Name of the Institution: SKDAV Govt. Polytechnic Rourkela

Address	Basanti Nagar ,Rourkela-12
Telephone	0661-250550
Mobile	9861132851
E-Mail	principal_skdav@rediffmail.com

Name and address of the Trust/ Society/ Company and the Trustees

Address	It is Govt. Institution controlled by Director of Technical Education & Training, Odisha under Skill Development & Technical Education Department, Govt. of Odisha
Telephone	
Mobile	
E-Mail	

Name and Address of the Principal: Smt.Rinata Das

Address	At-SKDAV Govt. Polytechnic,Rourkela-12
Telephone	0661-250550
Mobile	9861132851
E-Mail	rinatadas@gmail.com

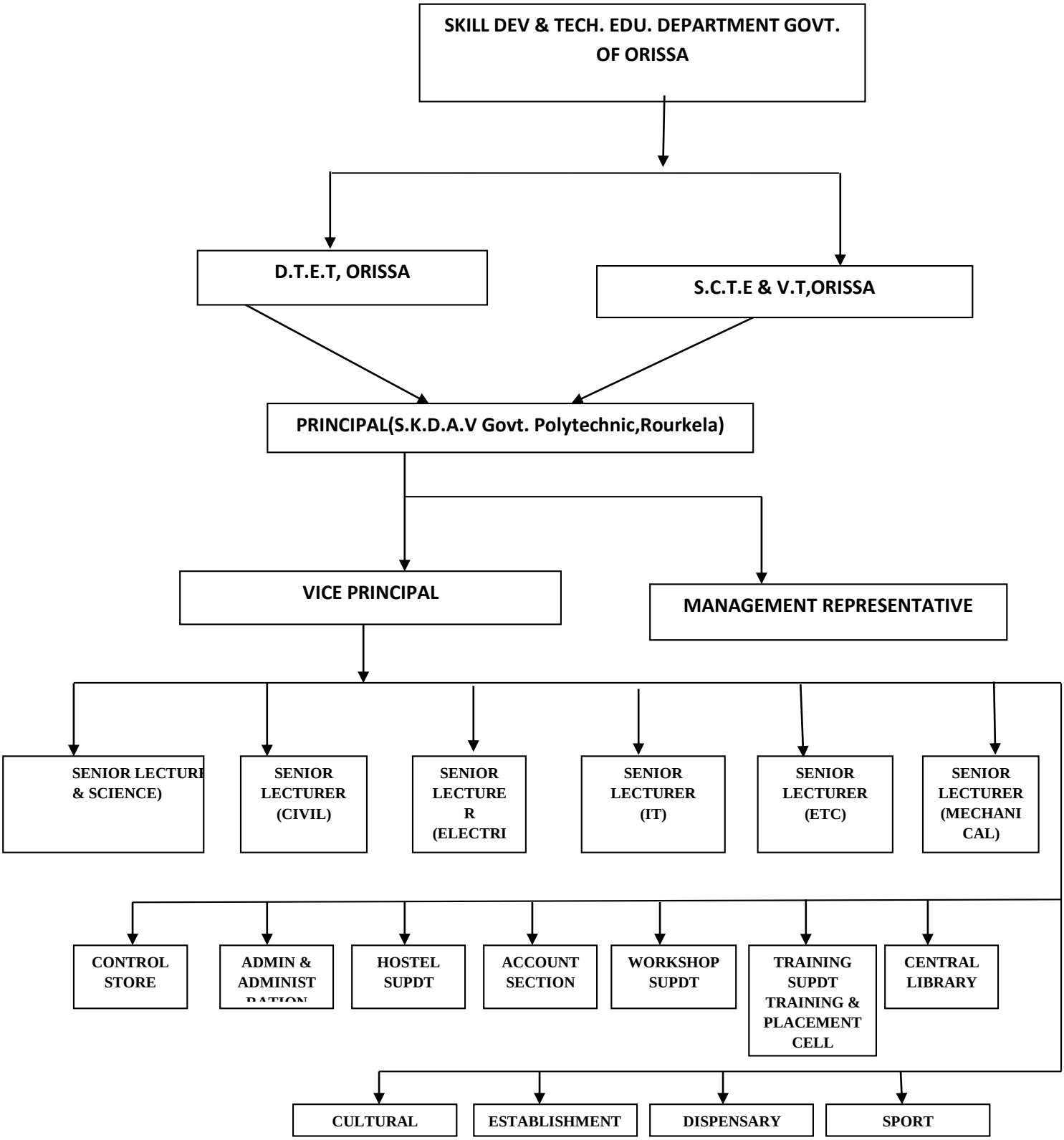
Name of the affiliating University

Name of the affiliating University	State Council for Technical Education & Vocational Training, Odisha, Bhubaneswar-751012

Governance

Members of the Board and their brief background	Collector & District Magistrate, Sundergarh-Chairman Regional Officer, ERO, AICTE,Kolkata-member Nominee of D.T.E.& T,Odisha-member Nominee of S.C.T.E.& V.T Odisha-member Honble MLA Rourkela,member General Maneger ,RIC,Rourkela Workshop Supertendent ,SKDAV Government Polytechnic,Rourkela,member Executive Engineer (R&B), Division- member Executive Engineer (P.H) Division- member District Education Officer ,Sundergarh-member District Welfare Officer,Sundergarh-member Director NIT,Rourkela-member Chief Executive Officer,L&T,Kansbhal-member Principal, SKDAV Govt.Polytechnic- member
Members of Academic Advisory Body	1. Principal, Member 2. HOD (Civil) – Member 3. HOD (Electrical) – Member 4. HOD (ETC) – Member 5.HOD (Mechanical) – Member 6.HOD (Math & Sc.) – Member 7.HOD (IT)- Member
Frequently of the Board Meeting and Academic Advisory Body	Governing Body meets once a year and academic advisory body meets every fort night.
Organizational chart and processes	Available
Nature and Extent of involvement of Faculty and students in academic affairs/improvements.	Faculty & students are actively involved in Academic & Overall improvement
Mechanism/ Norms and Procedure for democratic/ good Governance	Constant monitoring, supervision & guidance
Student Feedback on Institutional Governance/ Faculty performance	Collected from students periodically
Grievance Redressal mechanism for Faculty, staff and students	Available
Establishment of Anti Ragging Committee	Available
Establishment of Online Grievance Redressal Mechanism	Available
Establishment of Grievance Redressal Committee in the Institution and Appointment of OMBUDSMAN by the University	Available
Establishment of Internal Complaint Committee (ICC)	Available
Establishment of Committee for SC/ ST Available	Available
Internal Quality Assurance Cell	Available

Organizational chart and processes



Programme

Name of Programmes approved by AICTE	ENGINEERING & TECHNOLOGY
Name of Programmes Accredited by NBA	NIL
Status of Accreditation of the Courses	APPLIED FOR E&TC PROGRAMME
Total number of Courses	05
No. of Courses for which applied for Accreditation	01
Status of Accreditation – Preliminary/ Applied for SAR and results awaited/ Applied for SAR and visits completed/ Results of the visits awaited/ Rejected/ Approved for ….. Courses	Applied for SAR and waiting to get visit dates.
For each Program the following details are to be given:	
Name	ENGINERING AND TECHNOLOGY
Number of seats	CIVIL – 60, ELECTRICAL -60, MECHANICAL -60, ELECTRONICS & TELECOMMUNICATION-40,INFORMATION TECHNOLOGY-30
Duration	03 Years

Cut off marks/ rank of admission during the last 3 years

Year	Civil	Electrical	E&TC	IT	Mechanical
2018-19	52.1	52	53.2	54.2	54.83
2019-20	54.83	51	50.3	51.16	55.3
2020-21	50	50	50.16	50.67	54.73

Fee

GEN	SC/ST	TFW
5800/- Per annum	3300/- Per Annum(if parent annual income is above 2.5 Lakh) & 800/-(if parent annual income is upto 2.5 Lakh)	3300/- Per annum(if annual income of parent is above 8 Lakh).

Placement Facilities: On campus & off campus facilities available

Campus placement in the last three years with minimum salary, maximum salary and average salary

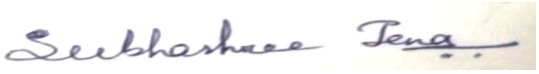
Year	Civil	Electrical	E&TC	IT	Mechanical
2018-19	7	28	13	4	
2019-20	7	30	12	14	
2020-21	17	32	15	02	47
Minimum Salary(pa)	01 lakh	02 lakh	01 lakh	02 lakh	01 lakh
Maximum Salary(pa)	02 lakh	04 lakh	02 lakh	04 lakh	02 lakh
Average Salary(pa)	01 lakh	3 lakh	1.5 lakh	3 lakh	01 lakh

FACULTY

• Branch wise list Faculty members:	IT-05	CIVIL- 05	ELECTRICAL- 05	E&TC- 07	MECHANICAL-06	MATH & SC.-05
• Permanent /Full Time Faculty	1. Rinata Das 2. Stella Kujur 3. Deepti Rekha Mishra 4. Bijaylaxmi Padhiary 5. Silpa Snigdha jena	1. Banita Maharana 2. Soumyaa Sahoo 3. Ashashree Sahoo 4.Manoj kumar Behera 5.Itishree Sahu	1. Nirupama Barik 2. Acharjya Surjyakantadeba Ray 3. Mamata Mohanty 4. Subham Prajapati 5. Monoj kumar sahoo	1. Smaranika Sundar Ray 2. Balaram Tripathy 3. Samar Firadus 4. Sonia Lalita Tirkey 5. Rudra Swain 6. Rojalin Parida 7. Binay kumar Nayak	1. Reena Ray 2. Ashutosh Mohanty 3. Dhiraj kumar Sahoo 4. Debasis Das 5. Birajlaxmi Routray 6. Rajat kumar Lakra	1. Rajanikant Choudhury 2. Subhashree Jena 3. Premalata Kujur 4. Rashmita Mishra 5. Sarmistha Pal
• Adjunct Faculty	0	0	0	0	0	0
• Permanent Faculty: Student Ratio	25:01					
• Number of Faculty employed and left during the last three years	02 nos of faculty Left the job.05 nos of faculty transferred to other institution					

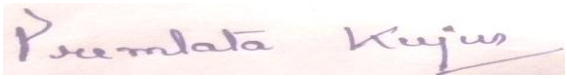
MATH & SCIENCE DEPARTMENT

PHOTO		
1	Name	Subhashree Jena
2	Date of Birth	12-12-1991
3	Unique id	1-2904667789
4	Education Qualifications	M. Sc.
5	Work Experience	6 years
6	Teaching	6 years
7	Research	-----
8	Industry	-----
9	Others	-----
10	Area of Specialization	Mathematical Application
11	Courses taught at Diploma	Engineering Mathematics
12	Research guidance	-----
13	No. of papers published in National/ International journals/ Conferences	-----
14	Master	M. Sc. in Mathematics
15	Ph.D.	-----
16	Projects Carried out	-----
17	Patents	-----
18	Technology Transfer	-----
19	Research Publications	-----
20	No. of Books published with details	-----



Faculty Signature

		
1	Name	PREMLATA KUJUR
2	Date of Birth	03.08.1986
3	Unique id	1-2904667926
4	Education Qualifications	B.ED , M.A
5	Work Experience	6YRS
6	Teaching	6 YRS
7	Research	NO
8	Industry	NO
9	others	NO
10	Area of Specialization	LINGUISTICS & ENGLISH TEACHING
11	Courses taught at Diploma	COMMUNICATIVE ENGLISH(TH+LAB) ,EM&ST,LIFE SKILL
12	Research guidance	NO
13	No. of papers published in National/ International journals/ Conferences	NO
14	Master	M.A IN ENGLISH
15	Ph.D.	NO
16	Projects Carried out	NO
17	Patents	NO
18	Technology Transfer	NO
19	Research Publications	NIL
20	No. of Books published with details	NIL



Faculty Signature

Photo		
1	Name	RASHMITA MISHRA
2	Date of Birth	23/12/1996
3	Unique id	
4	Education Qualifications	MSc. IN MATHEMATICS
5	Work Experience	1 YEAR
6	Teaching	1 YEAR
7	Research	NA
8	Industry	NA
9	others	NA
10	Area of Specialization	LINEAR ALGEBRA
11	Courses taught at Diploma	ENGG. MATHEMATICS
12	Research guidance	NA
13	No. of papers published in National/ International journals/ Conferences	NA
14	Master	NA
15	Ph.D.	NA
16	Projects Carried out	NA
17	Patents	NA
18	Technology Transfer	NA
19	Research Publications	NA
20	No. of Books published with details	NA

Rashmita Mishra

Faculty signature

Photo		
1	Name	SARMISTHA PAL
2	Date of Birth	22-05-1997
3	Unique id	
4	Education Qualifications	M.Sc in Physics
5	Work Experience	NA
6	Teaching	NA
7	Research	NA
8	Industry	NA
9	others	NA
10	Area of Specialization	Nuclear Physics
11	Courses taught at Diploma	Engineering Physics
12	Research guidance	Proff. Sunil Kumar Tripathy
13	No. of papers published in National/ International journals/ Conferences	1
14	Master	Role of extended gravity theory in matter bounce dynamics
15	Ph.D.	NA
16	Projects Carried out	NA
17	Patents	NA
18	Technology Transfer	NA
19	Research Publications	NA
20	No. of Books published with details	NA

Faculty Signature

photo		
1	Name	RAJANI KANTA CHOUDHURY
2	Date of Birth	20/11/1970
3	Unique id	
4	Education Qualifications	M.COM, M.PHIL, LLM,MBA
5	Work Experience	22 years
6	Teaching	22 years
7	Research	NIL
8	Industry	NIL
9	others	
10	Area of Specialization	MOM
11	Courses taught at Diploma	Accounting &Finance,Enterpreneurship& Management &Smart Technology,corporate Accounting
12	Research guidance	NIL
13	No. of papers published in National/ International journals/ Conferences	NIL
14	Master	M.COM
15	Ph.D.	NIL
16	Projects Carried out	NIL
17	Patents	NIL
18	Technology Transfer	NIL
19	Research Publications	NIL
20	No. of Books published with details	NIL

SIGNATURE

INFORMATION TECHNOLOGYDEPARTMENT

photo		
1	Name	RINATA DAS
2	Date of Birth	
3	Unique id	1-507268551
4	Education Qualifications	Master of Technology, Computer Science, NIT Rourkela Bachelor of Technology, Computer Science, - Odisha Engineering College.
5	Work Experience	27 years
6	Teaching	27 years
7	Research	Networking
8	Industry	NIL
9	others	
10	Area of Specialization	Networking
11	Courses taught at Diploma	OOPs, Computer Networks, Operating Systems, Data Structures
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	M.Tech in Computer Science
15	Ph.D.	
16	Projects Carried out	
17	Patents	NIL
18	Technology Transfer	
19	Research Publications	NIL
20	No. of Books published with details	NIL

Signature

Photo		
1	Name	STELLA KUJUR
2	Date of Birth	20.09.1987
3	Unique id	1-4700262807
4	Education Qualifications	Bachelor of Technology, Computer Science and Engineering, Silicon Institute of Technology, Bhubaneswar, Odisha.
5	Work Experience	
6	Teaching	21st January 2019-Present
7	Research	
8	Industry	
9	others	
10	Area of Specialization	DATA STRUCTURE
11	Courses taught at Diploma	OPERATING SYSTEM, CLOUD COMPUTING, COMPUTER APPLICATION. MOBILE COMPUTING,OOM,IOT,CGM,IWT
12	Research guidance	
13	No. of papers published in National/ International lournals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	**CARGO TRACKING SYSTEM DESIGN AND IMPLEMENTATION** The aim of this project is to transporting goods from one place to another and also allows the customer to find the status of their cargo. And Multilevel marketing
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Stella Kujur

Faculty Signature

Photo		
1	Name	DIPTI REKHA MISHRA
2	Date of Birth	27-6-77
3	Unique id	1-2086327353
4	Education Qualifications	Master of Computer Application
5	Work Experience	
6	Teaching	2000 October to 2002 March at C-Net . 2003 August to 2005 March at Saraswati Sishu Mandir 2005 April to present at S.K.D.A.V Govt. Polytechnic Rourkela
7	Research	
8	Industry	
9	others	
10	Area of Specialization	
11	Courses taught at Diploma	C,C++,Data structure, Cryptography and network security, Computer System Architecture, Java
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Faculty Signature

Photo		
1	Name	Bijaya Laxmi Padhiary
2	Date of Birth	21-09-81
3	Unique id	1-2086479413
4	Education Qualifications	Master of Computer Application
5	Work Experience	
6	Teaching	2006 August to present at S.K.D.A.V Govt. Polytechnic Rourkela
7	Research	
8	Industry	
9	others	
10	Area of Specialization	
11	Courses taught at Diploma	C,MIS,Data mining & Data warehousing , DBMS, Software Engineering, Internet & Web technology, E-commerce, Web Development lab.
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Faculty signature

Photo		
1	Name	SILPA SNIGDHA JENA
2	Date of Birth	05/5/1987
3	Unique id	1-507268551
4	Education Qualifications	BTECH
5	Work Experience	
6	Teaching	2016 August to present at S.K.D.A.V Govt. Polytechnic Rourkela
7	Research	----
8	Industry	----
9	others	----
10	Area of Specialization	INFORMATION TECHNOLOGY
11	Courses taught at Diploma	Operating System,Computer Application
12	Research guidance	----------
13	No. of papers published in National/ International journals/ Conferences	----------
14	Master	----------
15	Ph.D.	----------
16	Projects Carried out	----------
17	Patents	----------
18	Technology Transfer	-------
19	Research Publications	---------
20	No. of Books published with details	---------

Signature

Civil Department

Photo		
1	Name	Soumyaa Sahoo
2	Date of Birth	04.05.1996
3	Unique id	
4	Education Qualifications	BTECH
5	Work Experience	3 years
6	Teaching	3 years
7	Research	
8	Industry	
9	others	
10	Area of Specialization	Civil Engineering
11	Courses taught at Diploma	Estimation and Cost Evaluation 2, Building Materials and Construction Technology, Environmental Studies, Advanced Construction Techniques and Equipment, Surveying 2, Hydraulic and Irrigation Engineering
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Soumyaa Sahoo

Faculty signature

Photo		
1	Name	BANITA MAHARANA
2	Date of Birth	07/05/1996
3	Unique id	1-4700262754
4	Education Qualifications	B.Tech
5	Work Experience	0
6	Teaching	0
7	Research	0
8	Industry	0
9	others	0
10	Area of Specialization	Civil Engineering
11	Courses taught at Diploma	Environmental Engineering, Railway & Bridge Engineering and Design of Steel Structure
12	Research guidance	
13	No. of papers published in National/ International Journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	River Bank Filtration
17	Patents	0
18	TechnologrTransfer	0
19	ResearchPublications	0
20	No. of Books published with details	0

Banita Maharana.

