MARXIST APPROACH-

a. Like pluralistic approach, Marxist approach also treats that labour and management conflict is inevitable. However, this approach differs from the earlier one so far as the cause of conflict is concerned; it ascribes that the conflict is the product of the capitalist society which is based on classes.

b. The two classes — labour and capital — have essentially different interests in an organization, and these interests are conflicting. The objective of capital has been to enhance productivity by gaining control over the labour process. The wages of the labour are seen as a cost and, therefore, makes attempt to minimize it. Labour, being a factor of production, should be hired so long as it can generate profit.

c. The labour-capital conflict cannot be solved by the existing systems of bargaining, participation, cooperation, and other means of building harmonious relationships; rather, it can be solved by the change in the capitalistic system as a whole. This has led to the emergence of new IR systems in most of the socialist countries.

d. The founder of this school, Karl Marx advocated complete socialization of production as the only method of putting an end to the concentration of wealth and to the exploitation of workers by the owners of capital. Under this approach all the enterprises are owned by the State and the workers themselves constitute the management.

e. At many other places, it has generated the use of coercive power such as Gherao, etc. by the workers against management. The Marxist approach of IR may have some merits but it has somewhat limited scope in countries not based on socialism as practiced in communist bloc.

## 4. DUNLOP'S SYSTEM APPROACH-

**The Dunlop theory of industrial relations states that the industrial system is comprised of three distinct parts: management organizations, workers and government agencies.** These three entities cannot act completely independent of each other, but instead are interlinked, and the power each one holds is dependent on its position within the market and political environment. The theory was created by sociologist John Dunlop in 1958.

Dunlop's theory basically states that the industrial relations system is really a social subsystem, and its actions are dependent on three factors: technology, the economy and the distribution of political power. All three of these environmental factors and the rules that are

derived from them are what determines the relationship between employers and workers in the industrial context.

This theory differs from the prevailing ideologies of the time, which mostly considered employers, workers and the government as separate, autonomous agencies with separate and independent powers and processes. By contrast, Dunlop's theory paints the entire industrial relationship as a complex system with interconnected parts that cannot operate independent of each other. Dunlop placed a lot of emphasis on external or environmental forces shaping the roles of each of the three principal parts. Management, the labor force and technology all coexist within the broader context of society, and are governed by legal, political, social and economical forces.

**5. PSYCHOLOGICAL APPROACH-**

The psychologists are of the view that the problems of industrial relations are deeply rooted in the perception and the attitude of local participants.

The influence of individual's perception on his behaviour has been studied by Mason Harie. He studied the behaviour of two different groups, namely, "Union leaders" and the "Executives" through a test. For the test, a photograph of an ordinary middle-aged person served as input, which both the groups were expected to rate.

It is interesting to note that both the groups rated the photograph in different manner, i.e., the Union leaders referred the person in the photograph as "Manager" where the group of "Executives" saw "Union leader" in the photograph.

The result of study led Harie to conclude that:

a. The general impression about a person is radically different when he is seen as a representative of management from that of the person as a representative of labour.
b. The management and labour see each other as less dependable.
c. The management and labour see each other as deficient in thinking regarding emotional characteristics and interpersonal relations.

This variance in perception of parties is largely because of their individual perception. It is for this reason that almost invariably some aspect of the situations are glorified, some suppressed or totally distorted by the individual making a judgment in the issue. The conflict between 'labour'

and ‘management’ occurs because every group negatively views / perceives the behaviour of other, i.e., even the honest intention of a party is looked with suspicion.

In most of industrial conflicts, not only the interest but also the personalities of actors in the system are at stake. The problem is further aggravated by the unfulfilled needs of power, prestige, recognition, economic motives etc. Also strained interpersonal and inter-group relations breed disharmony in the system.

**6. SOCIOLOGICAL APPROACH –**

The industry is a community made up of various individuals and groups with differing personalities, educational background, family breeding, emotions, likes and dislikes, and a host of other personal factors, such as attitudes and behaviour.

Though, the workers carry out their jobs in given industrial environment, their work behaviour is largely monitored by social factors like value system, customs, norms, symbols, attitude and perception of both labour and management affect the industrial relations in varied ways.

These differences in individual attitudes and behaviour create problems of conflict and competition among the members of an industrial society.

Further, the social consequences of industrialization like organization, social mobility, and migration generate many social evils like family disintegration; stress and strain, delinquency, personal and social disorganization (leading to growing incidence of gambling, drinking, prostitution, drug abuse, etc.) do influence workers’ efficiency and productivity that in turn influence industrial relations system of an industry.

Today’s management has increasingly become professional, there is a greater thrust on the use of behaviour techniques in dealing with human side of enterprise.

Decision-making has now been increasingly democratized, ideas about authority, power and control have undergone a sea change.

