National institute of technology, Tiruchirappalli - 620 015, Tamil Nadu, India

Temporary faculty selection- shortlisted candidates for written test and Interview Schedule

Instructions to the candidates

The shortlisted candidates for the written test for Temporary Faculty position is put up in the NITT website **www.nitt.edu**

The written test for the shortlisted candidates is scheduled on **21-07-2014(Monday).** The duration of the test will be for **one hour from 10.30 a.m. to 11.30 a.m. on Monday 21st July, 2014** at **IT Center (Computer Science Building), NIT, Tiruchirappalli.** The candidates are requested to be present in the test venue half-an-hour before written test i.e.by **10.00 a.m.** on **21-07-2014(Monday).** The candidates are requested to produce a valid Photo ID proof and also requested to submit one set of photo copies of consolidated mark sheets (both UG and PG), GATE score card/SLET/NET(if any) , community certificate and filled copy of **data sheet(given in the page no 20)** at the time of written test. The syllabus for the written test of the concerned department is available from page no **12-19**.

After the written test, the candidates will be shortlisted and then they will be called for interview. All the shortlisted candidates for the interview have to appear before a selection committee and also have to give a presentation on any topic of their interest (no power point presentation) to test their communication skills. The shortlisted candidates for oral presentation and interview will be displayed in test venue itself, department wise, by **4.00 p.m. on 21.07.2014.** The shortlisted candidates for oral presentation and interview will be also put up in the NIT website www.nitt.edu

The interview will be held at **Oom Room(next to Director's Office), Administrative building NIT, Tiruchirappalli, Tamilnadu.** The oral presentation and interview will be held as per the following schedule.

S.NO	DEPARTMENT	DATE	TIME
1.	ARCHITECTURE	22-7-2014	9.00 a.m. - 10.30 a.m.
2.	CIVIL ENGINEERING	22-7-2014	
3.	HUMANITIES – ECONOMICS	22-7-2014	10.30 a.m. - 11.30 a.m.
4.	HUMANITIES - ENGLISH	22-7-2014	
5.	CHEMICAL ENGINEERING	22-7-2014	11.30 a.m. - 1.00 p.m.
6.	CENTRE FOR ENERGY AND ENVIRONMENTAL SCIENCE AND TECHNOLOGY (CEESAT)	22-7-2014	2.00 p.m. - 6.00 p.m.
7.	METALLURGICAL AND MATERIALS ENGINEERING	27-7-2014	9.00 a.m. - 10.30 a.m.
8.	PRODUCTION ENGINEERING	27-7-2014	10.30 a.m. - 1.00 p.m.
9.	MECHANICAL ENGINEERING	27-7-2014	2.00 p.m. - 6.00 p.m.
10.	PHYSICS	1-8-2014	9.00 a.m. - 12.30 p.m.
11.	COMPUTER APPLICATIONS	1-8-2014	2.00 p.m. - 6.00 p.m.
12.	MANAGEMENT STUDIES	3-8-2014	9.00 a.m. - 1.00 a.m.
13.	MATHEMATICS	3-8-2014	2.00 p.m. - 6.00 p.m.
14.	CHEMISTRY	4-8-2014	9.00 a.m. - 12.30 p.m.
15.	INSTRUMENTATION AND CONTROL ENGINEERING	4-8-2014	2.00 p.m. - 6.00 p.m.
16.	ELECTRICAL AND ELECTRONICS ENGINEERING	5-8-2014	9.00 a.m. - 6.00 p.m.
17.	ELECTRONICS AND COMMUNICATION ENGINEERING	6-8-2014	9.00 a.m. - 6.00 p.m.
18.	COMPUTER SCIENCE AND ENGINEERING	7-8-2014	9.00 a.m. - 6.00 p.m.