Faculty Signature

Photo		
1	Name	ASHASHREE SAHOO
2	Date of Birth	28-02-1995
3	Unique id	
4	Education Qualifications	B.tech
5	Work Experience	6 months
6	Teaching	
7	Research	
8	Industry	
9	others	
10	Area of Specialization	B.tech- civil Engineering
11	Courses taught at Diploma	ENGINEERING MECHANICS, STRUCTURAL MECHANICS.
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	Effect of replacing natural coarse aggregate by brick aggregate on properties of concrete.
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Ashashree Sahoo

Faculty Signature

Photo		
1	Name	Manoj kumar Behera
2	Date of Birth	10-02-1995
3	Unique id	
4	Education Qualifications	M.Tech
5	Work Experience	
6	Teaching	
7	Research	Mtech Projects-Evaluation of properties of hot mix asphalt using recycled coarse aggregate.
8	Industry	
9	others	
10	Area of Specialization	B.tech- civil engineering, M.tech- Transportation engg
11	Courses taught at Diploma	WATER SUPPLY WASTE WATER ENGINEERING, ESTIMATION & COST EVALUATION1,ENGINEERING DRAWING
12	Research guidance	PROF.MAHBIR PANDA(NIT RKL)
13	No. of papers published in National/ International journals/ Conferences	
14	Master	TRANSPORTATION ENGINEERING
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Faculty Signature

Photo		
1	Name	Itishree Sahu
2	Date of Birth	10-01-1986
3	Unique id	
4	Education Qualifications	B.Tech
5	Work Experience	
6	Teaching	2015 August to present at S.K.D.A.V Govt. Polytechnic Rourkela
7	Research	
8	Industry	
9	others	
10	Area of Specialization	B.tech- civil engineering
11	Courses taught at Diploma	ENGINEERING DRAWING,Survey-II
12	Research guidance	PROF.MAHBIR PANDA(NIT RKL)
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Itishree Sahu

Signature

Electronics & Telecommunication Department

Photo		
1	Name	Smaranika Sundar Ray
2	Date of Birth	09.04.1986
3	Unique id	1-2078888114
4	Education Qualifications	M.Tech
5	Work Experience	06 year
6	Teaching	06 Year
7	Research	NA
8	Industry	NA
9	others	NA
10	Area of Specialization	Electronics and Communication Engineering
11	Courses taught at Diploma	Basic Electronics Engineering, Digital Electronics, Advanced Communication Engineering, Communication Engineering-I, Advanced Microprocessor and VLSI, Analog Electronics-I, Analog Electronics and OPAMP, Fundamental of electronics devices.
12	Researchguidance	NA
13	No. of papers published in National/ International lournals/ Conferences	NA
14	Master	M.Tech in Electronics and Communication Engineering
15	Ph.D.	NA
16	Prcjects Carried out	NA
17	Patents	NA
18	Technology Transfer	NA
19	ResearchPublications	NA
20	No. of Books published with details	NA

Smaranika Sundar Ray

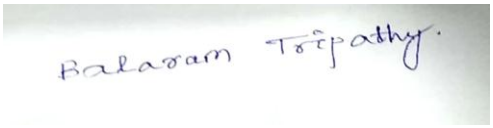
Faculty Signature

Photo		
1	Name	Sonia Lalita Tirkey
2	Date of Birth	07/05/1981
3	Unique id	
4	Education Qualifications	M. Tech in Electronics and Communication
5	Work Experience	16 years
6	Teaching	16 years
7	Research	Nil
8	Industry	Nil
9	others	Nil
10	Area of Specialization	Electronic and communication
11	Courses taught at Diploma	Digital electronics, Microprocessor, VLSI, DCCN, Communication
12	Research guidance	Nil
13	No. of papers published in National/ International journals/ Conferences	Nil
14	Master	Yes
15	Ph.D.	No
16	Projects Carried out	Nil
17	Patents	Nil
18	Technology Transfer	Nil
19	Research Publications	Nil
20	No. of Books published with details	Nil

Sonia Lalita Tirkey

Faculty signature

Photo		
1	Name	BALARAM TRIPATHY
2	Date of Birth	02-06-1991
3	Unique id	
4	Education Qualifications	BTECH IN ETC
5	Work Experience	1YEAR
6	Teaching	1YEAR AT KENDRIYA VIDYALAYA SANGATHAN
7	Research	NO
8	Industry	YES
9	others	
10	Area of Specialization	B.TECH IN ETC
11	Courses taught at Diploma	
12	Research guidance	NO
13	No. of papers published in National/ International journals/ Conferences	NO
14	Master	NO
15	Ph.D.	NO
16	Projects Carried out	INSTALATION,TESTIG AND COMMISIONING OF UPS AT DMRC METRO RAIL PROJECT
17	Patents	NO
18	Technology Transfer	NO
19	Research Publications	NO
20	No. of Books published with details	NO



Faculty Signature

Photo		
1	Name	SAMAR FIRDAUS
2	Date of Birth	07-02-1992
3	Unique id	1-3307633192
4	Education Qualifications	B.Tech in Electronics& Telecommunication
5	Work Experience	2.4 years
6	Teaching	2.4 years
7	Research	
8	Industry	
9	others	
10	Area of Specialization	Electronics& Telecommunication
11	Courses taught at Diploma	Analog Electronics, Digital Electronics, microprocessor
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Samar Firdaus

Signature

Photo		
1	Name	Mr Rudra pratap Swain
2	Date of Birth	01/05/1989
3	Unique id	
4	Education Qualifications	B.Tech
5	Work Experience	
6	Teaching	6
7	Research	NA
8	Industry	NA
9	others	NA
10	Area of Specialization	NA
11	Courses taught at Diploma	Digital electronics, Microprocessor
12	Researchguidance	NA
13	No. of papers published in National/ International lournals/ Conferences	NA
14	Master	NA
15	Ph.D.	NA
16	Prcjects Carried out	NA
17	Patents	NA
18	TechnologrTransfer	NA
19	ResearchPublications	NA
20	No. of Books published with details	NA

Rudra pratap Swain

Faculty Signature

ELECTRICAL DEPARTMENT

Photo		
1	Name	NIRUPAMA BARIK
2	Daie of Birth	17-06-1988
3	Unique id	1-3606916393
4	Education Qualifications	BTECH IN EEE
5	Work Experience	8.5 YEARS
6	Teaching	8.5 YEARS
7	Research	NO
8	Industry	NO
9	others	
10	Area of Specialization	ELECTRICAL ENGINEERING
11	Courses taught at Diploma	SGPD,GTD,PED,CONTROL SYSTEM,BEE,CNT.
12	Researchguidance	NO
13	No. of papers published in National/ International lournals/ Conferences	NO
14	Master	NO
15	Ph.D.	NO
16	Prcjects Carried out	INDUSTRIAL AUTOMATION , SPEED CONTROL OF STEPPER MOTOR BY USING MICROCONTROLLER
17	Patents	
18	TechnologrTransfer	
19	ResearchPublications	
20	No. of Books published with details	

Nirupama Barik

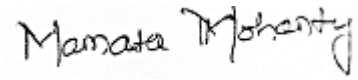
Faculty Signature

Photo		
1	Name	ACHARJYA SURJYAKANTADEBA RAY
2	Date of Birth	29TH JUNE 1985
3	Unique id	1-3307633299
4	Education Qualifications	B-TECH (ELECTRICAL)
5	Work Experience	
6	Teaching	4YRS
7	Research	
8	Industry	
9	others	3YRS
10	Area of Specialization	
11	Courses taught at Diploma	ELECTRICAL PAPERS (EC-I,EC-II,ED,EEM,GTD,EI&E,CSE)
12	Research guidance	
13	No. of papers published in National/ International Journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	

Acharjya Surjyakantadeba Ray

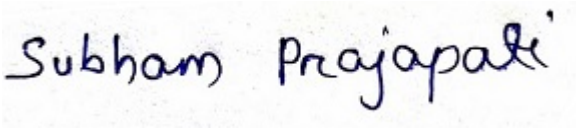
Faculty Signature

Photo		
1	Name	MAMATA MOHANTY
2	Date of Birth	02.06.1990
3	Unique id	
4	Education Qualifications	B.Tech (Electrical Engineering)
5	Work Experience	
6	Teaching	5yrs
7	Research	
8	Industry	
9	others	
10	Area of Specialization	
11	Courses taught at Diploma	EEM,BEE,Circuit Theory,Renewable Energy.
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	



Signature

Photo		
1	Name	SUBHAM PRAJAPATI
2	Date of Birth	12-MAY-1997
3	Unique id	8731 7855 9724
4	Education Qualifications	B.TECH IN ELECTRICAL ENGINEERING
5	Work Experience	NONE
6	Teaching	NONE
7	Research	NONE
8	Industry	NONE
9	others	NONE
10	Area of Specialization	
11	Courses taught at Diploma	CIRCUIT AND NETWORK THEORY
12	Research guidance	
13	No. of papers published in National/ International journals/ Conferences	
14	Master	
15	Ph.D.	
16	Projects Carried out	
17	Patents	
18	Technology Transfer	
19	Research Publications	
20	No. of Books published with details	



Signature

MECHANICAL DEPARTMENT

Photo		
1	Name	Reena Ray
2	Date of Birth	19-04-1970
3	Unique id	1-1566964653
4	Education Qualifications	M.Tech
5	Work Experience	26 years
6	Teaching	26 years
7	Research	------
8	Industry	------
9	others	------
10	Area of Specialization	Production Engineering
11	Courses taught at Diploma	Engineering Mechanics, Fluid Mechanics and Hydraulic Machines, Elements of Mechanical Engineering, Engineering Drawing, Thermal- I & II, Machine Drawing, Basic Mechanical Engineering, General Mechanical Engineering, Theory of Machine.
12	Research guidance	------
13	No. of papers published in National/ International journals/ Conferences	01
14	Master	M.Tech in Production Engineering
15	Ph.D.	-----
16	Projects Carried out	-----
17	Patents	------
18	Technology Transfer	------
19	Research Publications	------
20	No. of Books published with details	------

Reena Ray

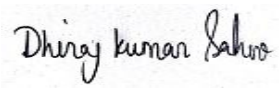
FACULTY SIGNATURE

Photo		
1	Name	Ashutosh Mohanty
2	Date of Birth	19-05-1990
3	Unique id	1-4889793122
4	Education Qualifications	B.Tech
5	Work Experience	----
6	Teaching	6 years
7	Research	-----
8	Industry	-----
9	Others	-----
10	Area of Specialization	Mechanical Engineering
11	Courses taught at Diploma	Engineering Mechanics, Theory of Machine, Engineering Drawing, I.C Engine, Fluid Mechanics and Hydraulic Machines, Inspection and Quality Control, Thermal- I & II, Elements of Mechanical Engineering, Strength Of Material.
12	Research guidance	-----
13	No. of papers published in National/ International journals/ Conferences	-----
14	Master	-----
15	Ph.D.	-----
16	Projects Carried out	-----
17	Patents	-----
18	Technology Transfer	-----
19	Research Publications	-----
20	No. of Books published with details	-----

Ashutosh Mohanty

Faculty Signature

PHOTO	
NAME	Dhiraj Kumar Sahoo
DESIGNATION	Part time guest faculty
EDUCATIONAL QUALIFICATION	B.tech in Mechanical Engineering
TEACHING EXPERIENCE	2 yrs
COURSES TOUGHT	Intermediate science-Mathematics,Environmentalstudies,thermalengineering,Power station engineering,Mechanical engineering labouratory,Theory of machines labouratory
EDUCATIONAL OUTREACH (ORGANISED WORKSHOP, SEMINAR, IF ANY)	Industrial training workshop,blast furnace.
TRAINING PROGRAM ATTENDED	Ansys, Autocad(2D+3D),CATIA
CONTACT NO.	9777569209,7978613346
EMAIL-ID	sahoodks23@gmail.com,dhirajsahoo022@gmail.com



Faculty signature

		
1	Name	Debasis das
2	Date of Birth	28/12/1994
3	Unique id	
4	Education Qualifications	B-TECH
5	Work Experience	2year 3 month
6	Teaching	2year 3 month
7	Research	Nil
8	Industry	SUMMER TRAINING AT ROURKELA STEEL PLANT
9	others	CENTRAL TOOL ROOM & TRAINING(CTTC) ONE DAY SEMINAR
10	Area of Specialization	Strength of materials, Design of machine element,ENGG mechanics
11	Courses taught at Diploma	Strength of materials
12	Research guidance	Nil
13	No. of papers published in National/ International journals/ Conferences	Nil
14	Master	Nil
15	Ph.D.	Nil
16	Projects Carried out	Nil
17	Patents	Nil
18	Technology Transfer	Nil
19	Research Publications	Nil
20	No. of Books published with details	Nil

Debasis Das

Faculty Signature

		
1	Name	BIRAJ LAXMI ROUTRAY
2	Date of Birth	05/6/1978
3	Unique id	
4	Education Qualifications	M-TECH
5	Work Experience	20 YEARS
6	Teaching	20 YEARS
7	Research	Nil
8	Industry	NIL
9	others	NIL
10	Area of Specialization	MECHANICAL
11	Courses taught at Diploma	Production Technology,Engg.Material,Engg.Mechanics
12	Research guidance	Nil
13	No. of papers published in National/ International journals/ Conferences	Nil
14	Master	Mtech in Production Technology
15	Ph.D.	Nil
16	Projects Carried out	Nil
17	Patents	Nil
18	Technology Transfer	Nil
19	Research Publications	Nil
20	No. of Books published with details	Nil

Biraj Laxmi Routray

SIGNATURE

		
1	Name	PRATIVA PATRA
2	Date of Birth	25/11/91
3	Unique id	
4	Education Qualifications	M-TECH
5	Work Experience	3 months
6	Teaching	3 months
7	Research	Nil
8	Industry	nil
9	others	nil
10	Area of Specialization	Strength of materials, EVS,Mechatronics
11	Courses taught at Diploma	Strength of materials
12	Research guidance	Nil
13	No. of papers published in National/ International journals/ Conferences	Nil
14	Master	Nil
15	Ph.D.	Nil
16	Projects Carried out	Nil
17	Patents	Nil
18	Technology Transfer	Nil
19	Research Publications	Nil
20	No. of Books published with details	Nil

Prativa Patra

SIGNATURE

FEES

<table>
<tr><td>Details of fee as approved by State Fee Committee as approved by State Fee Committee</td><td>GEN</td><td>SC/ST</td><td>TFW</td></tr>
<tr><td></td><td>`5800/- Per Annum</td><td>`3300/- Per Annum (if parent annual income is above 2.5 Lakh) & `800/- (if parent annual income is up to2.5 Lakh)</td><td>`3300/- Per Annum (if annual income of parent is above 8 Lakh)</td></tr>
<tr><td>Time schedule for payment of fee for the entire programme</td><td colspan="3">1st year – by 15th August, 2nd & 3rd year – by 1st August of every year</td></tr>
<tr><td rowspan="6">No. of Fee waivers granted with amount and name of student</td><td>Branch</td><td>No of student</td><td>Name of student(2021-22)</td></tr>
<tr><td>Mechanical</td><td>3</td><td>1. Dhiraj Lakra
2. Saraswati Murmu
3. Soumya Ranjan Bhuyan</td></tr>
<tr><td>Civil</td><td>3</td><td>1. Elini Lakra
2. Madhuchhand Das
3. Seema Pattnaik</td></tr>
<tr><td>Electrical</td><td>3</td><td>1. Jugeswari Jayapuria
2. Mukesh Kumar Rath
3. Sunil Bagh</td></tr>
<tr><td>E&TC</td><td>2</td><td>1. Ashimaraja Oram
2. Sunil kumar prasanna muni</td></tr>
<tr><td>IT</td><td>1</td><td>1. Shaqib Azad</td></tr>
<tr><td rowspan="5">Number of scholarship offered by the Institution, duration and amount</td><td>Name of Scholarship</td><td>Number</td><td>Duration</td><td>Amount</td></tr>
<tr><td>Prerana (SC,ST,OBC)</td><td>253</td><td>2020-21</td><td>18,09,500.00</td></tr>
<tr><td>BOC Workers Children</td><td>62</td><td>2020-21</td><td>754380.00</td></tr>
<tr><td>Merit-Cum- Poverty Stipend</td><td>44</td><td>2020-21</td><td>73,200.00</td></tr>
<tr><td>Merit Scholarship</td><td>3</td><td>2020-21</td><td>18000</td></tr>
<tr><td rowspan="5">Criteria for fee waivers/scholarship</td><td colspan="2">1. Tuition Fee Waiver</td><td>Annual income of parents should be less than 8 lakhs</td></tr>
<tr><td colspan="2">2. Prerana (SC,ST, OBC , EBC)</td><td>Annual income of parents should be less than 2.5 lakhs for SC /ST & OBC/EBC.</td></tr>
<tr><td colspan="2">3. BOC worker</td><td>Parent should have a Labour Card issued by concerned DLO</td></tr>
<tr><td colspan="2">4. Merit- Cum- Poverty Stipend</td><td>Annual income of parent less than 4.5 lakhs & secured 60% marks in last annual exam.</td></tr>
<tr><td colspan="2">5. Merit Scholarship</td><td>Awarded to Toppers of Semester Examination as decided by SCTE&VT</td></tr>
<tr><td>Estimated cost of Boarding and Lodging in Hostels</td><td colspan="3">Boarding & Lodging -`3000/- per annum</td></tr>
<tr><td>Any other fee</td><td colspan="3">Exam form fill up fee twice a year.
1st to 5th sem- Rs. 600/-
6th sem- Rs. 685/-</td></tr>
</table>

Admission

	Mechanical				Civil				Electrical				Electronics & Telecommunication				IT			
Number of seats sanctioned with the year of approval																				
Number of Students admitted under various categories each year in the last three years		**2019**	**2020**	**2021**		**2019**	**2020**	**2021**		**2019**	**2020**	**2021**		**2019**	**2020**	**2021**		**2019**	**2020**	**2021**
	Gen	33	33	35	**Gen**	34	36	42	**Gen**	33	29	35	**Gen**	31	33	31	**Gen**	17	19	19
	SC	10	10	7	**SC**	10	04	04	**SC**	08	10	09	**SC**	00	03	01	**SC**	04	04	02
	ST	15	18	14	**ST**	14	18	14	**ST**	14	18	12	**ST**	07	03	08	**ST**	08	05	06
	Minority	0	0	0	**Minority**	00	00	0	**Minority**	00	00	00	**Mino rity**	00	00	00	**Mino rity**	00	00	00
	TFW	03	03	03	**TFW**	02	03	03	**TFW**	03	03	03	**TFW**	02	02	02	**TFW**	01	01	01
	EWS	0	0	01	**EWS**	0	0	0	**EWS**	0	02	01	**EWS**	0	0	0	**EWS**	0	0	02
Number of applications received during last two years for admission under Management Quota and number admitted																				

Admission Procedure

• Mention the admission test being followed, name and address of the Test Agency and its URL (website)	i) Admission into 1st Semester is made on the basis of mark secured in 10th standard Exam. ii) Admission into 3rd Semester is made on the basis of mark secured in +2 Sc. or 2 year ITI Trade.
• Number of seats allotted to different Test Qualified candidate separately (AIEEE/ CET (State conducted test/ University tests/ CMAT/ GPAT)/ Association conducted test)	Not applicable
• **Calendar for admission against Management/vacant seats:**	Not applicable
• Last date of request for applications	
• Last date of submission of applications	
• Dates for announcing final results	
• Release of admission list (main list and waiting list shall be announced on the same day)	
• Date for acceptance by the candidate (time given shall in no case be less than 15 days)	
• Last date for closing of admission	
• Starting of the Academic session	
• The waiting list shall be activated only on the expiry of date of main list	
• The policy of refund of the fee, in case of withdrawal, shall be clearly notified	

Criteria and Weightages for Admission

• Describe each criteria with its respective weightages i.e. Admission Test, marks in qualifying examination etc.	i) Admission into 1st Semester is done only in the basis of mark secured in 10th standard Examination. ii) Admission into 3rd Semester is made on the basis of mark secured in +2 Sc. or 2 year ITI Trade.
• Mention the minimum level of acceptance, if any	For 1st Semester – pass with 35% aggregate marks & 30% marks in each subject
• Mention the cut-off levels of percentage and percentile score of the candidates in the admission test for the last three years	Not applicable
• Display marks scored in Test etc. and in aggregate for all candidates who were admitted	Not applicable

List of Applicants

• List of candidate whose applications have been received along with percentile/percentage score for each of the qualifying examination in separate categories for open seats. List of candidate who have applied along with percentage and percentile score for **Management quota seats**	Not applicable

Results of Admission Under Management seats/Vacant seats

• Composition of selection team for admission under Management Quota with the brief profile of members (This information be made available in the public domain after the admission process is over)	Not applicable
• Score of the individual candidate admitted arranged in order or merit	
• List of candidate who have been offered admission	
• Waiting list of the candidate in order of merit to be operative from the last date of joining of the first list candidate	
• List of the candidate who joined within the date, vacancy position in each category before operation of waiting list	

Information of Infrastructure and Other Resources Available

Number of Drawing Halls with capacity of each in Sq. Mtr	**DRG-H(132)**
Number of Computer Centres with capacity of each in Sq. Mtr.	**COMP-C(150)**
Barrier Free Built Environment for disabled and elderly persons	Well laid Ramps are available at the Administrative & Academic Building for convenience of disabled and elderly persons.
Occupancy Certificate	Available
Fire and Safety Certificate	Available
Hostel Facilities	03 nos of Girls hostel (total seat 180),200 seated boys hostel available

Room No	Room type (mention Class room / Lab / Toilet, etc.)	Carpet area (in sq m)
004	Laboratory	85.34
010	Laboratory	85.34
011	Laboratory	50.72
015	Laboratory	104.65
016 & 017	Laboratory	93.78
026	Laboratory	164.71
039	Laboratory	283.62
041	Laboratory	115.56
043	Laboratory	283.62
101	Laboratory	114
103	Laboratory	50.62
104	Laboratory	50.34
109	Laboratory	102
111	Laboratory	66.85
113	Laboratory	104.65
114	Laboratory	69.23
116	Laboratory	40.56
132	Laboratory	283.62
137	Laboratory	102.50
138	Laboratory	142.68
221	Laboratory	283.62
022&023	Workshop	200.4
027&028	Additional Workshop	150
037	Additional Workshop	50.29
019	Class room	72
021	Class room	72.42
102	Class room	50.03
110	Class room	49.68
117	Class room	72
124	Class room	66
134	Class room	67.24
135	Class room	67.24
202	Class room	50.03
203	Class room	66
209	Class room	101.95
210	Class room	49.74
303	Class room	67.24
304	Class room	67.24
119	Tutorial Room	35.86
120	Tutorial Room	36.79
204	Tutorial Room	33
214	Tutorial Room	41.25
212	Drawing Hall	161.4
213	Drawing Hall	139.10

301	Drawing Hall	283.62
306	Drawing Hall	283.62
118	Seminar Hall	176.88
012	Display Room	45.45
121,122,123	Library &reading Room	364.30
130	Language Laboratory	68.65
034&035	Computer Centre	152.01
001	Principal office	56
018	Board Room	39
003,014,031,007,038,107,002	Office All Inclusive	154.4
112	Cabin for Head of Dept including Department office(ETC)	22.55
105	Cabin for Head of Dept including Department office(IT)	21.58
208	Cabin for Head of Dept including Department office(ELE)	21.87
136	Cabin for Head of Dept including Department office(Mech)	21
133	Cabin for Head of Dept including Department office(Civil)	21
205	Cabin for Head of Dept including Department office(math &sc)	21
033	Faculty Room	65.08
008	Faculty Room	21.87
207	Faculty Room	21.77
115	Faculty Room	35.53
013	Faculty Room	6.32
215	Faculty Room	22.25
217	Faculty Room	21
220	Faculty Room	21
206	Faculty Room	9.83
106	Faculty Room	9.83
009	Faculty Room	16
029	Faculty Room	9.36
025	Faculty Room	18.6
108	Faculty Room	21.87
024	Faculty Room	7.2
302	Faculty Room	21
305	Faculty Room	21
032	Central Store	44.69
030	Maintenance	21.12
Security	Security	10
044	House keeping	25.25
036	Pantry for Staff	83.62
005&006	Exam Control Office	39.06
128&129	Placement Office	61.30
Reception area	Reception area	36.61
Administrative Block	Toilet	92.58
Academic Block I	Toilet	38.56
Academic Block II	Toilet	47.87
Academic Block III	Toilet	74.88
Academic Block IV	Toilet	141.12
OLD Workshop	Toilet	10.92

216	Boys common Room	132.24
201	Girls Common Room	114
Cafeteria	Cafeteria	150
046	Stationery Store	25.25
045	First aid cum Sick room	25.25
Quarter	Principal's Quarter	137
139(Cafeteria)	Guest House	11.66
216A	Sports Club	151.38
020	Auditorium	176.88
H1	Girls Hostel	750
H2	Girls Hostel	1047.72
H3	Girls Hostel	663.1
Boy Hostel	Boys Hostel	3338.56
ALL	Corridors	1828.94
ALL	Others Common Area(in sq m)	71.64