The profile of the industrial worker has also changed; instead of being a migrant, he has now been stabilized in the industrial centres. He is no longer unskilled or neglected by society. He has a new personality and shares in the benefits offered by a welfare society. He is secure in his employment once he enters it. A process of the industrial culturisation of the working class has

set in social mobility today which accounts for the emergence of a mixed industrial workforce. The role of state and political parties has been redefined in the light of these changes.

Since ages, the problems of industrial relations have been looked upon as one basically concerned with wages, employment, conditions, and labour welfare. But in fact sociological aspects of the problem are more important than others.

Sociologically speaking, in the process of change, industrial relations are becoming more complex that would further complicate with the passage of time.

**7. HUMAN RELATIONS APPROACH-**

As the management of people at work is an exclusive prerogative of Human Resources specialists, the various Human Resources Management policies including those relating to leadership and motivation have profound influence on their work behaviour. Certainly, every style of leadership elicits a peculiar response from the people.

For instance, a manager, using an autocratic style, designs, a close supervision system and feels that display of authority would drives people to work.

But this style leads to dissatisfaction and hatred among people, whereas, in a democratic style, it is held that a desired organisational behaviour can be cultivated if employees' needs and wants are properly satisfied. The manager working with such a style positively motivates people. In fact, no style is good or bad, every situation demands specific leadership behaviour on the part of HR specialist.

Another important factor that is like a common denominator in all conflicts is the dissatisfied needs of the individual. Hence, for maintaining good human relations in general and industrial relations in particular, the study of human needs is of paramount importance.

Employees also have their own preconceived notions, needs, problems. No specific diagnosis can be made for maintaining good industrial relations in the industry. It has now been increasingly recognized that much can be gained by the manager and the worker if they understand and apply the techniques of human relations to industrial relations.

**8. SOCIO-ETHICAL APPROACH-**

Good industrial relations can be only maintained when both the labour and management realize, their moral responsibility in contributing to the said task through mutual cooperation and greatest understanding of each other's problems.

## EVOLUTION OF INDUSTRIAL RELATIONS IN INDIA

### THE FIRST PHASE OF INDUSTRIAL RELATIONS (1950 TO MID-1960S)-

The first phase of the (post-independence) Indian union movement corresponds to the first three Five-Year Plans (1951–56, 1956–61, 1961–66), a period of 'national capitalism'.

A state-led industrialization with an import substitution strategy resulted in the formation of large, employment-intensive public sector enterprises, mostly in the capital and intermediate goods sectors. Public sector employment quite naturally led to the formation of public sector unionism. The number of registered unions increased rapidly from 4,623 in 1951/52 to 11,614 in 1961/62; the membership of registered unions that submitted returns more than tripled during this period.

The communist led All India Trade Union Congress (henceforth, AITUC) continued to consolidate its position over the union movement from its pre-independence days in the textile and engineering industries. The Congress Party-controlled Indian National Trade Union Congress (henceforth, INTUC) made early inroads. Unlike the AITUC that arose from within the rank and file, the INTUC was exogenously imposed on to the labour movement.

The provisions in the act allow for no procedures to determine the representative union within what would normally be a single bargaining unit, and as employers were under no legal obligation to bargain with unions, there were no built-in incentives for either party to engage in collective bargaining. Early writings consistently pointed to this aspect of the ID Act that impeded collective bargaining during this period. Coupled with this was the Indian Trade Union Act of 1926, which although allowed any seven workers to register their union, had no provision for union recognition. The opposition unions were for a 'secret ballot' procedure to determine union strength, but the INTUC was against it, favouring instead the 'check-off' system of membership receipts, a system that easily led to manipulation.

The ID Act also made it difficult for the unions to call a 'legal' strike. Most disputes were first referred to conciliation, then to the labour commissioner. If this solution failed, the dispute was usually settled in an industrial or labour court, or occasionally through binding arbitration. During the late 1950s however, attempts were made to introduce labour legislation promoting genuine collective bargaining through various voluntary arrangements, such as the Code of Discipline and the inter-union Code of Conduct.

Effective dispute resolution through voluntary arbitration was also suggested. Various bills were drafted and debated at several tripartite forums, but none were enacted. State intervention in the determination of wages and working conditions was the norm during the first phase; wages were determined by political and institutional considerations.

Low unionization, inter-union rivalries sharpened by political affiliation, excess supply of labour and state intervention of a complex type contributed to a wage lag. The labour relations regime was one of promoting 'responsible unionism' subject to the maintenance of industrial peace. Industrial conflict data indicates that both the number of strikes, as well as the number of workers involved in those strikes, during this phase were significantly less than what was to follow during the second phase and beyond. By the end of this phase, further splits took place within the labour movement: the Socialists broke away from the Congress and formed their union federation, and the radicals broke away from the Communist Party of India and formed their own party, which in turn generated its own union federation, the Centre of Indian Trade Unions (henceforth, CITU).

**THE SECOND PHASE OF INDUSTRIAL RELATIONS (MID-1960S TO 1979)**

The second phase of unionism corresponds with the 1967–69 Annual Plans, the Fourth (1969–74) and the Fifth (1974–79) Five Year Plans.