Library

• Number of Library books/ Titles/ Journals available (program-wise)	Titles-3200,Volumes-16500
• List of online National/ International Journals subscribed	National Journals- 15 Nos
• E- Library facilities	Available
• National Digital Library(NDL)subscription details	Available

Laboratory & Workshop

EQUIPMENT LIST OF E&TC DEPARTMENT

DIGITAL ELECTRONICS LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Digital IC Boolean algebra Trainer kit	20
2	Analog & Digital trainer kit	01
3	Decoder/De-multiplexer	10
4	4 bit counter	10
5	Flip Flops using NAND gates	10
6	Encoder/Multiplexer	10
7	Schmitt Trigger	10
8	Mod-N counter trainer	02
9	4 bit up and down counter	02
10	Master Slave JK flip flop	02
11	JK flip flop	01
12	RS/D/T flip flop trainer	01
13	A/D trainer	01
14	D/A trainer	02
15	4 bit shift register	02
16	Left Right shift register	05
17	Adder/Subtractor	05
18	Gray code converter	05
19	Mux-Demux	03

ELECTRONICS MEASUREMENT & INSTRUMENTATION LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1.	LVDT trainer kit	10
2.	LCR Q meter	05
3	Wheatstone bridge trainer	03
4	Maxwell bridge trainer	03
5	Hay's bridge	03
6	Schering bridge	02
7	Desauty bridge	02
8	Strain Gauge	10
9	Thermistor	05
10	CRO 30MHZ Dual Trace	06

MICROPROCESSOR AND MICROCONTROLLER LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	8085 Microprocessor	12
2	8086 Microprocessor	10
3	8051 Microprocessor with interfacing kit	02
4	8255 trainer with its interfacing kit	02

ANALOG AND LINEAR IC LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Transistor characteristic kit	10
2	Function generator	08
3	100MHz oscilloscope	02
4	30MHz oscilloscope with function generator	02
5	Class- A, B, AB push pull amplifier	10
6	2 stage RC coupled amplifier	10
7	Common Emitter transistor amplifier	10

8	Hartly & Collpit oscillator	10
9	Amplifier trainer class- A, B, C	12
10	Wein's bridge trainer	01
11	BJT baising	10
12	Regulated power supply	5
13	Semiconductor device characteristics	05
14	PLL trainer kit	05
15	IC 555 multivibrator	10
16	OP-AMP characteristic trainer	20
17	Low /high pass active filter	03
18	Clipper & Clamper	05

A & D COMMUNICATION LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Analog & Digital Communication trainer kit	02
2	CRO 100MHz	05
3	Super Heterodyne trainer kit	01
4	AM transmitter & Receiver	03
5	FM transmitter & Receiver	03
6	Fiber Optics trainer kit with all accessories	02
7	Delta Modulator & De-Modulator	02
8	PCM modulator & De-modulator	02
9	VLSI based digital communication	02
10	PAM/PWM/PPM trainer kit	02
11	Digital communication trainer (ASK/FSK/PSK)	01

VLSI & EMBEDDED SYSTEM LAB AND MATLAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Computers	30
2	XILINX vivado software	25 users
3	FPGA trainer kit	08
4	Embedded Trainer kit	02

WAVE PROPAGATION & COMMUNICATION ENGINEERING LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Microwave trainer kit	02
2	Wave propagation trainer	01
3	Antenna trainer	02
4	Transmission line trainer	02
5	Dish TV trainer	01
6	SMPS trainer kit	01
7	LED TV trainer	01

POWER ELECTRONICS LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Parallel Inverter	02
2	Series Inverter	01
3	SCR characteristic trainer	01
4	Driver circuit for SCR, TRIAC using UJT	01
5	Driver circuit for SCR, TRIAC using DIAC	01
6	DIAC characteristics trainer	01
7	TRIAC characteristics trainer	01
8	CVT trainer	01
9	Speed control of DC motor	01
10	Phase control bridge rectifier using resistive load	01

11	Phase control circuit using SCR trainer kit	02
12	SMPS	01
13	Power Electronics trainer kit	01

ADVANCED COMMUNICATION ENGINEERING LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	Mobile trainer kit	03
2	ISDN	01
3	EPABX	01
4	Satellite trainer kit	01
5	Radar trainer kit	01
6	Optical fiber trainer	02
7	DTMF trainer	01

PLC & AUTOMATION LAB

SL. NO	NAME OF THE EQUIPMENT	QUANTITY
1	PLC trainer kit	02
2	SCADA	01

Electrical department

CNT LAB

Sl no	Name of the item	Quantity
1	Working table	13
2	Steel bench	3
3	DC/IC Regulated power supply	2+3=5
4	Q-Factor meter(ApLAB)M-4910	2
5	MI Type AC/DC Voltmeter(0-300-600)	3
6	MI Type AC/DC Voltmeter(0-150-300)	6
7	MI Type AC/DC Voltmeter(0-75-150)	6
8	MI type DC Ammeter(0-1000)MA	6
9	MI Type DC ammeter(0-1-2)Amp	6
10	MI Type Dc Ammeter(0-2.5-5)Amp	6
11	Power factor meter	3
12	APLAB 1.3 GH frequency counter	5
13	APLAB Auto scan True RMS mains power meter	5
14	Trainer Board for Maximum power Transfer Theorem	4
15	Trainer Board for superposition Theorem	4
16	Trainer Board for Norton's Theorem	3
17	Trainer Board for Thevenins Theorem	3
18	Rheostate5A/50ohm, 3A/100 ohm	20
19	Rheostat 0.5A/1000 ohm,10A/5 ohm	20
20	1 phase Variac, 5Amp	2
21	1 phase Variac,(Auto)	3
22	1 phase auto transformer(variac) make-mahesh electrical	2
23	Digital multimeter	2
24	Digital multimeter 3.5 digit,AC/DC voltage & current for continuity test,make-Metravi	2
25	Wattmeter single phase ,Dynamometer type,portable(75-300-750)volt1Amp/2Amp	2

26	Oscilloscope dual channel 20mhz	1
27	Single Trace CRO Systronics, model-505/s	1
28	R.C Oscillator	1
29	R.F. Signal Generator	1
30	I.C Regulated power supply, DC regulated power supply(transistor power supply)	1
31	I.C Regulated power supply(H.T)SL NO-48132	1
32	I.C Regulated power supply(L.T) TYPE=(1CV-50/1/0V)SL NO-48113	1
33	Battery charger(Auto kip)6v-24v,4Amp sl no-41227,41228	2
34	Plier(1621-8)Taparia	2
35	Plier(1621-6)Taparia	2
36	Screw driver (Taparia) 300mm	2
37	Screw Driver (Taparia)150mm	2
38	Plier flat nose, 160mm(Taparia)	2
39	Plier insulated side cutter Taparia	2
40	Wire stripper & cutter Taparia	2
41	Iron Rack 6'X34"X18" with six selves & slotted angle	2
42	Iron stool made out of 25X5Ms angle of 2' height with laminated Top	9
43	Almirah of size 78'X42"X24" made out of CR sheet with four selves	1
44	Crimping plier 0.5sq mm to 6sq mm	2
45	Oscilloscope, 100mhz, 2 channel make-nvis	1
46	CRO 60 mhz dual trace angle type with all accessories & manual	1
47	Trainer for millimans Theorem withal accessories & manual	3
48	Trainer for superposition theorem with all accessories & manual	3
49	Trainer kit for Board pass filter with all accessories & manual	3
50	Trainer kit for high pass filter with all accessories & manual	3
51	Trainer kit for low pass filter with all accessories & manual	3
52	Trainer for maximum transform theorem with all accessories & manual	3
53	Trainer kit for Nortons,Thevenins, Superposition, Maximum power transfer etc.MARS model no-ME 590	10
54	Trainer kit for SCR 1 phase converter circuit MARS, Model no-ME 799	10
55	Trainer kit switching action of power transistor/FET(BJT) MARS, Model no-ME795	10
56	Trainer kit Switching action of power transistor or FET MARS model no-795A	10
57	Trainer kit phase control using Track MARS Model no-ME794	10
58	Trainer kit zero voltage switching using SCR,MARS model no-ME797	10
59	Trainer Board for maximum power Transfer theorem MARS model no- ME595	10
60	Trainer kit law/high band pass filter MARS model no-ME 961	10
61	Oscilloscope 20 mhz dual trace with component & continuity tester model –Scientech 801c	5
62	Analog oscilloscope 30 MHZ with computer interface	2
63	PLC Trainer kit model no- (Scientech-2403B)	1
64	SMPS Trainer kit NVIS-7002	5
65	SCR firing circuit communication model scientech-2717	10
66	Step up chopper model Scientech-2719	10
67	Monitor Acer version M-200-987 (Intel cif 3770@ 3.4 GH2/4 GB RAM) 500GB HDD/18.5" monitor, keyboard & mouse, windows	2

68	Steel Almirah 78”X42”X24 having 4 no of self making 5 compartment 2 coats enamel point 22g sheet	4
69	UPS, L1 UPS 0.8 KVA line interactive UPS with AVR for single phase AC160V to 280v input. Rating 0.8 Kva minimum VAw.168VAH	2
70	P Spice Software (Latest Version) Single user lisen Se key no.101401	1
71	LA-23 AMBROS make Dual power supply load regulation	1
72	LA-16,SANWA make parttern generator model.pg-301	1
73	1MHZ function Generator model no-scientech4060	1
74	Computer table 4’X2’X2 (½)’ with drawer keybord cpu	2
75	Projector SONY VPL-DX-102	1
76	Laptop dell vostro 3559 batch-8RBMLCZ	1
77	Solar power plant(Ambrass make)	1
78	The compact desk cum bench dual size (42’X33”X3”)(LXWXN)	16
79	Trainer kit for RESONANCE Frequency of series RLC circuit models no-NVIS7009	1
80	Trainer kit for parameter calculation(two port)model NVIS-6516/AB90	1
81	Trainer kit for house wiring model no-NVIS7059	1
82	Trainer kit for switching characteristic of a power transistor model no-scientech AB15+AD05	1
83	Projector screen instalock size 6’X4’	1
84	Projector stand with 10mtr VGA cable	1
85	Office table 5’X3’	2
86	Voltage Source Invertor	2

ELECTRICAL EQUIPMENT VOLUME-II

Sl no	Name of the item	quantity
1	AC Ammeter (0-5-10)amp	2
2	AC Ammeter (0-20)Amp	2
3	Auto transformer	2
4	DC Ammeter (0-15)Amp	3
5	AC/DC Ammeter (0-50)amp	1
6	DC voltmeter	2
7	Energy meter , single phase	1
8	Frequency meter	2
9	Megger, (0-500)volt	1
10	Rheostat	9
11		3

EQUIPMENT LIST OF GEOTECH AND TRANSPORTATION LABORATORY

CIVIL ENGINEERING DEPARTMENT

SL NO	NAME OF EQUIPMENT	QUANTITY (IN NOS)
1	core cutter 100 mm dia with dolly (make - Consal)	1
2	A Liquid Limit device, hand operated with casagrande grooving tool . (Make – consal)	1
3	plastic limit set Compressing of glass plate, Brass rod spatula, moisture tin and Procelien Dish (make - Consal)	1
4	Bitumen centrifuge Extractor with all accessories Complete set	1
5	Bitumen penetration Apparatus (Automatic) ISI make	1
6	Casagrande apparatus motorized	1
7	Los Angeles abrasion testing machine with abrasive charges operated on 220/230V AC signal phase (Tech-Mech	1
8	Aggregate Impact Test Apparatus	2
9	Benkelman beam test apparatus for pavement with all accessories	1
10	CBR Test apparatus motorized with all accessories	1
11	Ductility test apparatus consisting of water bath 10lit with thermostatic heater circulation pump fitted	1
12	Swelling pressure Apparatus consisting load frame hand operated 5000kg ca Mould 100mm dia x 127.3mm height 1000cc volume with base plate	1
13	ASTM grooving tool type B	1
14	Laboratory California bearing ratio test apparatus(motorised)	1
15	Ductility Testing Machine	1
16	Pensky Martin flash point apparatus	1
17	Stripping Value apparatus	1
18	SPT apparatus AIM 133	1
19	Viscosity test bitumen AIM 531	1
20	Thermometer IP AIM 52611	1
21	Laboratory jaw crusher small AIM 442-1	1
22	Rajco make softening point test for bitumen 1.manual 2.electric	1
23	Ductility machine	1
24	Consolidation Test Apparatus with electronic mess system having gang system	1
25	Cello make induction heater 2000watt	1
26	Rajco make softening point test for bitumen 1.manual 2.electric	1
27	Ductility machine	1

28	Consolidation Test Apparatus with electronic mess system having gang system	1
29	Cello make induction heater 2000watt	1

EQUIPMENT LIST OF MATERIAL TESTING LABORATORY

SL NO	NAME OF EQUIPMENT	QUANTITY (IN NOS)
1	Compaction Factor test Apparatus	1
2	Le Chartelier Apparatus with all accessories	3
3	Sieve shaker Motorised (Gyanatory type to carrying a set of 7 sieves of diameter, 200 mm and 300 mm diameter	1
4	vicat needle Apparatus IS 269 with vicat needle	1
5	Water bath	1
6	Rebound hammer Racco-make	1
7	Bulk density apparatus for coarse Aggregate	1
8	Tensile Testing machine for cement Electrically operated	1
9	Slump Test Apparatus with components slump cones-02 trowels(chisel like) with packing rod and pan -1 each	1
10	Thermostatically controlled oven coarse aggregate Tech-Mech	1
11	Vee-Bee consistometer apparatus consisting of (a) Vibrating table resting upon elastic support (b) Sheet metal cane open at both ends (c) Metal pot (d) Standard iron rod Tech Mech IS 1199	1
12	Vibrating table motorized for compaction of cement mortar cube mould Tech-Mech	1
13	Cement autoclave apparatus digital type	1
14	Compaction apparatus for heavy compaction	1
15	Flakiness and Elongation Apparatus	1
16	Ultrasonic Pulse Velocity test Apparatus	1
17	Permeameter with complete set for both falling and constant head set AIM 131	1
18	Bulk Density apparatus for coarse aggregate AIM 339	1
19	Universal testing Machine computerized with automatic pacing system of 100tonne capacity with all its accessories for tensile, compression, bend/rebend test, it should have loading unit, control unit, suitable software, electronic extensometer strain gauge type with 2.5mm extension with gauge length 25mm & 50mm ,holding head suitable from 6mm dia to 30mm dia	1
20	Tile abrasion testing machine	1
21	Concrete mixture	1
22	Vibrating hammer	1
23	Specific gravity bottle with bore Teflon stopper 50ml	1
24	Vicat needle apparatus with dashpot complete set	1

25	Le Chaterier mould complete set of 06 nos	1
26	Serological water bath size 12''x10''x9''	1
27	Compression testing machine (200ton capacity digital display with computerized output) make technofine Model CTM 2000KN	1
28	90 µ(micron) sieve with lid & pan of 200 mm diameter	5
29	Cube mould 7.06 cm	6
30	cube mould size (15 cmX15cmX15cm) with tamped rod	6
31	Digital balance (capacity 1 kg sensitivity 0.1kg)	1
32	Graduated cylinder 500ml	10
33	IS sieve 80 mm, 63 mm, 40 mm. 25 mm, 20mm, 12.5mm, 10 mm, 6.30mm 4.75mm, 2.36mm, 1.70mm.	2 sets
34	IS Sieve. 100m, 80mm, 63 mm 40 mm, 20mm, 16, mm, 12.5 mm, 10mm, 4.75mm, 2.36 mm with Lid & pan (45cm dia)	2 sets
35	IS sieve - 4.75 mm, 2.36 mm, 1.18mm,600µ,300µ,150 µ,75 µ with lid and pan200 mm dia,sieve shaker small(200mm dia)	2 sets
36	IS Sieve 125 mm, 100,90,75,63,53,45, 37.5, 26.5, 22.4, 19, 13.2, 11.2,9.5 5.6, 4.75 2.36 mm, 710 µ,600 µ, 425 µ 300,180,90,75micron	2 sets
37	Table Top balance capacity 20 kg , accuracy 1gm platform sixe 225X300mm	1
38	cube mould size (15 cmX15cmX15cm) with tamping rod model Tech-Mech	6
39	IS Sieve (4.75mm,8.10,12.5,16,20,25,31,40,50,63 & 80mm) Make Tech-Mech	2
40	IS Sieve (63mm,50,40,31.5,25,20,16,12.5,10 & 6.3mm) model Tech-Mech	2
41	Metal cylinder closed at one end (capacity 3ltrs dia 156.4 X 156.4mm) Tech-Mech	5
42	Tempering rod 5 inch dia and 24 inch long Tech-Mech	2
43	GI tray for concrete mixing of size 900mmx900mm	2
44	Standard thickness gauge Tech-Mech	2

EQUIPMENT LIST OF PUBLIC HEATH ENGINEERING AND HYDRAULICS LABORATORY

SL NO	NAME OF EQUIPMENT	QUANTITY (IN NOS)
1	BOD Incubator international make inner chamber size 830x505x415mm capacity 6.1cft	1
2	Digital PH Meter with temperature compensation and combination pH Electrode 3 ½ ,digit LED display(table model) Model 112"E-1"	1
3	Photoelectric calorimeter	1
4	TDS Meter	1

5	Electrolysis	1
6	Kent grand	1
7	Hydraulic bench for conducting different experiments in set ups as follows Impact of jet Venturimeter & Orificemeter Orifice & Mouthpiece Pipe friction apparatus Losses of pipe Free and vortex tube with tachometer cone set model: Tech Mech FM-118	1
8	Jar test apparatus 6 str beaker capacity 2ltr (SIMCO)	1
9	E1 make apparatus for determination of turbidity of water sample using turbid meter	1
10	JSGW make incubation bottle 300ml capacity narrow neck special type BOD bottle	2

EQUIPMENT LIST OF CADD LAB

SL NO	NAME OF EQUIPMENT	QUANTITY (IN NOS)
1	Acer version M200-Q87(Intel ci7 3770 @ 3.4GHZ 14 GB RAM) 500 GB HDD 118.5 Monitor, keyboard and mouse windows 8	1
2	Dell item 23-9020SFF 17 win 8.1 desktop computers	30
3	On line UPS 2 KVA online UPS with isolation transformer suitable for single phase AC input and single phase AC output floor mounted type rating of UPS 2.0 KVA book time 60 min	6
4	Bentley STAAD Pro vsi latest educational version (10 user)	1
5	Microsoft office STD SNGL OLP NL Acd MC	20
6	ARC GIS ARC VIEW lab kit bundled package of 30 user license of Arcview	1

EQUIPMENT LIST OF SURVEY AND CONSTRUCTION WORKSHOP PRACTICE LABORATORY

SL NO	NAME OF EQUIPMENT	QUANTITY (IN NOS)
1	Gunter's chain (66ft) made of GI	4
2	Gunter's chain	2
3	Plumb bob (brass) with suspending thread	4
4	Plumb bob	2
5	Aluminium Levelling Staff 6 meters/ 3 folds	2
6	Pegs (wooden) made of seasoned wood	10
7	Aluminium Levelling Staff	1
8	Angle grinder 100 mm make-bosch	1
9	Cut-off machine 355mm make –Bosch	1
10	Electronic weighing machine	1
11	Hand drill machine 12 mm capacity make-bosch	1
12	Transit Theodolite with Tripod stand Roorke – make ARASLE -5011	1
13	Auto level complete with all accessories with telescopic tripod	1
14	Dumpy level 9'' erect image	1
15	Dumpy level 9'' inverted image	2

16	Total station TS 650 Series –OTS -655,Make –FOIF SL SL NO-Y-404018 LI-10N	1
17	Dumpy Level	1
18	Dumpy level 14'' external	1
19	Cross staff (cupper type metallic) 180x100x150mm iron leg painted at bottom, 1.5 m length model –Tech Mech	20
20	G.I Arrow model –Tech Mech	30
21	Line ranger prism type 15 mm diameter (Tech Mech)	10
22	Optical square (Indian type) wedge shaped hollow metallic box of 5cm sides and 3 cm deep with a handle 8 cm long Tech-Mech	5
23	Offset Rod (Tech-Mech)	4
24	Prismatic compass (100mm/150 mm dia) made of brass or gun metal circle aluminium graduated every 30 minutes reading agate stone bearing with help of prism glasses and reflecting mirror packed in fibre case with sighting vane and rigid stand and ball socket arrangement Tech-Mech	10
25	Telescopic alidade size 175 mm internal focusing vertical circle graduated to read 30 min with Vernier extendable base plate to 375 mm and half degree divided giving angle of elevation and depression spirit level mounted on top telescope fitted with stadia diaphragm vertical circle to be supplied in teak wood box fully protected from dust Tech-Mech	1
26	Land measuring chain (30 mtr long 150 link)	4
27	Chain 30 m	2
28	Freeman's glass fibre measuring tape in pvc case length 15 mtr long	5
29	Freeman's glass fibre measuring tape in pvc case length 30 mtr long	5
30	Land measuring chain (20 mtr long having 100 link)	5
31	Meter chain 20 mtr	1
32	Land measuring chain (30 mtr long having 150 links)	5
33	Plane table set	6 sets
34	quality extensible type ranging rod made from seamless extruded pipe painted alternatively with red & white , water proof paint, shod with truely centred solid hard steel shoes model – ERR3(1) Complete in case	10
35	Ranging rods	5
36	PIE brand ranging rod single length Model – RR-2 2 mtr long mode of extruded ERW pipe shod with truely centred strong iron shoe, duly painted with super synthetic paint in red & white 2 mtr long	5
37	Chain 100'	2
38	Prism 8''x4''	1
39	Pyramid – 8''x4''	2
40	Cone – 8''x4''	2
41	Cylinder – 8''x4''	5
42	Cube -8''	2
43	Cone with inclined plane 8''x5''	2
44	Cube with inclined plane 8''x5''	2
45	Cylinder with inclined plane 8''x5''	1
46	Pyramid 8''x5''	1
47	Prism with section	1
48	Model of rivet set with butt joint	1

49	Model of rivet set with tube joint	1
50	Four fold wooden scale	6
51	Filler Gauge	2
52	File without handle square smooth 15 cm	6
53	Plier insulated 200 mm (Jhalani)	1
54	Ball pen hammer 250 mg	1
55	DE spanner -1 set (6-32)	12
56	Plier insulated 200 mm (Taparia)	1
57	Long nose plier (Jhalani) 200 mm	1
58	Simple supported slab (Ambross make)	1
59	Continuous slab(Ambross make)	1
60	Tape 2 mtrs	2
61	Tape metal wired 30 mtrs	3
62	Steel band 50mtr made of steel with brass handle	1
63	Tie	1
64	Hooks	1
65	Autolevel with all accessories	2

IT DEPT. OF COMPUTER EQUIPMENT LIST

SL.NO.	NAME OF THE ITEM'S	QTY
1	Emergency Light	1
2	Table $2^{1/2}$*$2^{1/2}$Mica Top	1
3	Table 5'*3' Mica top	1
4	Table 3'*$2^{1/2}$	3
5	Revolving Chair, CHR- 141	3
6	"Euroclean" Mifey Vac, Vaccume cleaner cum blower, complete with all attachment.	1
7	Wooden cupboard, 6'*35''*20"	1
8	Steel Sleving cabinet,,(78*36*19)	1
9	Lock, Novtal 7Lever	2
10	Spikebuster, Spike Suppressor	1
11	300 CPS, DM Printer	1
12	Plotter DXY – 990	1
13	4 Serial port card with cable	1
14	Computer cabling & Elect components 16 port, UTC, HUB (Unmanaged)	2
15	Water Filter, Bajaj	1
16	Ajanta Wall clock quartz	1
17	Flask vaccume Hammer Master	1
18	D.P Switch, cromton,32A	1
19	H.W. Pentium system (Workstation) WIPRO, ACER BRAND	4
20	Intel Pentium system server 266MHZ, Simens Nixdort	1
21	125AMP Switch with fuse links of L&T make	1
22	D.O.L Starter for 1.5 ton A.C L&T make	2
23	Febrication distribution panel board providing 63 AMP, TPN MCB	1
24	32 AMP Switch with fuse links of L&T, (in the MS encloser)	2
25	63AMP switch with fuse link of L&T make	1
26	H.C.L (P-4) COMPUTER	7
27	H.P. Scanner 2300C	1

28	Canon Lide 110 scanner	1
29	Motherboard for P-IV 2.4 GHZ CPU make- ASROCR	1
30	RAM (DDR) 256 HB (HYDIX)	1
31	SMPS Power supply 300 VA (make- Intex)	1
32	Internal cambo drive, DVD- CD writer (make- Sony)	1
33	External CD writer (make- IOMEGS)	1
34	UPS Battery, 12V, 7.5 Amp	5
35	Battery UPS, Tekpower Microtek	2
36	A.C model Crystal 1501	1
37	Wireless PCI network Dlink-DWL-G510/G-520	1
38	Wireless Network PCI Card Dlink –DWL-G510	3
39	10/100 MBPS network card Dlink, DG-5700T	8
40	I/O Box with module Dlink	10
41	Wireless Router Dlink D-I-724 PT	1
42	Photo phone overhead projector model MK – IIID	1
43	Photo phone projection screen with triped stand	1
44	Strips & cuts tools	2
45	Digital multimeter unity MK	1
46	Screw driver set (9 pcs)	1 set
47	Panasonic LCD projector PT-PISDEA WSG 15226-0054, PEN-D.2, 8GH$_Z$ 2 MB 800 FSB EM	1
48	64, White color P.C Pen-D.2.8GHZ 2MB 800 FSB EM-64, Desk Top white	13
49	Color P.C 1.44 M.B	2
50	Office professional plus 2007 English	1
51	HPLJ-1022 Slno-VNRJ73T0V3 VNRJ 73 T0VC	
52	Infiniti power life 9100IR SLNO-4073A 1425962 cary case for note book Targus Black etrust antivirous preloaded A/Cd	1
53	H.C.L. Computer	15
54	Laster jet p-1007 Trainner	1
55	Infinity pro BL 1330 ES intel G-41 intel core 2D40	20
56	Dell optilex Intel core 2 duo configitem no-3 of DGS & DRS Dell 17” colour flat screen	3 sets
57	Lenovo P.C	7 sets
58	UPS (Luminous) 1680	7
59	HP Laserjet M1213 NFMFP	1
60	D Link Access point W less DWL-2100	1
61	Automatic transitsterised A.C voltage stabiliser, sen & Pandit, 5 KVA	3
62	Servo controlled voltage stabiliser, 5 KVA	2
63	Opto make servo controlled voltage stabiliser, 5 KVA	1
64	HW-4-HP Colour inject printer- HELWLETT PACKARD deskjet 1600C	1
65	Canon micro printer MP=60	1
66	Dot matrix printer Panasonic	1

67	L-Q-1050 plus Dot matrix printer	1
68	Laser printer model LJ 1000, make NP	1
69	H.P Deskjet 3325 printer	1
70	1 KVA, UPS Battery make-NISSAN	1
71	4 KVA, UPS Battery make-NISSAN	1
72	UPS- 0.5KVA, power Gourd	7
73	UPS600 VA, Power Gourd	3
74	2.2 KVA UPS, make APC	1
75	Uni line 0.65 KVA UPS VAH 108	15
76	Uni line 0.65 KVA UPS with AVR	15
77	Line infractive UPS 0.65 KVA, VAH 108AVR	4
78	Uni line make line interactive with rateded KVA 0.65 VAH, 168 AVR	20
79	Monitor 14” colour VGA 1024*768,0.28 mm	2
80	Monitor 14” VGA,MANO	5
81	Guard tabular inverter battery 150 AH	1
82	USP EB 850 sw microtek 12 GG WNB 256990	1
83	Trolly single	1
84	I-Ball twist camera 12.0 with USB Stand	1
85	WebCam HP VOIA	2
86	WebCam HP VOIAFF	2

COMPUTER CONSUMABLE REGISTER VOL-III

SL.NO.	NAME OF THE ITEM’S	QTY
87	UPS Battery 12 W UPS Battery UPS Relicell battery 12 V 7 AH SL.NO-1310070 8080178	 1 2
88	CMOS battery	10
89	Desktop memory (RAM)	1
90	Wireless keyboard & Mouse combo Companion 2Z6B Logitech wireless keyboard & mouse combo MK220 SL.NO- 1341SC1061309 1341SC1061309	 1 2
91	NW Wireless PCI Adaptor NW 150 mbps wireless lite N PCI Adaptor NW 150 mbps wireless PCI Adaptor (TEWN75IN) TP Link	 9 12
92	Antivirus Quick heal is upgrade pack 1 user Quick heal 3 users (1 year) Software make-kaspersky (20 user) Quick heal 10 user (1 year) QH Total security (10 users) 1 year	 1 1 1 2 3 pcs
93	Electrical items 1/2” cashing copping 15 A Socket	 8 7

	15 A top 15 A Nano board Switch Socket Coil 1.5 wire Indicator 7- way Nano box Switch Screw	6 5 72 72 2 24 24 1 -
94	SMPS	1
95	A4 JK Copier paper	2
96	CD & DVD DVD DVD-R Spendal sony make	 25 20
97	External Hard Disk	1
98	Speaker system	1
99	Mouse	5
100	LAN connecting items RJ 45 Connector PVC Casting 5 AMP TOP 1.5 M.S Large Putty	 26 10 5 pcs 1 coil 1 p
101	Projector fitting items Projector screen liberty instalock size- 6”*4” 2-Liberty ceiling 3-VGA Cable (10 mtr)	 2 1 1
102	Mouse I- ball style 36 USB Sl.no-1600688016287/6254,6262,6280,6293,6272, 6269,6292,6256,6261,6284,6281 Mouse USB make-10 glitech	 12 12
103	Pendrive HP USB Flash drive 16 GB 32 GB Pendrive HP make V237W	 1 2
104	Dustbin Stainless steel 10”*14”(W)	6
105	USB Adapter D Ball	1
106	Epson cartridge (Ink) 1. Cart Epson L 100/200 C1 3T6642 2. Cart Epson L 100/200 C1 3T6643 3. Cart Epson L220 C1 3T66444 4. Cart Epson L 100/200 C1 3T66413 Foxin toner catridges FTC (12A) (BLK)	 1 1 1 1 2
107	Lan card giga PCI TP link (TG-3468) (Sr No. 2194733007014/7017)	2
108	Lan Card gigabit DGE D-link (528T) Sr No. QS64IJ200995/584	2
109	Mouse HP MIO USB	10
110	Ink toner 88A NP Tech	1
111	Ink toner 12 A*L NP Tech	2
112	8*4*19m laminated board 6*4*19m laminated board Fevicol Nail Not bolt 50/8 (Furniture repair items)	1 1 250g 100 30 3
113	Hard disk for Laptop to shiba 1TB (Satu) Sl.No. 30AYTNIJT	1

114	UPS Excide battery Battery exide SMS FE02 EP26-12 (UPS) Battery exide make 12V 26 Aft SMF Battery	5 32

SL.NO.	NAME OF THE ITEM'S	QTY
1	Del optiplex 9010 MT base	20
2	Dell E1912H 18.5" monitor with LED backlight	20
3	APC ONLINE UPS 5 KVA	4
4	Electric hand Blower	1
5	Stabilizer VEW 400	2
6	NW 2.4GH$_z$ Hpower wireless outdoor CPE	4
7	NW 300 MBPS wireless ADSL 2+ Modern router	2
8	Printer HP Laserjet pro400m401 dn	1
9	Printer HP Laserjet 1020 plus	2
10	Desktop HP 8300 C17	6
11	Delta online UPS 2 KVA-3 Single phase AC I/P and single AC O/P	3
12	Delta online UPS 2 KVA-3 Single phase AC I/P and single AC O/P	1
13	Dell computer-i7 window 8.1	12
14	Line interactive UPS 0.8 KVA 168 VAH	24
15	Window air conditioner Panasonic 1.5 ton Model no CWYC1815	6
16	Smart Board SB480 interactive board	1
17	NW switch D-link DES1024D (24port)	1
18	Online UPS 2 KVA with installation transformer suitable for single AC input and output	6
19	Steel Rack 6'*36"*5 self	1
20	DVD Writer USB LG Make sl. No. 706 HRLJ 034136	1
21	Acer desktop cere 13 10 Home 4/ITB	2
22	Clean agent HCFC 123 fire ext-2kg	4
23	Biometric System secureye ws-fbge, sr no1020170604228	1
24	Switch D-link 24 port DES- 1024 D/1024 C S S/N-Q*161 / 7001323	1
25	HP intel core i7 8700 8GB/ 2000GB HPP/ Windows 10 Home (Pc)	15
26	D-Link system 28- port gigabit web smart switch including 4 gigabit SFP parts	1
27	D-link DGS- 1024 24 Port gigabit unmanaged desktop. Rack mount switch / B0002TPFJA (SY-PZLA-TCAI)	2
28	7.5 KVA Online UPS Systems with battery backup (make- BPE)	5
29	Huion Electromagnetic Graphic Tablet with resolution 5080 (lives per inch)	1
30	B/T Sensor, DHT-II Board, 16 bit LCD (Equipment for IOT Lab)	3 5 6

SL.NO.	NAME OF THE ITEM'S	QTY
1	Sco Xenix	1
2	MS DOS 3.3	1
3	Adobe page Maker, ver 6.5 for Win-95	1
4	Softek fortran DOS	1
5	Softek Cobol for DOS	1
6	Visual D base V-5.5 on Windows	1
7	WPC word perfect 6.0 windows	1
8	Novel netware ver-3.12, 5 users 22 floppies 1.2 MB	1
9	MS DOS ver 6.22, 5.25 media	2
10	MS DOSA Windows Version – 3.11,5.25 media	2
11	Oracle Developer 2000 consisting of following Oracle 8 server (5users) with on line manuals on CD on WIN-NT Oracle developer 2000 with online manual CD on WIN-NT Oracle server Hard copy Manual Developer 2000 Hard copy manuals	1 set
12	I VAT-4.0 for DOS	5
13	Tutor 2001,AI based expert multimedia, CBT	1
14	CBT-M-PRO Fault finding and repairing	1
15	CBT-M-PRO Digital Electronic	1
16	CBT-M-PRO Basic Electronics	1
17	Lotus 1-2-3 ver (3.4)	1
18	MS-Fortran, ver-5.1	1
19	Visual D-Base-5.5 under windows	1 set
20	IIT CBTS for Electronics 5nos CD	1 set
21	Electronic work bench package(floppies 8 nos)	1 set
22	Visual Studio (Student Version) MSVS Prof.2013	5
23	Microsoft Office	5

SL.NO.	NAME OF THE ITEM'S	QTY
1	IBM PC-AT (386) system	1
2	IBM PC system base	1
3	Character mode Alpha Numeric Terminal	2
4	Rabo Card	1
5	Microsoft Mouse with software and manuals	1
6	PC AT 386	1
7	Terminal	4
8	Computer PCL	7
9	Mouse M.S Serial	1
10	Media tap Catridge	1
11	Card	11

SL.NO.	NAME OF THE ITEM'S	QTY
1	Pentium IV PC, Make – Microtech	4
2	Pentium IV PC, Make – Microtech	5
3	0.625 KVA line interactive cpp line UPS, SAKTI	9
4	Pentium III, CPU	1

SL.NO.	NAME OF THE ITEM'S	QTY
1	Computer Equipment Register Vol-I, Vol-II	2
2	No value Computer Equipment Register	1

3	Software, Computer Register	1
4	Modrobs scheme, Goods inward Register	1
5	Computer Consumable Register Vol-I, Vol-II, VOL-III	3
6	Computer Consumable Register skill upgradation	1
7	INDENT Book, Vol-I, Vol-II, Vol-III, Vol-IV	4
8	INDENT Book, skill upgradation training programme vol 1 & 2	2
9	Modrobs issue Register	1

6TH SEMESTER

EQUIPMENTLIST

Heat power & Auto mobile Engineering Lab

Sl no.	Name Of the Equipments	Quantity
1	HYDRAULIC BRAKE SYSTEM OF A CAR WORKING MODEL	01No
2	CUT SECTION OF A FUEL PUMP	01No
3	FLASH POINT AND FIRE POINT APPARATUS	1 Nos.
4	JOULES APPARATUS	1 Nos.
5	MODEL OF 2 STROKE PETROL ENGINE	01 No.
6	MODEL OF 4 STROKE PETROL ENGINE	01 No.
7	MODEL OF 2 STROKE DIESEL ENGINE	01 No.
8	MODEL OF 4 STROKE DIESEL ENGINE	01No.
9	SINGLE CYLINDER PETROL ENGINE TEST RIG	01 No.
10	SINGLE CYLINDER DIESEL ENGINE TEST RIG	01 No.
11	2 STAGE AIR COMPRESSOR TEST RIG	01 No.
12	WORKING MODEL OF HYDRAULIC BROKE UNIT	01 No.
13	TWO STAGE AIR COMPRESSOR TEST RIG	01 No.

POWER STATION ENGINEERING LAB

SL.NO	NAME OF THE EQUIPMENTS	QUANTITY
01	Cooling Tower Apparatus	01no
02	De Lavel turbine model	01no
03	Spring loaded safety valve	01no.
04	Lancashire boiler model	01no
05	Babcock and Wilcox boiler model	01no.
06	Cornish boiler model	01no
07	Cochran boiler model	01no

5TH SEMESTER

REFRIGERATION AND AIR –CONDITIONING LAB

SL.NO	NAME OF THE EQUIPMENTS	QUANTITY
01	Domestic Refrigerator test rig	01 no
02	Window Air Conditioner test rig	01 no
03	Split Air Conditioner test rig	01 no
04	Refrigerator Charging unit	01 no
05	Vapour absorption test rig	01no.

06	Domestic Refrigerater Test Rig	01 no
07	Water Cooler Test Rig	01 no
08	Window Type Air Conditioning Test rig	01 no
09	Split Type AC Test Rig	01 no

HYDRAULIC MACHINES & INDUSTRIAL FLUID POWER LAB

SL.NO	NAME OF THE EQUIPMENTS	QUANTITY
01	Impulse turbine(PELTON WHEEL) Test Rig with arrangements to find efficiency	01no
02	Kaplan turbine Test Rig with arrangements to find efficiency	01no
03	Francis turbine Test Rig with arrangements to find efficiency	01no
04	Centrifugal pump Test Rig with arrangements to find efficiency	01no
05	Pneumatic Trainer Kit with accessories	01nos
06	Hydraulic Trainer Kit with accessories	01no
07	Digital Tachometer	05nos
08	PRESSURE MEASURING DEVICES (BOURDONTUBE PRESSURE GAUGE, MANOMETER)	02 Nos. each
09	BERNOULLI'S APPARATUS	01 No.
10	VENTURIMETER APPARATUS	01 No.
11	ORIFICEMETER APPARATUS	01 No
12	FLOW THROUGH PIPE APPARATUS	01 No

CAD/CAM LAB

SL.NO	NAME OF THE EQUIPMENTS	QUANTITY
01	DESKTOP COMPUTER with UPS	30 nos
02	AUTOCAD SOFTWARE 2D/3D	01 each
03	CNC MILLING MACHINE	01 no
04	PRINTER	02 nos

4TH SEMESTER

List of Equipments of Theory of Machine and Measurement Lab

Sl.No.	Name of Apparatus	QUANTITY
01	UNIVERSAL GOVERNOR APPARATUS	01No
02	STATIC BALANCING APPARATUS	01 No
03	JOURNAL BEARING APPARATUS	01 No
04	CAM N & FOLLOWER APPARATUS	01 No
05	EPICYCLIC GEAR TRAIN APPARATUS	01 No
06	DIGITAL VERNIER CALIPERS(0-200mm)	01No
07	DIGITAL MICROMETER(0-25mm)	01 No
08	DIGITAL MICROMETER(25-50mm)	01 No
09	VERNIER HEIGHT GAUSE(0-300mm,0.02mm	01 No

	restitution),0.04mm Accuracy.	
10	SINE BAR 200mm	01 No

3rd Semester

STRENGTH OF MATERIAL LAB

SL.NO	NAME OF THE EQUIPMENTS	QUANTITY
1	SEARLE'S APPARATUS	2 Nos.
2	TORSION TESTING MACHINE	1 Nos.
3	UNIVERSAL TESTING MACHINE	1 Nos.
4	HARDNESS TESTING MACHINE	1 Nos.

LIST OF EQUIPMENTS OF WORKSHOP PRACTICE

SL. NO.	NAME OF ITEM	QUANTITY
01	ARC WELDING TRANSFORMER SET	01 Nos.
02	MIG WELDING MACHINE	01 Nos.
03	OXY ACELYLENE GAS WELDING SET	01Nos.

CARPENTRY SHOP

SL. NO.	NAME OF ITEM	QUANTITY
01	WOOD WORKING LATHE	01 Nos
02	CIRCULAR SAW	01Nos

FITTING SHOP

SL. NO.	NAME OF ITEM	QUANTITY
01	VERNIER HEIGHT GAUGE	01 Nos
02	PORTABLE GRINDER	01Nos

BLACKSMITHY SHOP

SL. NO.	NAME OF ITEM	QUANTITY
01	FURNACE OR HEARTH (WITH CENTRE BLOWER)	03 Nos

LIST OF EQUIPMENTS OF PHYSICS LAB

SL. NO.	NAME OF ITEM	QUANTITY
01	OPTICAL BENCH	05 Nos.

LIST OF EQUIPMENTS OF CHEMISTRY LAB

SL. NO.	NAME OF ITEM	QUANTITY
01	WATER DISTILLATION PLANT	02 Nos.

WORKSHOP EQUIPMENT LIST.