This period is associated with overall industrial stagnation: between 1965 and 1975, the average annual rate of growth of total industrial production and of manufacturing output increased at only 3.6 per cent and 3.1 per cent respectively.

Political economists posited various explanations for this period of industrial slow-down: the deceleration in public investment, the unequal terms of trade between agriculture and industry, the inefficiencies of state regulation in the public sector, and changes in the structure of demand resulting from growing income inequalities. In addition, the economy suffered two oil price shocks, in 1973 and in 1978.

As employment elasticities fell and labour markets got tighter, the number of disputes (strikes and lockouts), the number of workers involved in these disputes, as well as the number of mandays lost due to these disputes, increased phenomenally between 1966 to 1974 (Sengupta,

1992). New forms of protest, such as the '*hartal*' (the go-slow), emerged during this second phase often resulting in considerable violence.

Disillusionment with the INTUC's internal practices and its ineffectiveness in representing union voice at the enterprise level led to the proliferation of unions affiliated to more radical political organizations during the first part of this second phase. Workers sought more skilled politicians and negotiators to lead their union struggles. The leadership of the radical unions (at this time) was mostly committed lawyers and student activists well-versed in the bureaucratic rites of the Indian industrial relations system rather than political party-men. An analysis of industrial disputes by 'union-types' revealed that the number of disputes involving 'multiple unions' increased during the earlier part of this phase (1966–73) compared to the first phase, reflecting the period of intense inter union rivalry. These uncertainties within the union movement finally culminated in the all-India May 1974 railway workers' strike that shook the economy and the country at the time.

During Mrs. Gandhi's National Emergency of 1975–77 the right to strike was suspended, and the regime preempted bargaining on key issues, froze wage increases, reduced the minimum annual bonus, and transferred increments in the cost-of-living allowance to a compulsory savings scheme. Two important interventions took place in the industrial relations arena during this regime. The first was the attempt by the government to establish the National Apex Body, composed of twelve union federations and eleven employer representatives, in order to encourage a bipartite approach to industrial relations. While on the surface this seemed more responsive to union preferences for voluntary collective bargaining, such appearances were illusory. The second intervention was the 1976 amendment to the ID Act, which led to employment inflexibility: firms employing more than 300 workers had to get (state) government permission before they could retrench workers. Needless to say, government permission was seldom forthcoming. However, this apparently pro-union measure had an unexpected effect: for the first time since independence, the number of mandays lost due to lockouts exceeded the number of days lost due to strikes since 1976 (Sengupta, 1992). During the post-Emergency regime of the Janata government (1977–80), there was a change in the political climate but not much rethinking on industrial relations reform (Sengupta, 1992). An attempt by the government to put forward an industrial relations bill, which among other things wanted to ban strikes and lockouts in essential industries and services, was met with stiff opposition from most unions and political parties.

The 1965 amendment to the ID Act placed agreements arrived at through conciliation and adjudication at a 'higher legal footing'. First, coalition bargaining between multiple unions and employer takes place so as to arrive at a satisfactory settlement. In order to convert the agreement into a legally binding document, conciliation is sought (not after the failure of direct negotiations as in the first phase) after all parties reach an agreement during the process of coalition bargaining. The terms of the agreement are now signed in the presence of the conciliation officer, thereby making the contract legally binding to all parties.

The states can add their own labour legislation to the central labour statutes ('labour is a concurrent subject in India'), and in the early 1970s, Maharashtra, Gujarat, Rajasthan and

Madhya Pradesh enacted their own laws regarding union recognition (Mathur, 1992: 48). In Maharashtra, the state passed the Maharashtra Recognition of Trade Unions and Prevention of Unfair Labour Practices Act that became effective from 1975. Not to bargain with the (now-defined) representative union became an unfair labour practice under this act.

Towards the end of this phase it became apparent that there were some troubling union 'monopoly' effects, especially in the public sector. Public sector employees received considerable fringe benefits that were administered in relatively insulated internal labour markets, whereas in the private sector, unions had to intensely bargain over any such benefits in a competitive economic environment. Inflexible contract provisions, especially those relating to deployment and retraining and to seniority rules, increased costs substantially in the public sector. Overall, fractured union 'voices' searched for a collective mode of expression as this second phase witnessed maximum industrial strife (compared to the other three phases) both in terms of the number of disputes and the number of workers involved.

**THE THIRD PHASE OF INDUSTRIAL RELATIONS (1980–1991)**

This phase corresponds to the Sixth (1980–85) and the Seventh (1985–90) Five Year Plans, as well as the two Annual Plans (1990–92).

Subject In-charge

Bhushan R.Mahajan
Head of Department,
DOME
JDCOEM, Department
Mechanical Engineering
J D College of Engineering & Management
Nagpur

Principal
J D College of Engineering & Management
Khandala, Katol Road
Nagpur-441501

J D COLLEGE OF ENGINEERING & MANAGEMENT * NAGPUR *