1 = Surface plate - 450 × 450 × 25 mm = 01
2 = Vernier hight gauge = 533.4 mm = 01
3 = 'V' Block = 75 × 50 × 50 mm - 01 set
4 - Crosspeen hammer - 700 gm - 20 nos
5 - Ballpeen hammer - 200 gm - 20 nos
6 = Chipping hamer —— 05 nos
7 = Safe edge file - 10" —— 20 nos
8 - Square file - 10" —— 30 nos
9 = Triangular file - 10" —— 30 nos
10 = Triangular file - (101 - 6 × 6 mm) 4" × 1/4" = 20 nos
12 = Round file - 10" —— 30 nos
13 = Flat chisel - 6" × 1" —— 20 nos
14 - Try square - 223 × 140 mm — 30 nos
15 - Centre punch - 100 × 10 mm = 20 nos
16 - Oil stone (For carpentry) = 02 nos
17 - Steel tape - 2 mtrs - 02 nos
18 - Mallet wooden ① Flat type = 10 nos
② Cross peen = 10 nos
③ straight peen = 10 nos
④ Pressing mallets = 10 nos
19 = Tenon saw - L - 18" × 4" (12" × 4") = 40 nos
20 - Carpentry vice - Jaw size = 9" (Guide spindle & moving spindle parallel) = 12 nos
21 - Carpentry M/c - Jig saw - 01
22 = Letter punch = 02 sets
23 = Number punch = 02 sets
24 = Grinding wheel - (6" × 3/4") or 150 mm × 18 mm thick = 02 nos
(01 - Smooth & 01 Rough)

Math & Science

Department of Chemistry:

Sl No	Experimental Setup	Equipment /Tools Required
1.	Preparation of CO_2 gas.	1. Woulf's bottle 2. Gas jar 3. Delivery tube 4. Thistle funnel 5. Test tube
2.	Preparation of NH_3 gas.	1. Hard glass Test tube 2. Bunsen burner 3. Hard glass Test tube-Stand 4. Delivery Tube 5. Test Tube
3.	Preparation of Copper Sulphate Crystals.	Porcelain basin Bunsen burner Tripod stand Wire gauge Glass rod
4.	Volumetric Titration.	1. Burette (50 ml) 2. Pipette (10 ml) 3. Burette stand 4. Conical flask (250 ml) 5. Beaker (250 ml)
5.	Qualitative Salt Analysis	1. Kipp's apparatus 2. Test tube 3. Test tube holder 4. Platinum loop 5. Blue glass 6. Spetula 7. Blow pipe 8. Filter stand

Department of Physics:

Sl No	Experimental Setup	Equipments/Tools Required
1.	Determination of Cross-sectional area of wire by using Screw gauge.	1. A thin metallic wire 2. Screw gauge 3. Centimeter scale
2.	Determination of thickness & volume of a glass piece by using screw gauge.	1. Glass pieces of different thickness 2. Screw gauge 3. Centimeter scale
3.	Determination of volume of a solid cylinder by using Vernier Calipers.	1. Solid cylinders 2. Vernier Calipers
4.	Determination of volume of a hollow cylinder by hollow cylinder.	1. Hollow cylinders 2. Vernier Calipers
5.	Determination of radius of curvature of convex/concave surface using spherometer.	1. Spherometer 2. Convex/Concave surfaces made up of glass 3. Centimeter scale
6.	Determination of time period and acceleration due to gravity by simple pendulum.	1. Brass bob with hook 2. Vernier calipers 3. Stop watch 4. Meter scale
7.	Determination of angle of Prism.	1. Prism 2. Board pins 3. Board clamps 4. Drawing board 5. Protractor 6. Paper fixing pins
8.	Determination of angle of minimum deviation by i-d curve method	1. Prism 2. Board pins 3. Board clamps 4. Drawing board 5. Protractor 6. Paper fixing pins
9.	To trace lines of forces due to bar magnet with north pointing north & locate the neutral points.	1. Bar magnet 2. Drawing board 3. Paper fixing pins 4. Compass needle
10.	To trace lines of forces due to bar magnet with north pointing south & locate the neutral points.	1. Bar magnet 2. Drawing board 3. Paper fixing pins 4. Compass needle
11.	To verify Ohm's law by Ammeter, voltmeter method.	1. Ammeter 2. Voltmeter 3. Conducting wire 4. Rheostat 5. Battery 6. Resistor 7. Key

WORKLOAD OF 1ST / 3RD/ 5TH SEMESTER OF IT DEPT, WINTER - 2021

Sl no.	Name Of The Faculties & Designation	Semester/branch	subject	Periods/ week	Total work load
1	Miss. Stella Kujur (Lect)	1st sem	Computer application	8	TH – 12 PR – 11 Tot - 23
		1st sem	Computer application lab	8	
		3rd sem	C&WD LAB	4	
		3rd sem	Sca	3	
		5th sem	Mc	4	
		5th sem	Computer graphic & multimedia lab	4	
		5th sem	Sca	3	
2	Mrs. Dipti Rekha Mishra (PTGF)	1st sem	Computer application lab	4	TH - 12 PR – 16 Tot - 28
		3rd sem	Data structure	4	
		3rd sem	Object oriented methodology	4	
		3rd sem	Data structure lab	4	
		3rd sem	Office automation lab	4	
		5th sem	Software engineering	4	
		5th sem	Project work	4	
3	Mrs. Bijayalaxmi Padhiary(PTGF)	1st sem	Computer application lab	4	TH - 12 PR – 16 Tot - 28
		3rd sem	Computer system architecture	4	
		3rd sem	Object oriented methodology lab	4	
		5th sem	Internet & web technology	4	
		5th sem	Computer graphics & multimedia	4	
		5th sem	Web development lab	4	
		5th sem	Python lab	4	
4	Mrs.Debjani Das(PTGLA)	1st sem	Computer application lab	12	Tot - 28(Pr/week)
		3rd sem	C&WD LAB	4	
		3rd sem	sca	2	
		5th sem	Computer graphic & multimedia lab	4	
		5th sem	Project work	4	
		5th sem	sca	2	
5	Miss Silpa Snigdha Jena(PTGLA)	1st sem	Computer application lab	4	Tot - 24(Pr/week)
		5th sem	Web development lab	4	
		5th sem	Python lab	4	
		3rd sem	Data structure lab	4	
		3rd sem	Office automation lab	4	
		3rd sem	Object oriented methodology lab	4	

WORK LOAD & SUBJECT DISTRIBUTION OF 1ST /3RD/5TH SEMESTER (ODD) OF ELECTRICAL ENGG DEPARTMENT 2021-22

SL NO	NAME OF THE FACULTIES	SEMESTER/ BRANCH	SUBJECT	PERIODS/ WEEK	TOTAL
1	Mr A S Ray (guest Lect.)	5TH /Elect	Energy Conversion II	4	Th-8 Pr-15 Total-23
			Utilization of electrical energy and Traction	4	
			Electrical Machine Lab II	12	
			Project Phase I(GP-1)	3	
2	Mr. Subham Prajapati (guest lect.)	3rd /Elect	Circuit & Network Theory	5	Th-9 Pr-13 Total-22
			Circuit & Simulation Lab	12	
			SCA	1	
		3rd E&TC	Circuit Theory	4	
3	Mrs. Mamata Mohanty (guest Lect.)	5TH Elect.	SCA	1	Th-8 Pr-10 Total-18
		3rd/Elect.	Electrical Engineering Material	4	
		3rd E&TC	Circuit Theory Lab	4	
		1st Sec A	Basic Electrical Engineering	2	
			Seminar	4	
			SCA	1	
		1st /Sec B	Basic Electrical Engineering	2	
4	Miss. Nirupama Barik (guest lect.)	5th/ Elect.	Power Electronics and PLC	4	Th-8 Pr-12 Total-20
			Power Electronics and PLC Lab	6	
			Project Phase I(GR 2)	3	
		5th/ E&TC	Power electronics & PLC	4	
			Power Electronics Lab	3	
5	Miss .Sunita minz	5th /Elect.	Project Phase I	3	24
			Power Electronics and PLC Lab	6	
		3rd/Elect.	Circuit and Simulation Lab	12	
			SCA	2	
		1st/Elect. (Sec A)	SCA	1	
6	Mr. Prakash Ekka	5th /Elect.	Project Phase I	3	25
			Electrical Machine Lab II	12	
			SCA	2	
		5TH/E&TC	PE LAB	3	
		3rd/ E&TC	Circuit Theory Lab	4	
		1st /sec A	SCA	1	

B. Tripathy

Signature of HOD

S.K.D.A.V GOVERNMENT POLYTECHNIC, ROURKELA
WORKLOAD DISTRIBUTION OF MATH & SCIENCE DEPT. 2021-22

SL. NO.	NAME OF THE LECT	SUBJECT	SEM. & BRANCH	CLASSES/WEEK	TOTAL
1	Sri Gouranga Badhei, Lecturer (Chemistry)	Engg. Chemistry (Th)	1st sem Electrical 1st sem E & TC 1st sem IT	4+4	Theory-16 Pr- 16
		Engg. Chemistry (Pr)	1st sem Electrical 1st sem E & TC 1st sem IT	8+8	
		Environmental Sciencce	3rd sem Electrical 3rd sem E & TC 3rd sem IT	4+4	
2.	Smt. Subhashree Jena, Lecturer (Math)	Engg. Math -I (Th)	1st sem Electrical 1st sem E & TC 1st sem IT	6+6	Theory- 20
		Engg. Math-III (Th)	3rd sem Electrical 3rd sem E & TC	4+4	
3.	Miss. Premlata Kujur, Lecturer (English)	Communication English (Th)	1st sem Civil 1st sem Mechanical	4+4	Theory-16 Pr- 16
		Communication English (Pr)	1st sem Civil 1st sem Mechanical	8+8	
		EMST (Th)	5th sem Electrical 5th sem E & TC 5th sem IT	4+4	
4.	Miss Rasmita Mishra, Guest Lecturer (Math)	Engg. Math -I (Th)	1st sem Civil 1st sem Mechanical	6+6	Theory- 12
4	Miss Sharmistha Pal, Guest Lecturer (Physics)	Engg. Physics (Th)	1st sem Civil 1st sem Mechanical	4+4	Th- 8 Pr - 16
		Engg. Physics (Pr)	1st sem Civil 1st sem Mechanical	8+8	
5	Sri Chittaranjan Mohanty, Guest Instructor (Physics & Chemistry)	Engg. Chemistry (Pr)	1st sem Electrical 1st sem E & TC 1st sem IT	8+8	32
		Engg. Physics (Pr)	1st sem Civil 1st sem Mechanical	8+8	

1/10/21

H.O.D
(Math & Science Department)

S.K.D.A.V GOVERNMENT POLYTECHNIC, ROURKELA

WORKLOAD DISTRIBUTION OF E&TC ENGG. DEPT. FOR 3RD/5TH OF 2021-22

SL. NO.	NAME OF THE LECT	SUBJECT	SEM. & BRANCH	CLASSES/WEEK	TOTAL
1	Smt. Smaranika Sundar Ray, Lecturer	Analog & Digital Communication	5th E&TC	5	Theory-9 Practical- 9
		VLSI & Embedded System	5th E&TC	4	
		VLSI & Embedded system lab	5th E&TC	3	
		Project Phase-I	5th E&TC	4	
		SCA	5th E&TC	2	
2.	Mr. Balaram Tripathy, Lecturer	Wave Propagation	5th E&TC	4	Theory- 8 Practical- 13
		Electronics Measurement & Instrumentation	3rd sem E&TC	4	
		EMI Lab	3rd E&TC	4	
		Wave Propagation Lab	5th E&TC	3	
		SCA	1st (E&TC, IT)	3	
		SCA	3rd E&TC	3	
3.	Miss. Samar Firdus, Guest Lecturer	Basic Electronics	1st (E&TC, IT,Electrical)	4	Theory-8 Practical-7
		Digital Electronics	3rd E&TC	4	
		Digital Electronics Lab	3rd E&TC	4	
		Analog & Digital Communication Lab	5th E&TC	3	
4.	Sri Rudra Pratap Swain, Guest Lecturer	Digital Electronics	3rd sem IT	4	Theory- 9 Practical- 10
		Digital Electronics lab	3rd sem IT	4	
		Digital Electronics & Microprocessor	5th Electrical	5	
		Digital Electronics & Microprocessor Lab	5th Electrical(Group 1, Group 2)	6	
4	Miss Bharati Nayak, Lab Assistant	Analog & Digital Communication Lab	5th E&TC	3	Practical-16
		VLSI & Embedded system lab	5th E&TC	3	
		Digital Electronics Lab	3rd E&TC	4	
		Digital Electronics & Microprocessor Lab	5th Electrical(Group 1, Group 2)	6	
5	Guest Instructor	EMI Lab	3rd E&TC	4	Practical-15
		Digital Electronics lab	3rd sem IT	4	
		Wave Propagation Lab	5th E&TC	3	
		Project Phase-I	5th E&TC	4	

7/10/2021

(HOD)

(Electronics & Telecommunication Engg.)

S.K D.A.V GOVERNMENT POLYTECHIC, ROURKELA

WORKLOAD DISTRIUTION OF CIVIL DEPARTMENT FOR 3RD/5TH SEM OF 2021-2022

SL NO	NAME OF FACULTY	SUBJECT	SEM & BRANCH	CLASS/WEEK	TOTAL
1	Smt. Malabika Patra Lecturer	E&CE I	3RD CIVIL	4	Theory-9 Practical - 10
		WS & WWS	5TH CIVIL	5	
		PROJECT PHASE I	5TH CIVIL	3	
		SEMINAR	1ST CIVIL	4	
		SCA	3RD CIVIL	3	
2	Ms. Banita Maharana Lecturer	SD II	5TH CIVIL	4	Theory-8 Practical-15
		R&B ENGG.	5TH CIVIL	4	
		CE LAB II	5TH CIVIL	6	
		PROJECT PHASE I	5TH CIVIL	6	
		SCA	5TH CIVIL	3	
3	Ms. Soumyaa Sahoo Lecturer	BM & CT	3RD CIVIL	5	Theory-9 Practical-11.5
		E&CE II	5TH CIVIL	4	
		CED I	3RD CIVIL	2.5	
		CE LAB I	3RD CIVIL	6	
		SCA	1ST CIVIL	3	
4	Ms. Ashashree Sahoo Guest Lecturer	SM	3RD CIVIL	5	Theory-9 Practical-12
		EM	1ST CIVIL	4	
		CE LAB I	3RD CIVIL	6	
		CE LAB II	5TH CIVIL	6	
5	Smt. Itishree Sahu Guest Lecturer	GTE	3RD CIVIL	4	Theory-8 Practical-14.5
		EVS	3RD CIVIL	4	
		EST PRACTICE II	5TH CIVIL	6	
		EST PRACTICE I	3RD CIVIL	6	
		CED I	3RD CIVIL	2.5	
6	Mr. Ritu Kumar Meher Guest Instructor	CE LAB I	3RD CIVIL	6	Practical -26
		CE LAB II	5TH CIVIL	6	
		EST II PRACTICE	5TH CIVIL	3	
		CED I	3RD CIVIL	5	
		PROJECT PHASE I	5TH CIVIL	6	
7	Ms. Belamati Majhi Guest Instructor	CE LAB I	3RD CIVIL	6	Practical-24
		CE LAB II	5TH CIVIL	6	
		EST I PRACTICE	3RD CIVIL	6	
		EST II PRACTICE	5TH CIVIL	3	
		PROJECT PHASE I	5TH CIVIL	3	

HOD

Civil Engineering Department

S.K.D.A.V GOVERNMENT POLYTECHNIC, ROURKELA.

WORKLOAD DISTRIBUTION OF MECH. ENGG. DEPTT FOR 1st, 3RD & 5th SEM WINTER 2021

SL. NO.	NAME OF THE LECT/INST.	SUBJECT	SEM/BRANCH	CLASS/WEEK	TOTAL
1	SMT. REENA RAY, SR. LECT. (MECH.)	WORKSHOP	1st (ELECT. ,ETC & IT)	12	TH-08 PR-19
		PRODUCTION TECH.	3RD MECH	04	
		EMST	5TH MECH	04	
		PROJECT WORK PHASE-I	5TH MECH	04	
		SCA	1ST MECH	3	
2	SHRI DURYODHAN DAS, LECT. (MECH.)	THERMAL	3rd MECH.	04	TH- 08 PR-27
		MACHINE DRAWING	3rd MECH.	06	
		ENGG. DRAWING	1ST CIVIL	12	
		EME	3rd ELECT.	04	
		MECH. ENGG. LAB	3rd ELECT.	06	
		SCA	5TH MECH	03	
3	MISS. RUPA BHENGRAJ, LECT. (MECH.)	WORKSHOP-II	3RD MECH.	12	TH-12 PR-19
		HM&IFP	5TH MECH.	04	
		DESIGN OF MACHINE ELEMENTS	3rdMECH.	04	
		HM&IFP LAB	5TH MECH.	08	
		PROJECT WORK PHASE-I	5TH MECH	04	
		SCA	3rdMECH.	03	
		SEMINAR	1st MECH.	04	
4	SMT BIJAYLAXMI ROUTRAY, PTGF	ENGG. MATERIAL	3rdMECH.	04	TH-08 PR-08
		ENGG. MECHANICS	1ST MECH.	04	
		M. E LAB-I	3rd MECH.	08	
5	SRI DEBASHIS DAS, PTGF	SOM	3rd MECH.	04	TH-04 PR- 24
		MECH. WORKSHOP	3RD ELECT.	12	
		WORKSHOP	1st (ELECT. ,ETC & IT)	12	
6	SRI DHIRAJ SAHOO, PTGF	R&AC	5TH MECH.	04	TH- 08 PR-20
		DESIGN OF MACHINE ELEMENTS	3rdMECH.	04	
		R&AC LAB	5TH MECH.	08	
		ENGG. DRAWING	1ST MECH.	12	
7	MISS PRATIVA PATRA, PTGF	EVS.	3RD MECH	04	TH-08 PR-08
		MECHATRONICS	5TH MECH.	04	
		CAD/CAM LAB	5TH MECH.	08	
8	SRI C. K MAHARANA, PTGLA	WORKSHOP	1st (ELECT. ,ETC & IT)	24	PR-48
		WORKSHOP-II	3rdMECH.	12	
		MECH. WORKSHOP	3rd ELECT.	12	
9	SRI SUBRAT PANDA, PTGLA	MECH. ENGG. LAB	3rd ELECT.	06	PR- 42
		HM&IFP LAB	5TH MECH.	08	
		PROJECT WORK PHASE-I	5TH MECH	04	
		R&AC LAB	5TH MECH.	08	
		CAD/CAM LAB	5TH MECH.	08	
		M. E LAB-I	3rd MECH.	08	

Reena Ray

H.O.D

MECH. ENGG.DEPTT.

MECHANICAL DEPARTMENT:

Watt Governor

Aim of the Experiment:

Determination of centrifugal force of a watt Governor.

Apparatus Required

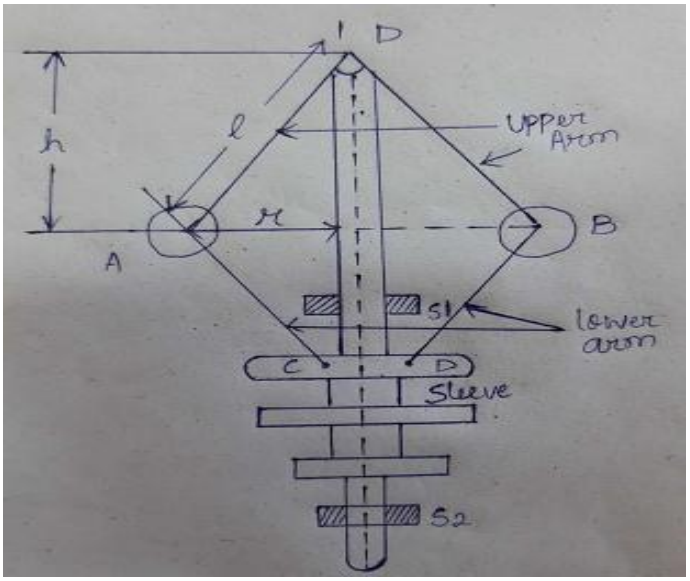
1. Universal Governor Apparatus.
2. Tachometer
3. Steel Rule 0-300mm
4. Outside calliper

Theory

Governor is a device which is used for maintaining constant speed of an engine when there is variation in the load by regulating the supply of working fluid. Watt governor is the simplest form of a centrifugal governor which Consists of two balls of equal masses which are attached to the spindle with the help of arms. The upper arms are pivoted to the spindle, which is driven by the engine through bevel gears. The lower arms are connected to the sleeve which is keyed to the spindle. The sleeve revolves with the spindle but can slide up and down. The sleeve is connected by a bell crank lever to a throttle valve which controls the supply of working fluid.

When the load on the engine decreases, the speed of the engine increases. As the spindle of the governor is driven by the engine shaft, the speed of the spindle also increases. This will increase the centrifugal force on the governor balls and the balls will move outwards. The outward movement of governor balls rises the sleeve upward and the upward movement of the sleeve will operate the throttle valve to reduce the supply of working fluid to engine. Thus the engine speed decreases to mean speed.

When the load on the engine increases, the speed of the engine decreases, which in turn decreases the speed of the spindle. Hence the centrifugal force on the governor balls decreases and the balls move inward. The sleeve moves downward and increases the supply of working fluid by increasing the opening of throttle valve. Hence the engine speed increases to mean speed.



Let l = length of the arm
Let h_o = height of the governor at lowest position of the sleeve.
r_0 = radius of rotation when sleeve is at lowest position
$h_0 = \sqrt{l^2 - r_o^2}$

<u>when speed of the spindle increase,</u>
N= rpm of the spindle
S= sleeve lift
H= height of the governor
r= radius of rotation

Centrifugal force $F = mw^2r$
; $w = 2\Pi N/60$
M= mass of the governor ball
$h = h_o - s$
$r = \sqrt{l^2 - h^2}$

<u>Procedure</u>:

1. The length of the upper arm is to be measured with the help of steel rule and outside callipers.
2. At rest condition, the radius of rotation (r_0) is to be measured with the help of steel rule and outside callipers.
3. The height of the governor 'h_0' is to be calculated by using the relation $h_0 = \sqrt{l^2 - r_0^2}$.
4. Now the motor of the governor is to be started and speed of the spindle is to be increased by using variac. At any constant speed, the speed (N) of the spindle is to be measured with the help of tachometer.
5. At this constant speed, the reading of sleeve lift 's' is to be taken.
6. The value of ' w' and 'r' for different spindle speed is to be tabulated and corresponding centrifugal force is to be calculated using the formula $F_C = mw^2r$ using the value of m & l.

Sl.no	Rpm N	$W=2\Pi N/60$	$h=h_0-s$	$r=\sqrt{l^2-h^2}$	$F_c=mw^2r$

<u>Results & Discussion</u>

Centrifugal force for different value of m & l have been calculated and the relation between N and h were compared with the theoretical formula $N=895/h^2$

for l = _____

and m = _____

Conclusion:

1. It was observed that when speed increases centrifugal force increases and radius of rotation also increases which lifts the sleeve and when speed decreases centrifugal force decreases and radius of rotation decreases which push the sleeve down.
2. The relationship between N and h were compared with the theoretical formula i.e $N=895/h^2$ and found good approximate.

EXPERIMENT

AIM OF THE EXPERIMENT:

Dimensional and material study of various parts of a DC machine.

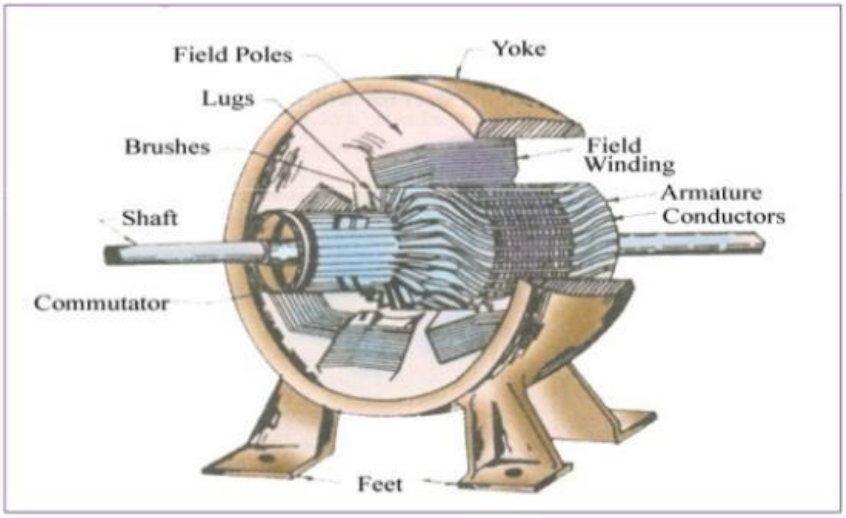
EQUIPMENTS REQUIRED: DC machine

THEORY:

An electrical machine is a mechanical device which converts mechanical energy into electrical energy. The energy conversion based on the principle of production of dynamically induced emf . A production machine consists of the following essential parts.

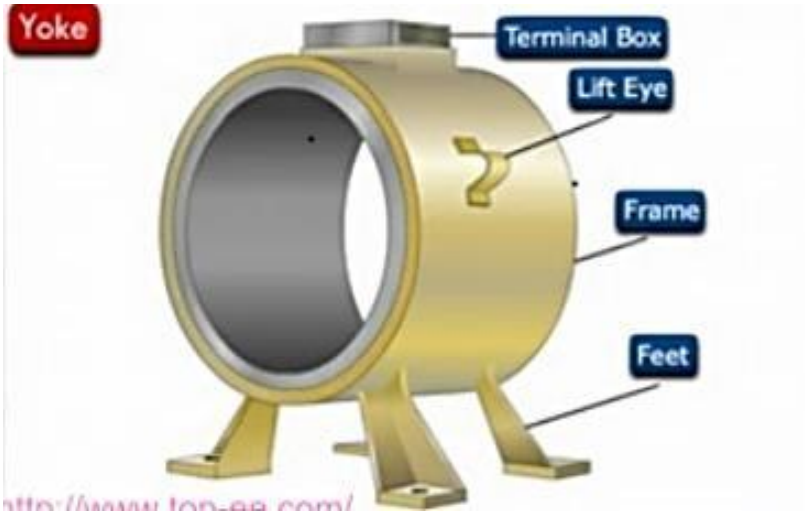
PARTS OF A DC MACHINE

i. Pole core & pole shoe
ii. Magnetic yoke or frame
iii. Pole coils or field coils
iv. Armature core
v. Armature winding or conductor
vi. Commutator vii. Brushes



MAGNETIC FRAME OR YOKE

The outer frame of a dc machine is known as yoke. It acts as a protective cover for the DC machine as well as it provides machine supports for the poles. It also carries magnetic field produced by the poles. Yokes are made of cast iron, but for large machine usually cast steel or rolled steel. The modern process of forming yoke is consisting of rolling a steel slab.

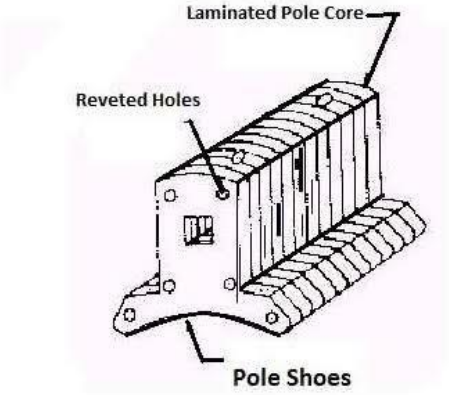


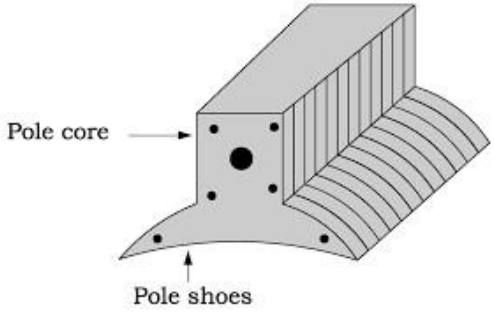
POLE CORE OR POLE SHOE

For the purpose in a machine either permanent poles or electro magnet poles are attached or welded with yoke. The field magnet consists of pole core and pole shoe. Pole shoe serves for two purpose

i. They spread out the flux in the air gap ii.

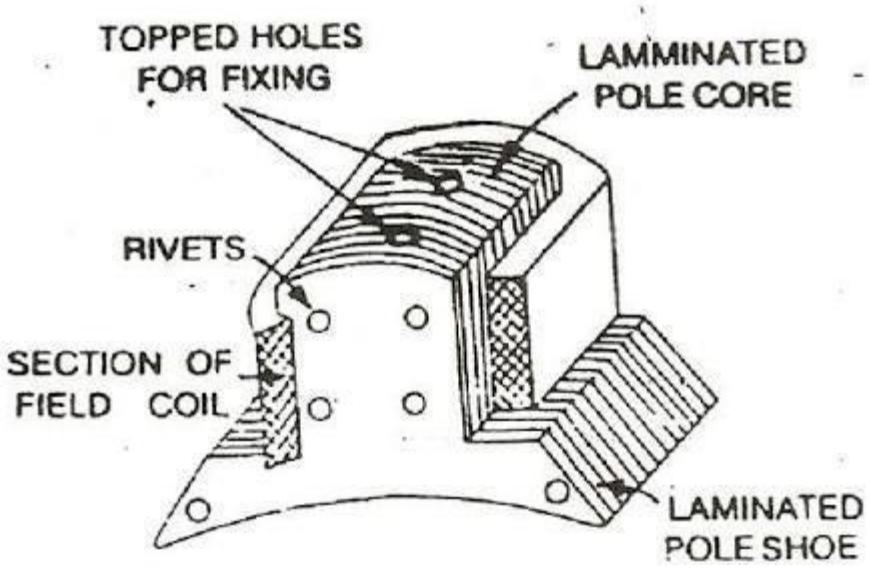
They support the field coil or field winding.





POLE COILS OR FIELD COILS

The pole coils consist of copper wire or strips. When current is passed through these coils, the electro magnets produce the necessary flux that cut by revolving armature conductor.



ARMATURE CORE

It causes the armature conductor to rotate. The important function of the armature core is to provide a path of very low reluctance to the flux through the armature. It is cylindrical is made of circular sheet steel disc on lamination.

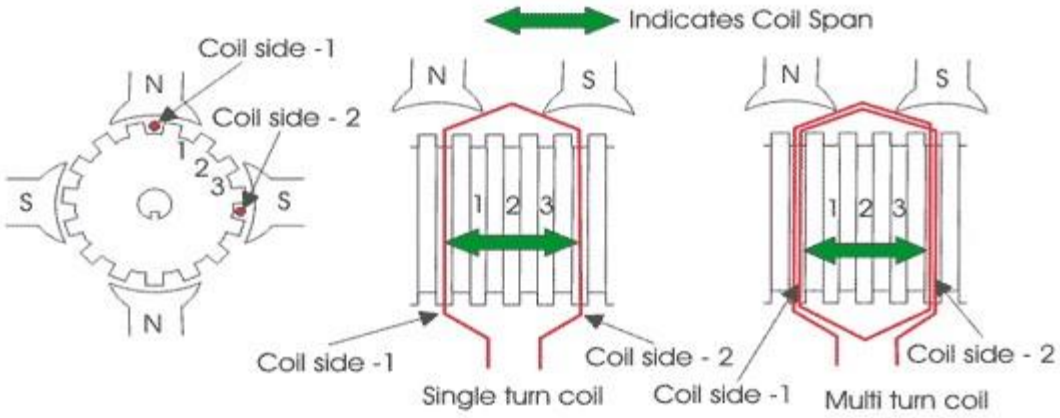
ARMATURE WINDING OR CONDUCTOR

Within the slot of armature core copper windings are provide and known as armature winding. It consist of large number of insulated coils. Each coil having one or more number of turns. The coils

are usually former wound. These are placed in a slot. Depending upon the type of winding required. These are basically two types of winding.

i. Lap winding

ii. Wave winding

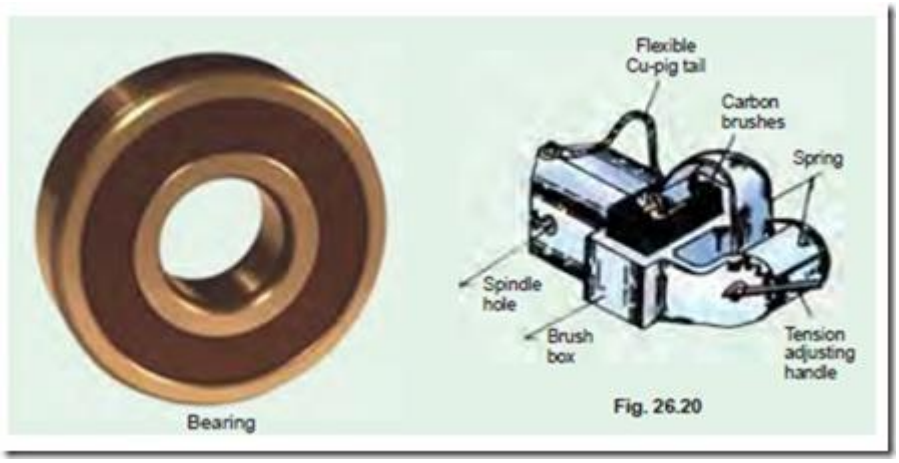


COMMUTATOR

It is of cylindrical structure. It is built of wedge shaped segment of high conductivity hard drawn copper to reduce its wear and tear segments are insulated from each other by 0.8mm thick mica sheet. The segments are assembly in such a way that result in circular shape. The commutator in DC machine is used to convert AC to DC.

BRUSHES

Brushes are based in box type brush holder attach to the stator yoke. A small spring keeps the brushes passed on to the commutator surface. Brushes are made of carbon for small DC machine, electro graphite for all DC machine and copper graphite for low voltage high current DC machine.



CONCLUSION:

By performing this experiment, we have to study various parts of DC machine.

DISCUSSION QUESTION

1. The yoke is made of which material and why?
2. The commutator is made of which material and why?
3. What is the function of brushes?
4. Why the field pole shoes are curved in nature?
5. State Fleming's Right Hand rule?

EXPERIMENT

AIM OF THE EXPERIMENT:

Study of (Manual and Semi-automatic) Direct on Line starter, Star-Delta starter, connection and running a 3-phase Induction motor and measurement of starting current.

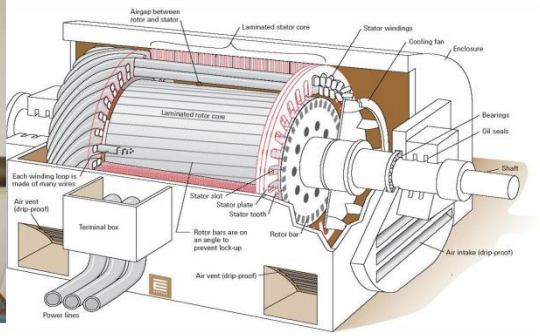
APPARATUS REQUIRED:

Sl No	Apparatus	Specification/Range	Quantity	Remarks
1	Induction Motor	3-ϕ,415volts,50c/sec,9.5Amp,925r.p.m	1	-
2	Digital tachometer			-
3	Voltmeter	0-600v	2	-
4	DOL Starter	415v,32 amp	1	-
5	Star-Delta Starter	425v 32 amp	1	-
6	Ammeter	0-20 Amp	1	-
7	Miscellaneous items	As required	-	-

THEORY:

An induction motor is one in which alternating current is supplied to the stator directly and to the rotor by induction or transformer action from the stator. When excited from a balanced three- phase source, the stator winding will produce a magnetic field in the air gap rotating at synchronous speed as determined by the number of stator poles and the applied stator frequency. The rotor of a three-phase induction machine may be one of two types. A wound rotor is built with a three-phase winding similar to, any wound with the same number of poles as, the stator. The terminals of the rotor winding are connected to insulated slip rings mounted on the shaft as shown in Figure 1(a). Carbon brushes bearing on these rings make the rotor terminals available external to the motor. The second type is squirrel-cage rotor with a winding consisting of conducting bars embedded in slots in the rotor iron and short circuited at each end by conducting end rings. The three-phase induction motor with squirrel-cage rotor is shown in Figure 1(b).

(a)



(b)

(a) wound-rotor and (b) squirrel-cage induction motor.

3 DIRECT ON LINE OPERATION

The direct-on-line (DOL) motor start is the easiest method for starting up three-phase asynchronous motors. The stator windings are directly connected to the mains supply in a single switching process. Large starting currents (surge currents) result by applying the full mains voltage, which in turn cause troublesome voltage changes on the mains supply. For small size motor (less than 2 HP) where starting torque is about twice the full-load torque and starting period lasts only a few seconds, this type starter is used. The schematic diagram for DOL starter is shown in the Figure below.

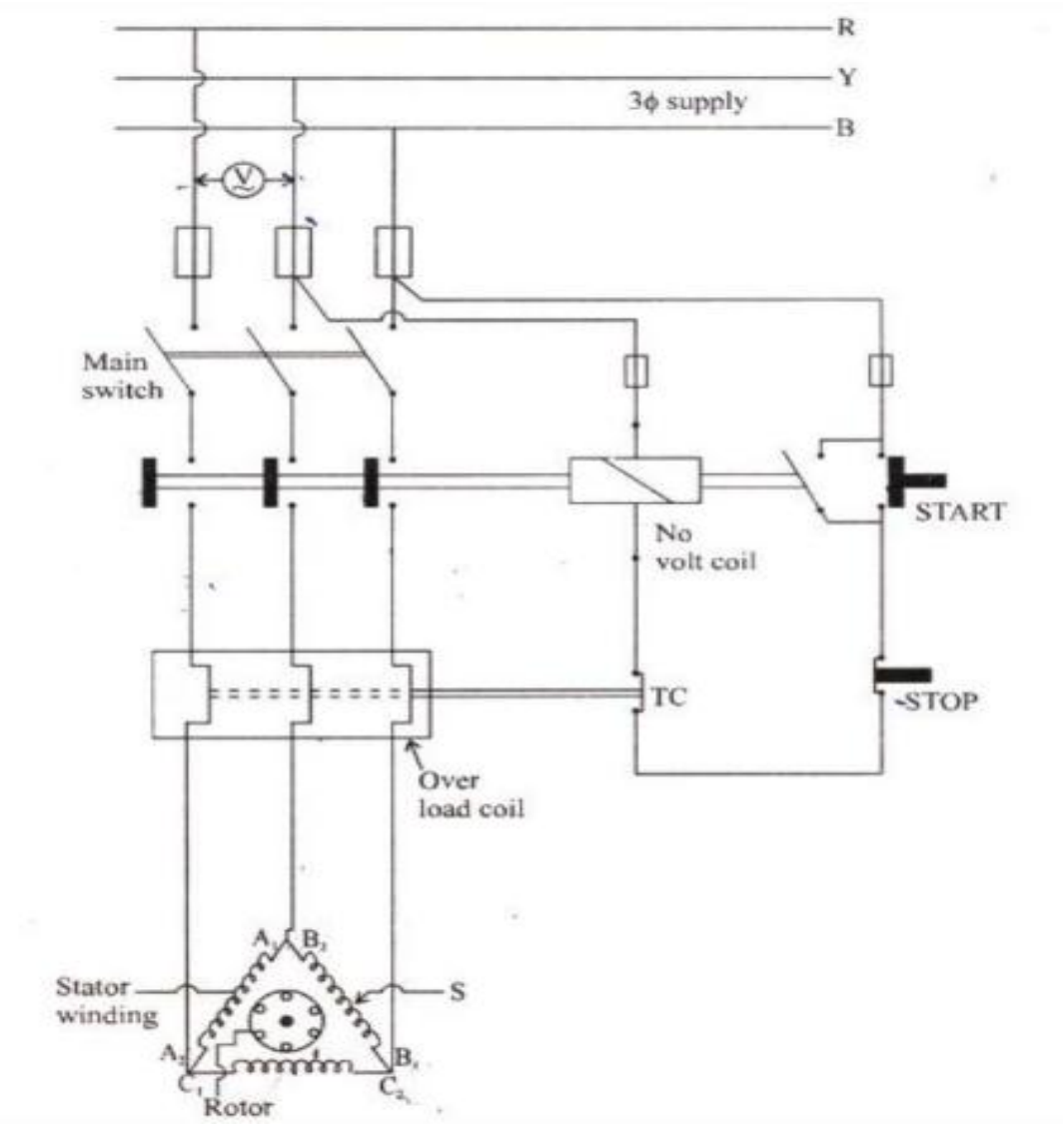


Figure 2: Direct on line motor starter.

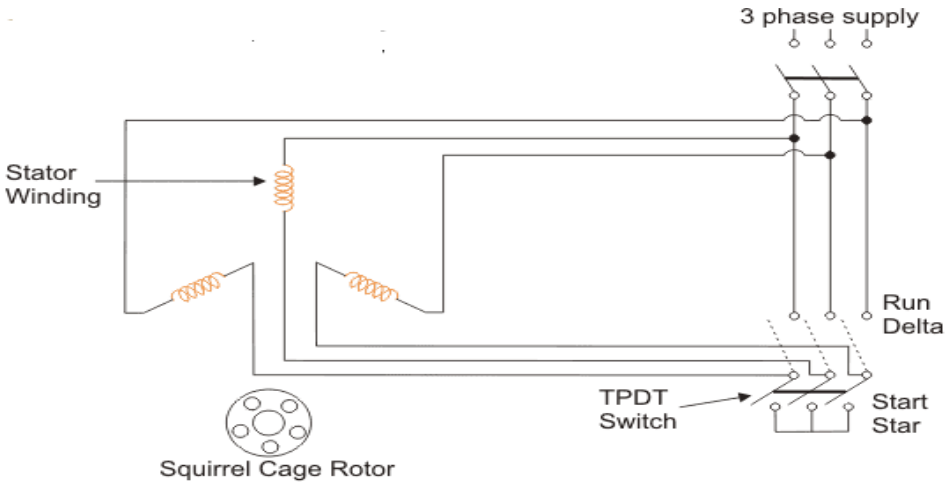
STAR –DELTA CONNECTION

With a star-delta motor start, the start-up of the three-phase asynchronous motor is implemented by a changeover of the windings. During the operating connection, the

windings of the motor are connected in delta. The winding voltage must therefore be equal to the phase voltage of the three-phase system. For example, at a mains supply voltage of 3ϕ AC 400 V the voltage ratings on the rating plate of the motor must be specified as 400/690 V. In a star connection, the mains voltage on the individual motor winding is reduced by the factor of 1/√3, for example 400/√3= 230volt. Starting torque and inrush current are (in the star connection) reduced to about a third of the values for the delta connection. Due to the reduced starting torque, the star-delta configuration is only suitable for drives with smaller load torques or load torques that increase with speed, such as is the case with pumps and fans (ventilators/blowers). They are also used where the drive is only subject to a load after it has accelerated up to speed, for example, with presses and centrifuges.

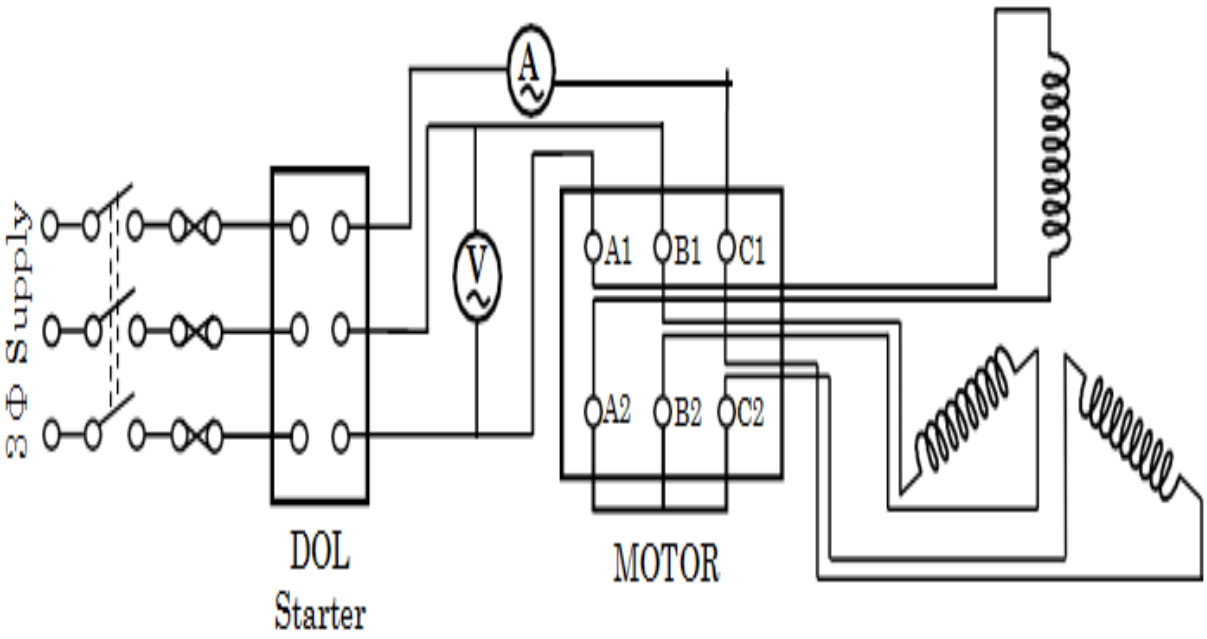
With the changeover of the circuit configuration from star to delta, the current drops to zero, and the speed of the motor reduces depending on the load. The changeover to delta then causes a dramatic rise in the current, as the full mains voltage is now applied to the motor windings. Voltage dips will result on unreliable or weak supply systems. The motor torque also jumps to a higher value during changeover, which causes additional loading on the entire drive system. Switching over too quickly between star and delta can result in disconnection arcing (on the switching contacts) and can cause a short circuit. The changeover time interval should be selected so that it is long enough to quench the arcs. At the same time, the speed of the drive should be reduced as little as possible. The correct phase sequence for the changeover from star to delta must be observed when connecting the conductors to the motor and starter. The operating direction of the motor must be considered and observed. Incorrect connection of the phases can cause very high peak currents at restart, because of the slight drop in speed during the de-energized changeover interval. The current peaks endanger the motor windings and stress the switchgear contacts unnecessarily.

Fig. 3: Star Delta Starter

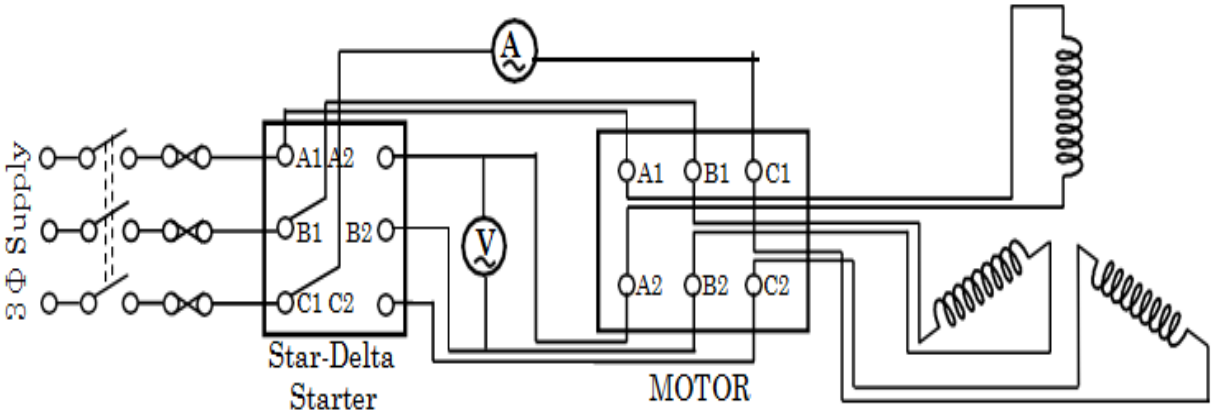


CIRCUIT DIAGRAM:

DOL STARTER:



STAR-DELTA STARTER:



PROCDURE:

Direct on line Starter:

1. We made the connection as per the given diagram.
2. All the equipment we connected each other through motor in Delta, then we switched on in DOL starter and noted down the initial current.
3. We pulled up the lever to make the motor run in a constant speed, the voltage, the current & speed of the motor reading were noted down.
4. After noted the reading we were switched off the supplied power & disconnected all the connection.

Star-Delta Starter:

1. We made the connection as per the given diagram.
2. After made a proper connection we supplied a power to motor connected with star-delta starter.
3. We pulled up the lever to make the motor run in a constant speed, when motor attend the rated speed, the voltage, the current & speed of the motor reading were noted down.
4. When motor attained the speed up to 85% of its normal speed when pulled up the lever to run in a constant speed position and noted down the voltage, current & speed of the motor.
5. After noted the reading we were switched off the supplied power & disconnect all the connection.

OBSERVATION TABLE:

Connection	Supply Voltage	Starting Current	Running Current	Speed in RPM
DOL Starter				
Star-Delta Starter				

PRECAUTIONS:

1. All the connection was properly connected & connection should be tight.
2. No extra wires we remain out.
3. All the equipment should be earthed properly.
4. The NVC were should rate according the supply voltage.

CONCLUSION:

The given induction motor was successfully being run with the help of DOL & Star-Delta starter & it was found that the starting current was much higher than the running current.

DISCUSSION QUESTION:

1. Why DOL starter is used to run an induction motor?
2. What is the function of NVC and OLR?
3. State the advantage and disadvantage of each starter?
4. State the application of each starter?
5. Among the two starters which one has less starting torque? Explain why.

Civil Department

EXPERIMENT NO-1

AIM OF THE EXPERIMENT:-

Testing and adjusting of metric chain.

APPARATUS REQUIRED:-

1. Test gauge
2. 30 metre metric chain
3. 20 metre metric chain

THEORY:-

1. Due to continuous use of chain may be elongated or shortened .So a chain should be tested and adjusted.

2. If full adjustment is not possible, the amount of shortening and elongation should not be clear.

3. For testing a chain a test gauge is established level platform with the help of a standard steel tape.

4. The steel tape is standardize 20^0 c under a tension of 80kg.

5. The test gauge consist of two pegs having nails at the top and fixed on the level platform at the required distance apart.

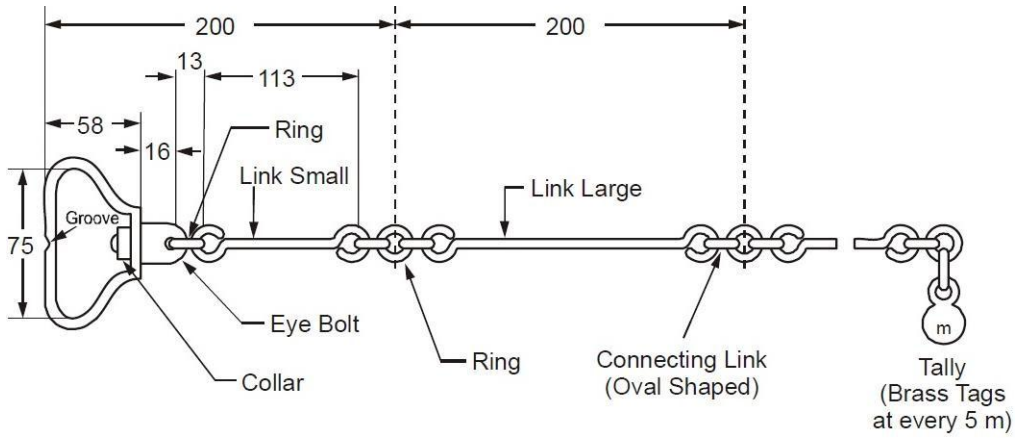
6. The incorrect chain is fully stretched by pulling the test gauges.

7. If the length of the chain does not tally with standard length then a attempt should be made to rectify the error. Finally the amount of elongated and shorted should be noted.

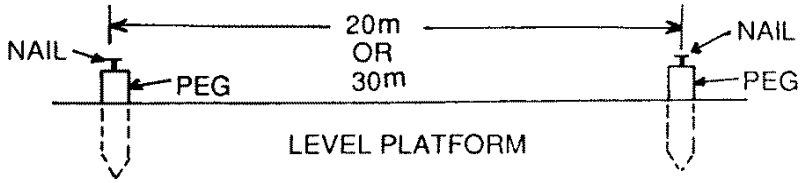
8. The allowable error is about 2mm or metre length of the chain should be within the followed permissible limit.

(a) 20 mtr chain +/- 5 mm

(b) 30 mtr chain +/- 8 mm



Details of Metric Chain



PROCEDURE:-

ADJUSTMENT OF CHAIN :-

Chains are adjusted in the following ways.

(a) when the chain is too long:

(i) Closing the joined of ring.

(ii) Hammering the elongated ring.

(iii) Remove some ring.

(iv) Replacing old ring to new ring.

(b) When the chain is too short:

(i) Straightening of the ring.

(ii) Opening the joints of rings.

(iii) Replacing the larger ring.

(iv) Insert new ring if necessary.

CONCLUSION:-

The 20m/30m chain was found to be_____cm long or_____cm short.

MATERIAL TESTING LABORATORY:A)TEST ON STEEL

1.0 NAME OF THE EXPERIMENT: YOUNG'S MODULUS OF STEEL

AIM:

To determine the tensile strength of given sample of steel rod.

APPARATUS REQUIRED:

i. Steel rod
ii. Universal testing machine with all its accessories
iii. Extensometer
iv. Scale Vernier Callipers
v. Punching tools

Test set up and experimental arrangement:

A universal testing machine (UTM) is named after the fact that it can perform almost all standardized test that is tension, compression, shear, bending and rebound test on materialspecimen with the help of suitable attachments.

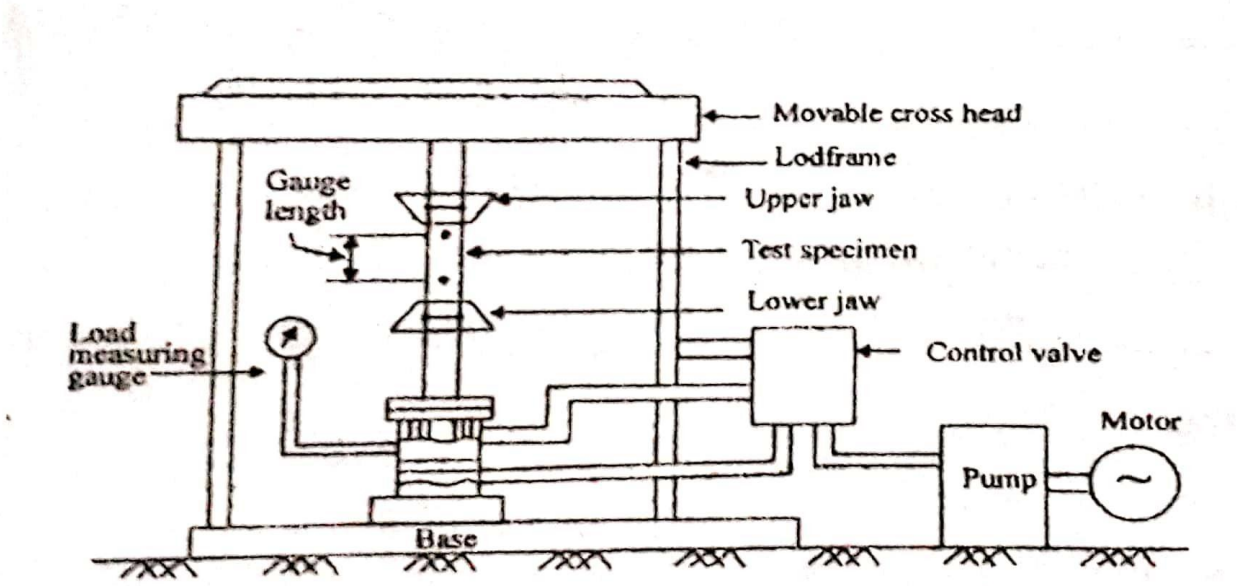


Fig.1-Hydraulically Operated Universal Testing Machine(UTM)

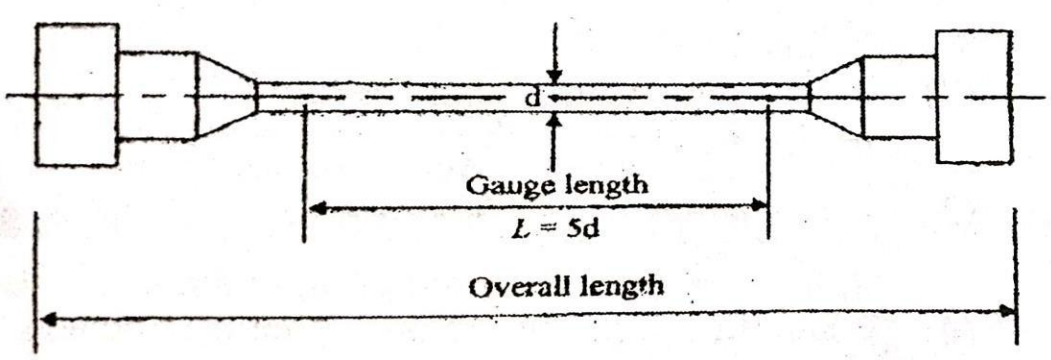


Fig. 2- Test Specimen

Components of UTM:

1. Load frame – Usually consist of two strong supports for the machine
2. Cross head- A movable cross head is controlled to move up or down .Usually this is operatedelectromechanically at a constant speed.
3. Extensometer- This is used to measure the extension/reduction in the length of specimen.
4. Output device- It is for providing the test result in dial gauge or digital display or computerinterface.

Fig. 3- Universal testing machine

THEORY

Tension test is performed on mild steel, tor steel and high tensile steel to determine the propertieslike Young's modulus, ultimate strength, and the percentage elongation. In the tension test, a steelrod is subjected to tension load by the means of a Universal testing machine (UTM).UTM comprisestwo main units, one is the loading unit and other is the control panel.

Loading unit: The loading of the specimen is conducted in the loading unit. In the figure above, the equipment in the left is called as the loading unit. The loading unit consists of three crossheads,they are **the upper head**, **middle head,** and **lower head.** These crossheads are used depending on the type of load(tensile, compressive or shear) applied on the specimen. When undergoing the tensile test, the upper and lower crossheads are used.

Control Panel: This unit facilitates the load application on the specimen. The load application is performed by the action of hydraulic pressure. A pendulum dynamometer is fitted to measure andindicate the force coming on the specimen.
A big size load indicating dial fitted with a glass cover is mounted at the side of the control panel.The range indicating dial is to be adjusted for the particular range selected..

Generally the test specimen is clamed in between two jaws, the lower jaw remain fixed while theupper jaw is movable.The machine is hydraulically operated and a gradually increasing tensile force(pull) is applied on specimen until it breaks. A graph between load against deformation or stress against strain is obtained either by mechanical plotting or by digital means.
The specimen is subjected to constant tension load and the extension caused in the steel rod is noted against the load within the elastic limit. The load values at yield point, breaking point, andultimate point are carefully noted.

With the obtained values, the stress and strain are calculated and plotted in a graph. From thedata, we get:

1. Modulus of Elasticity, E = Stress/Strain[This is calculated within the elastic limit. The slopeof the stress-strain curve provides the modulus of elasticity]
2. Yield Stress = Load at yield Point/Original C/s Area
3. Ultimate Stress = Ultimate Load/Original C/s Area
4. Nominal Breaking Stress = Breaking Load/Nominal Breaking Stress
5. Actual Breaking Stress = Breaking load/Neck Area
6. Percentage elongation = (Change in length/Original Length)/100
7. Percentage reduction in the area = (Change in length/Original Area)/100

PROCEDURE

1. Initially, the steel rod specimen is cleaned and gauge length is marked on it. This specimen with gauge distance marked on it is gripped between the jaws of the UTM andclamped securely. Its length and diameter is noted down.

2. The machine with computerized interface are needed to feed the parameters as per testcondition. In analog machine with mechanical arrangements setting to be done

3. The handle is operated such that the specimen firmly fits to the top base. The left valve is kept in a fully closed position and the right valve in a normal open position. Open theright valve and close it after the lower table is slightly lifted. Adjust the load pointer to zero with the zero adjusting knobs. By operating the handle, lift the lower crosshead chuck up and grip firmly the lower part of the specimen. Once the specimen is placed, the jaws are locked.

4. When the specimen breaks, generally the machine stops automatically.

5. Then the readings are noted down or saved in digital system along with graphicallyoutput and the print is taken out.

6. The diameter of the specimen at the fracture point and final length of the specimenshould be measured.

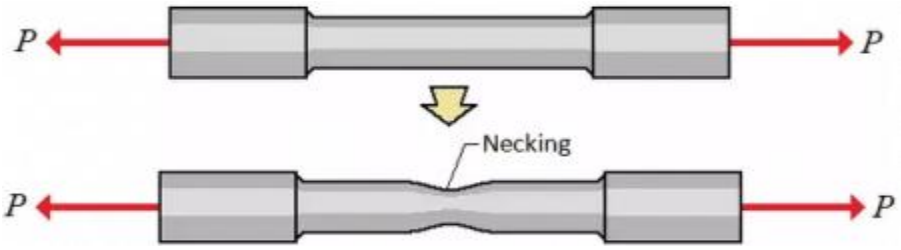
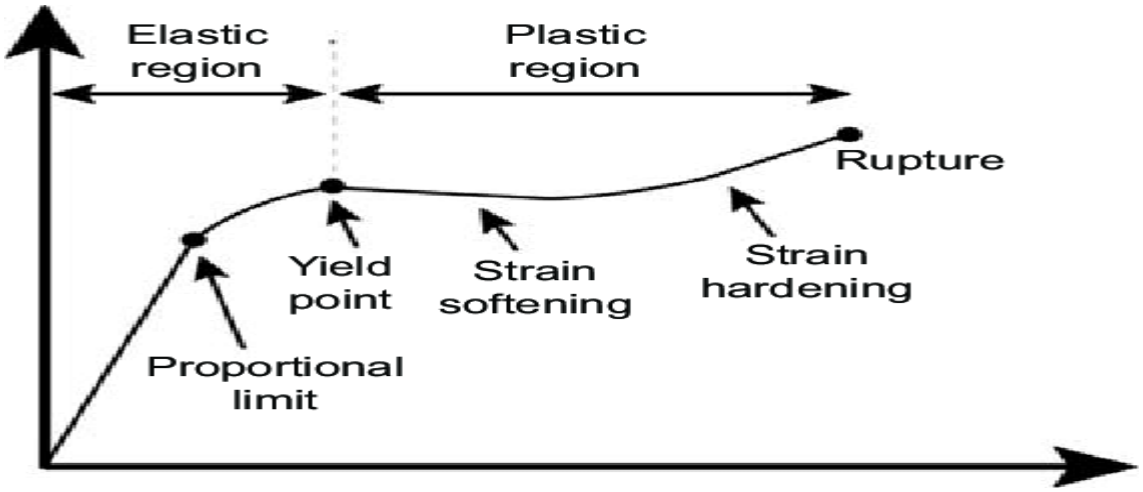


Fig.4 Necking of steel rod under tensile load



GRAPH

OBSERVATION

i. Original diameter of the sample, d_o=
ii. Initial gauge length,L_i=
iii. Diameter of the sample at fracture point,d=
iv. Final gauge length,L_f=
v. Load at proportionality limit,P_A=
vi. Load at elastic limit, P_B=
vii. Load at upper yield point,P_C=
viii. Load at lower yield point,P_D=
ix. Load at ultimate stress,P_E=
x. Load at break point,P_f=
xi. Original area of the sample $A_o=\pi/4\ X(d_O)^2$
xii. Areaof the sample at break point,$A=\pi/4\ X(d)$

RESULT

1. Stress at proportionality limit,$\sigma_{P.L}=P_A/A_o$ =_____N/mm²
2. Stress at elastic limit,$\sigma_{E.L}= P_B / A_o$=_____N/mm
3. Yield stress, $\sigma_y= P_D / A_o$ =_____N/mm²
4. Breaking stress , $\sigma_F= P_F / A_o$ _____N/mm²
5. % Elongation = $[(L_f - L_i)/ L_i]X100$= _____
6. % reduction for Area =$[(A_o-A)/ A_o]X100$=_____
7. Young's Modulus =_____N/mm²

CONCLUSION

ETC DEPARTMENT

AIM OF THE EXPERIMENT-

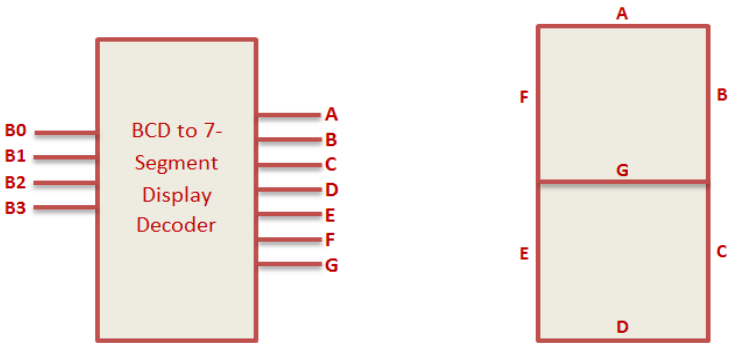
Develop a VHDL test bench code for testing 7 segment LED display.

EQUIPMENT REQUIRED:

1. PC
2. XILINX ISE software

THEORY-

Here is a program for BCD to 7-segment display decoder. The module takes 4 bit BCD as input and outputs 7 bit decoded output for driving the display unit. A seven segment display can be used to display decimal digits. They have LED or LCD elements which becomes active when the input is zero. The figure shows how different digits are displayed:



BCD to 7 segment display Decoder Truth Table:

B3 B2 B1 B0	A B C D E F G
0000	0000001
0001	1001111
0010	0010010
0011	0000110
0100	1001100
0101	0100100
0110	0100000
0111	0001111
1000	0000000
1001	0000100

PROCEDURE:

· New project and type the project name and check the top level source type as HDL.

·Enter the device properties and click Next.

· Click New Source and Select the Verilog Module and then give the file name.

·Give the Input and Output port names and click finish.

·Type the program and save it.

·Double click the synthesize XST and check syntax.

·Simulate the waveform by behavioral simulation.

PROGRAM:

VHDL PROGRAM:

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.STD_LOGIC_ARITH.ALL;
use IEEE.STD_LOGIC_UNSIGNED.ALL;

entity SEVEN is
port (
     clk : in std_logic;
  bcd : in std_logic_vector(3 downto 0);  --BCD input
 segment7 : out std_logic_vector(6 downto 0)  -- 7 bit decoded output.
 );
end SEVEN;
--'a' corresponds to MSB of segment7 and g corresponds to LSB of segment7.
architecture Behavioral of SEVEN is

begin
process (clk,bcd)
BEGIN
if (clk'event and clk='1') then
case  bcd is
when "0000"=> segment7 <="0000001";  -- '1'
when "0001"=> segment7 <="1001111";  -- '1'
when "0010"=> segment7 <="0010010";  -- '2'
when "0011"=> segment7 <="0000110";  -- '3'
```

```
when "0100"=> segment7 <="1001100";  -- '4'
when "0101"=> segment7 <="0100100";  -- '5'
when "0110"=> segment7 <="0100000";  -- '6'
when "0111"=> segment7 <="0001111";  -- '7'
when "1000"=> segment7 <="0000000";  -- '8'
when "1001"=> segment7 <="0000100";  -- '9'
--nothing is displayed when a number more than 9 is given as input.
when others=> segment7 <="1111111";
end case;
end if;

end process;

end Behavioral;
```

TEST BENCH PROGRAM:

```
LIBRARY ieee;
USE ieee.std_logic_1164.ALL;
use IEEE.STD_LOGIC_ARITH.ALL;

ENTITY SEVEN_TB IS
END SEVEN_TB;

ARCHITECTURE behavior OF SEVEN_TB IS
 signal clk : std_logic := '0';
  signal bcd : std_logic_vector(3 downto 0) := (others => '0');
  signal segment7 : std_logic_vector(6 downto 0);
constant clk_period : time := 1 ns;
BEGIN
  uut: entity work.SEVEN PORT MAP (clk,bcd,segment7);
clk_process :process
 begin
 clk <= '0';
wait for clk_period/2;
 clk <= '1';
 wait for clk_period/2;
  end process;
 stim_proc: process
 begin
  for i in 0 to 9 loop
   bcd <= conv_std_logic_vector(i,4);
    wait for 2 ns;
end loop;
  end process;

END;
```

CONCLUSION:

AIM OF THE EXPERIMENT-

Develop a VHDL test bench code for testing 4-bit binary counter.

EQUIPMENT REQUIRED:

1. PC
2. XILINX ISE software

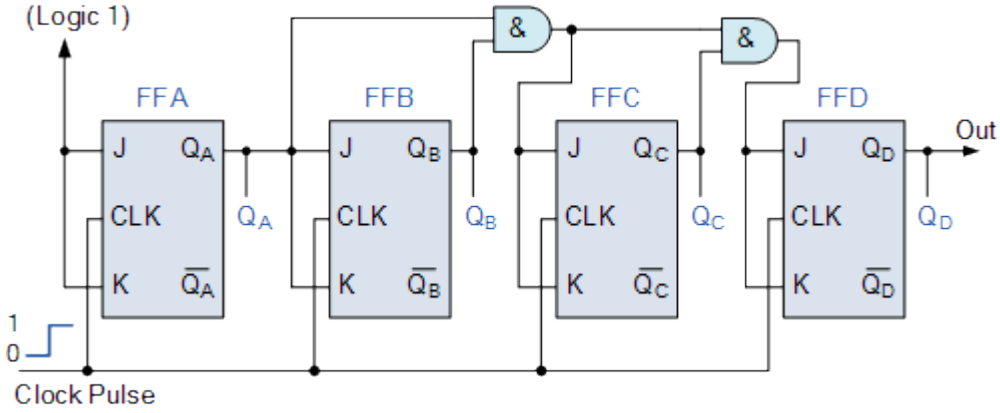
THEORY-

The external clock pulses (pulses to be counted) are fed directly to each of the J-K flipflop in the counter chain and that both the J and K inputs are all tied together in toggle mode, but only in the first flip-flop, flip-flop FFA (LSB) are they connected HIGH, logic "1" allowing the flip-flop to toggle on every clock pulse. Then the synchronous counter follows a predetermined sequence of states in response to the common clock signal, advancing one state for each pulse.

The J and K inputs of flip-flop FFB are connected directly to the output Q_A of flip-flop FFA, but the J and K inputs of flip-flops FFC and FFD are driven from separate AND gates which are also supplied with signals from the input and output of the previous stage. These additional AND gates generate the required logic for the JK inputs of the next stage.

If we enable each JK flip-flop to toggle based on whether or not all preceding flip-flop outputs (Q) are "HIGH" we can obtain the same counting sequence as with the asynchronous circuit but without the ripple effect, since each flip-flop in this circuit will be clocked at exactly the same time.

Then as there is no inherent propagation delay in synchronous counters, because all the counter stages are triggered in parallel at the same time, the maximum operating frequency of this type of frequency counter is much higher than that for a similar asynchronous counter circuit.



PROCEDURE:

· New project and type the project name and check the top level source type as HDL.

·Enter the device properties and click Next.

· Click New Source and Select the Verilog Module and then give the file name.

·Give the Input and Output port names and click finish.

·Type the program and save it.

·Double click the synthesize XST and check syntax.

·Simulate the waveform by behavioral simulation.

PROGRAM:

VHDL PROGRAM:

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
use IEEE.STD_LOGIC_UNSIGNED.ALL;
```

```
entity UP_COUNTER is
  Port ( clk: in std_logic; -- clock input
 reset: in std_logic; -- reset input
 counter: out std_logic_vector(3 downto 0) -- output 4-bit counter
);
end UP_COUNTER;

architecture Behavioral of UP_COUNTER is
signal counter_up: std_logic_vector(3 downto 0);
begin
-- up counter
process(clk)
begin
if(rising_edge(clk)) then
  if(reset='1') then
counter_up <= x"0";
else
 counter_up <= counter_up + x"1";
 end if;
end if;
end process;
 counter <= counter_up;

end Behavioral;
```

TEST BENCH PROGRAM:

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;
entity tb_counters is
end tb_counters;

architecture Behavioral of tb_counters is

component UP_COUNTER
Port ( clk: in std_logic; -- clock input
 reset: in std_logic; -- reset input
counter: out std_logic_vector(3 downto 0) -- output 4-bit counter
);
end component;
signal reset,clk: std_logic;
signal counter:std_logic_vector(3 downto 0);

begin
dut: UP_COUNTER port map (clk => clk, reset=>reset, counter => counter);
clock_process :process
begin
    clk <= '0';
   wait for 10 ns;
  clk <= '1';
 wait for 10 ns;
end process;

stim_proc: process
begin
  reset <= '1';
wait for 20 ns;
```

```
 reset <= '0';
 wait;
end process;
end Behavioral;
```

CONCLUSION:

PLC LAB

AIM OF THE EXPERIMENT:

Introduction / Familiarization PLC trainer & its instruction with PC.

APPARATUS REQUIRED:

Sl. no.	Name of Equipment
1	Lab Programmable Logic Controller (PLC) kit
2	Personal Computer

THEORY:

***What is PLC*?**

A programmable logic controller (PLC) is an industrial computer control system that continuously monitors the state of input device and makes decisions based upon a custom program to control the state of output devices.

***What is inside a PLC*?**

- The central processing unit, the CPU, contains an internal program that tells the PLC how to perform the following functions.
- The CPU combines a microprocessor, an integrated power supply, input and output circuits, built in PROFINET, high speed motion control I/O, and on-board analog input in a compact housing to create a powerful controller.
- After you download your program, the CPU contains the logic required to monitor and control the devices in your application.
- The CPU monitors the input and changes the outputs according to the logic of your user program, which can include Boolean logic, counting, timing, complex math operations and communication with other intelligent devices.
- To communicate with a programming device, the CPU provides a built in PROFINET port.
- With the PROFINET network, the CPU can communicate with HMI panels or another CPU.

- To provide security for your application, every S7-1200 CPU provides password protection that allows you to configure access to the CPU functions.
- The CPU supports only a preformatted SIMATIC memory card. To insert a memory card, open the top CPU door and insert the memory card in the slot.
- Use the optional SIMATIC memory card either as a program card or as a transfer card.
- Digital inputs in the controller are 14 and voltage is 24. Digital outputs in the controller are 10 and voltage is 24.
- Back panel is available to connect extra I/O modules and communication modules.
- Analog input in the controller is two.
- Input power supply to the controller is 120/240 VAC.
- Three communication modules and eight I/O expansion modules can be used.
- Modbus communication board, output board and analog input board can be used.

***PLC Languages*:**

The function of all programming languages is to allow the user to communicate with the programmable controller via a programming device. They all convey to the system, by means of instructions, a basic control plan.

- The most common types of languages encountered in programmable controller system design is ;
    a) Ladder Diagram (LD)
    b) Function Block Diagram (FBD)

LADDER DIAGRAM (LD)

Traditional ladder logic is graphical programming language. Initially programmed with simple contacts that simulated the opening and closing relays, counters, timers, shift registers etc.

FUNCTION BLOCK DIAGRAM (FBD)

Useful for expressing the interconnection of control system algorithms and logic.

HARDWARE/SOFTWARE REQUIREMENT:

Processor type - Intel Pentium i3, 2.5 GHZ or similar

RAM - 4GB

Available hard disk space - 10 GB on system drive C:\
Operating systems- windows XP professional SP3, windows 2003 server R2 SP2, windows 7 (professional, enterprise, ultimate) SP1, windows 10 pro
Graphics card - 32MB RAM 24-bit color depth
Screen resolution - 1024 x 768
Network – 20 M bit/s Ethernet or faster
Optical drive - DVD-ROM

PROCEDURE: (PLC SETUP)

1. First select **TIA portal 14.0** and double click on it.

2. Double click on "**Create new project**" then select the "**Project name**" and select the location path to save project and then click "**Create**".
3. Double click on "**Configure a device**".
4. Click "**Add new device**". After device is added click "**Controller**" and then click on "**SIMATIC S71200**".
5. Click on "**CPU**" and "**CPU 1214 DC/DC/DC**", then select the required "**MLFB**" number and click "**Add**".
6. Now select the signal module **AQ1x12 BIT** and Add to the CPU and save the project by pressing **CTRL+S** key.
7. The select respective expansion module 3 no's of **DI 16/DQ 16x24VDC**, 1 no. of **DI 8/DQ8 x 24 VDC** and 1 no. of **AI 4 x 13 BIT/AQ 2 x 14 BIT** from the hardware catalogue.
8. Double click on the "**RJ 45**" symbol in the controller, now "**Properties**" of the controller will be open and Ethernet configuration also open, if it is not opened just click on the Ethernet address and change IP address and change IP address as required then save the project.
9. Then go to "**Downloading the program**" setting for click on the "**Compile**" icon and then click on the "**Download**" icon.
10. Then automatically the "**Extended to download device**" window open. Select the "**PN/IE**" into the type of the "**PG/PC**" interface and also select the "**Show all compatible devices**". Finally click the "**Start search**" option and then click the "**Load**" button.
11. In software synchronization before loading to a device window in opens and then clicks the "**Continue without synchronization**" option below.
12. "**Stop modules**", "**Stop all**" option and then "**Load**" option and then load option and also goes to "**Load results**" window tick the "Start all" and click the "**Finish**" option.

PROGRAMMING METHOD IN PLC:

1. Click "**PLC-1**" in the project tree then click "**Program block**" and click "**main OB1**". Now OB1 is created (object block1).
2. Now select the network and double click on "**normally open**" icon (⊣⊢).
3. Now normally open is added. Now add the "**output coil**" (– ( ) –) in the network. Then double click on the both NO contact and output coil to enter their addresses simultaneously.
4. After it click on the "**Compile**" icon then "**Download to device**" icon.
5. For make an online process goes to click the "**Monitoring on/off**" icon. Then the window shows the online mode of the PLC.

CONCLUSION:

I successfully studied the introduction of PLC, its installation with PC, hardware components, building various blocks and determine no. of digital inputs/outputs & analog inputs/outputs.

IT DEPARTMENT:

Program-1

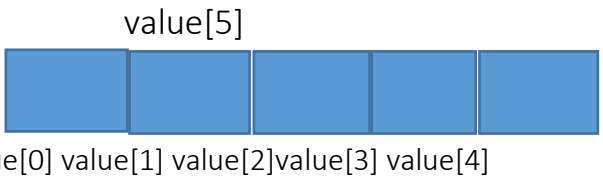
Following program traverses and prints the elements of an array:

Program to take 5 values from the user and store them in an array

Print the elements stored in the array

AIM- PROGRAM TRAVERSES AND PRINTS THE ELEMENTS OF AN ARRAY

```
#include <stdio.h>
int main()
{
 int value[5], i;
 printf("Enter 5 integers: ");
 // taking input and storing it in an array
for( i = 0; i < 5; ++i)
{
 scanf("%d", &value[i]);
}
printf("Displaying integers: ");
 // printing elements of an array
 for( i = 0; i < 5; ++i)
{
printf("%d\n", value[i]);
 }
return 0;
}
```



Output

Enter 5 integers: 1

12
34
21
3

```
Displaying integers: 1
12
34
21
3
```

Here, we have used a `for` loop to take 5 inputs from the user and store them in an array. Then, using another `for` loop, these elements are displayed on the screen.

Program-2

AIM--PROGRAM TO FIND THE AVERAGE OF N NUMBERS USING ARRAYS

```
#include <stdio.h>
int main()
{
int marks[10], i, n, sum = 0, average;
printf("Enter number of elements: ");
 scanf("%d", &n);
  for(i=0; i<n; ++i)
{
            printf("Enter number%d: ",i+1);
            scanf("%d", &marks[i]);
        // adding integers entered by the user to the sum variable
  sum += marks[i];        //sum=sum+mark[i];
    }
 average = sum/n;
  printf("Average = %d", average);
return 0;
}
```

Output

Enter number of elements: 5

Enter number1: 45

Enter number2: 35

Enter number3: 38

Enter number4: 31

Enter number5: 49

Average = 39

Computing Facilities

• Internet Bandwidth	100 MBPS
• Number and configuration of System	205 Nos (Window-7 & Windows-10)
• Total number of system connected by LAN	175 Nos
• Total number of system connected by WAN	NIL
• Major software packages available	yes
• Special purpose facilities available	yes
• Facilities for conduct of classes/courses in online mode	Available
• Innovation Cell	Available
• Social Media Cell	Available
• Compliance of the National Academic Depository (NAD), applicable to PGCM/ PGDM Institutions and University Departments	Not applicable

List of facilities available

• Games and Sports Facilities	1. Field for playing Football & Cricket 2. Indoor Badminton Court available in Academic Building. 3. Outdoor Volley Ball Court 4. Basket Ball Court to be ready shortly
• Extra-Curricular Activities	Song Competition, Dance competition, Debate competition, Quiz Competition, Essay Competition, Drawing Competition
• Soft Skill Development Facilities	Soft skill training is imparted to students

Teaching Learning Process

• Curricula and syllabus for each of the programmes as approved by the University	Uploaded in our Institute website.
• Academic Calendar of the University	Academic Calendar published by the SCTE&VT is uploaded in our Website.
• Academic Time Table with the name of the Faculty members handling the Course	Available & Uploaded
• Teaching Load of each Faculty	Appended
• Internal Continuous Evaluation System and place	02 Internal Assessment are conducted in each Semester & Branch. Answer Scripts evaluated & deficiencies point out to students
• Student's assessment of Faculty, System in place	Once in a semester Feedback is collected from students regarding quality of teaching imparted by Faculties

SPECIAL PURPOSE

Software, all design tools in case	AUTOCAD,STADDPRO ,XILINX

ENROLMENT AND PLACEMENT DETAILS OF STUDENTS IN THE LAST THREE YEARS

PLACEMENT

YEAR	BRANCH	PLACED
2019-20	CIVIL	15
	ELECTRICAL	40
	MECHANICAL	---
	ETC	11
	IT	02
2020-21	CIVIL	04
	ELECTRICAL	30
	MECHANICAL	---
	ETC	10
	IT	04
2021-22	CIVIL	16
	ELECTRICAL	25
	MECHANICAL	41
	ETC	12
	IT	2

MOU

Mou or Memorandum of Understanding is the agreement between the institute and industries to bring the two sides emotionally and strategically closer. To build good rapport between the industry and the institute, institutes should have memorandum of understanding (MOU) with the industries

This institute has signed MOU with

1. MANSAROWER INDUSTRIES, ROURKELA
2. L&T CONSTRUCTION SKILL & TRAINING CENTER,CUTTACK
3. WATER KRAFT, HEALTH AND CARE ENTERPRISES, CHHEND COLONY, ROURKELA
4. BLUE BIRD POWER CONTROL SYSTEM, CHHEND COLONY, ROURKELA
5. KARZAM TECHNOLOGIES, PVT.LTD, ROURKELA
6. SEENET CONSULTANCY SERVICES PVT.LTD, STPI COMPLEX, ROURKELA
7. SEC WEIGHING MACHINE, INDUSTRIAL ESTATE, ROURKELA
8. ROURKELA CONSTRUCTION PVT LTD. ROURKELA
9. SWOSTI INFRASTRUCTURES PVT.LTD, ROURKELA
10. ADHARSHILA ARCHITECTS ENGINEERS PVT.LTD
11. REENA INDUSTRY PVT LTD, ROURKELA
12. ORISSA ELECTRICALS PVT LTD, ROURKELA
13. MANSAROWER INDUSTRIES, ROURKELA

EOA

All India Council for Technical Education

(A Statutory body under Ministry of Education, Govt. of India)
Nelson Mandela Marg,Vasant Kunj, New Delhi-110070. Website: www.aicte-india.org

APPROVAL PROCESS 2021-22

Extension of Approval (EoA)

F.No. Eastern/1-9318379198/2021/EOA

Date: 25-Jun-2021

To,

The Commissioner cum Secretary,
Deptt Of Higher & Technical Education,
Govt of Orissa, Orisas Sectt.
Bhubaneshwar-751001

Sub: Extension of Approval for the Academic Year 2021-22

Ref: Application of the Institution for Extension of Approval for the Academic Year 2021-22

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Institutions) Regulations, 2021 Notified on 4th February, 2020 and amended on 24th February 2021 and norms standards, procedures and conditions prescribed by the Council from time to time, I am directed to convey the approval to:

Permanent Id	1-492801611	**Application Id**	1-9318379198
Name of the Institution /University	SKDAV GOVERNMENT POLYTECHNIC	**Name of the Society/Trust**	INDUSTRIES DEPARTMENT
Institution /University Address	BASANTI COLONY ROURKELA DIST: SUNDARGARH ORISSA, BHUBANESWAR, ROURKELA, SUNDERGARH, Odisha, 769012	**Society/Trust Address**	BASANTI COLONY, ROURKELA-12,ROURKELA,SUNDERGARH,Orissa,760012
Institution /University Type	Government	**Region**	Eastern

To conduct following Programs / Courses with the Intake indicated below for the Academic Year 2021-22

Program	Level	Course	Affiliating Body (University /Body)	Intake Approved for 2020-21	Intake Approved for 2021-22	NRI Approval Status	FN / Gulf quota/ OCI/ Approval Status
ENGINEERING AND TECHNOLOGY	DIPLOMA	CIVIL ENGINEERING	Directorate of Technical Education , Odisha	60	60	NA	NA
ENGINEERING AND TECHNOLOGY	DIPLOMA	ELECTRONICS & TELE-COMMUNICATION ENGINEERING	Directorate of Technical Education , Odisha	40	40	NA	NA
ENGINEERING AND TECHNOLOGY	DIPLOMA	INFORMATION TECHNOLOGY	Directorate of Technical Education , Odisha	30	30	NA	NA

ENGINEERING AND TECHNOLOGY	DIPLOMA	ELECTRICAL ENGINEERING	Directorate of Technical Education , Odisha	60	60	NA	NA
ENGINEERING AND TECHNOLOGY	DIPLOMA	MECHANICAL ENGINEERING	Directorate of Technical Education , Odisha	60	60	NA	NA

It is mandatory to comply with all the essential requirements as given in APH 2021-22 (Appendix 6)

Important Instructions

1. The State Government/ UT/ Directorate of Technical Education/ Directorate of Medical Education shall ensure that 10% of reservation for Economically Weaker Section (EWS) as per the reservation policy for admission, operational from the Academic year 2019-20 is implemented without affecting the reservation percentages of SC/ ST/ OBC/ General. However, this would not be applicable in the case of Minority Institutions referred to the Clause (1) of Article 30 of Constitution of India. Such Institution shall be permitted to increase in annual permitted strength over a maximum period of two years.

2. The Institution offering courses earlier in the Regular Shift, First Shift, Second Shift/Part Time now amalgamated as total intake shall have to fulfil all facilities such as Infrastructure, Faculty and other requirements as per the norms specified in the Approval Process Handbook 2021-22 for the Total Approved Intake. Further, the Institutions Deemed to be Universities/ Institutions having Accreditation/ Autonomy status shall have to maintain the Faculty: Student ratio as specified in the Approval Process Handbook.

3. Strict compliance of Anti-Ragging Regulation, Establishment of Committee for SC/ ST, Establishment of Internal Complaint Committee (ICC), Establishment of Online Grievance Redressal Mechanism, Barrier Free Built Environment for disabled and elderly persons, Fire and Safety Certificate should be maintained as per the provisions made in Approval Process Handbook and AICTE Regulation notified from time to time.

4. In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Prof.Rajive Kumar
Member Secretary, AICTE

Copy ** to:

1. **The Director of Technical Education**, Odisha**

2. **The Principal / Director,**
   SKDAV GOVERNMENT POLYTECHNIC
   Basanti Colony
   Rourkela
   Dist: Sundargarh
   Orissa,
   Bhubaneswar,
   Rourkela,Sundergarh,
   Odisha,769012

3. **The Secretary / Chairman,**
   BASANTI COLONY,
   ROURKELA-12

Account Audited Statement

YEAR	FEE	GOVT.	GRANTS	OTHER SOURCE(SPECIFY) IRG	ACTUAL EXPENDITURE
2018-19	1428000.00	19493321.00	2640000.00	4000.00	21141228.00
2019-20	1569600.00	23495700.00	6000000.00	65615.00	23538026.00
2020-21	2946898.00	22119546.00	7200000.00	168.00.00	21855349.00

Section Officer

4.3.22
Principal
SKDAV Govt. polytechnic
Rourkela-12