Additional information for the candidates:-

1. Kindly refer the application number in the short listed candidates list (given beside your name) to the written test for seating arrangements.
2. Report to the venue of written test/interview half an hour before the scheduled time.
3. Bring one set of attested copies of relevant documents such as educational qualification, experience certificates, community certificate, etc. You are also required to bring all the original documents for verification purpose.
4. Bring at least one of the following documents as proof of identity
   i. Valid passport
   ii. Voter identify card
   iii. PAN Card
   iv. Driving License
   v. Govt. or PSU undertaking issued valid photo identity cards.
   vi. Aadhar card
   vii. Any other valid Identity card
5. Venue for the interview:---

Oom ROOM(NEXT TO DIRECTOR'S OFFICE),
ADMINISTRATIVE BUILDING
NIT, TIRUCHIRAPPALLI, TAMILNADU-620015.

Please note the following:

1. No TA/DA will be paid for attending the written test and interview.
2. The request for change of date will not be entertained.
3. The invitation is a mere request to appear for written test/interview and does not assure that he/she will be recommended or selected.
4. The decision of the selection committee of the institute is final.

Encl: 1. Instructions : Page No-1
2. List of candidates called for written test : Page No-2-11
3. Syllabus for written test for concern Department : Page No-12-19
4. Data sheet : Page No-20

NATIONAL INSTITUTE OF TECHNOLOGY : TIRUCHIRAPPALLI – 620 015
DEAN (FACULTY WELFARE)
List of Candidates Short Listed For written test

DEPARTMENT OF ARCHITECTURE		
S.No	**Application No.**	**NAME**
1	TF/14-2/ARC/001	P.Parvathy kartha

DEPARTMENT OF CENTRE FOR ENERGY & ENVIRONMENTAL SCIENCE AND TECHNOLOGY (CEESAT)		
S.No	**Application No.**	**NAME**
1	TF/14-2/CEESAT/001	Haritha Meruvu
2	TF/14-2/CEESAT/004	P.Clemens Julius Ceasar
3	TF/14-2/CEESAT/005	M.Vaishnavi
4	TF/14-2/CEESAT/006	L.Sravanthi
5	TF/14-2/CEESAT/010	U.Lalitha Priya
6	TF/14-2/CEESAT/014	R.Kasilingam
7	TF/14-2/CEESAT/015	S.Anandhi
8	TF/14-2/CEESAT/016	S.Salomi Mary Magdalene
9	TF/14-2/CEESAT/019	Maddala Sree Kanth
10	TF/14-2/CEESAT/021	K.Dasa Prabhu
11	TF/14-2/CEESAT/022	E.Varadha
12	TF/14-2/CEESAT/023	M.Arul Prakasa Jothi
13	TF/14-2/CEESAT/025	S.Sujitha
14	TF/14-2/CEESAT/028	C.Anand Chairman
15	TF/14-2/CEESAT/029	M.R.Roosevelt
16	TF/14-2/CEESAT/031	Naresh Kumar Sharma
17	TF/14-2/CEESAT/032	K.Ramesh
18	TF/14-2/CEESAT/033	A.Rini Ann Jerin

DEPARTMENT OF CHEMICAL ENGINEERING		
S.No	**Application No.**	**NAME**
1	TF/14-2/CHL/001	V. Ravibabu
2	TF/14-2/CHL/002	S. Nethaji
3	TF/14-2/CHL/003	D. Vasanth
4	TF/14-2/CHL/004	S. Niju
5	TF/14-2/CHL/005	K. Sureshvarr
6	TF/14-2/CHL/006	Gowrishetty Srinivas
7	TF/14-2/CHL/007	Anjireddy Bhavanam
8	TF/14-2/CHL/008	Bandaru Kiran
9	TF/14-2/CHL/010	P. Asaithambi
10	TF/14-2/CHL/011	Venkata Swamy Nalajala
11	TF/14-2/CHL/012	B. Sivagaminathan
12	TF/14-2/CHL/013	S. Senthil Kumar
13	TF/14-2/CHL/014	M. Ananda Boopathy
14	TF/14-2/CHL/015	K.J. Jithin Prakash

DEPARTMENT OF CHEMISTRY		
S.No	**Application No.**	**NAME**
1	TF/14-2/CHY/001	Thirumoorthi Ramalingam
2	TF/14-2/CHY/004	P.Uma Maheswari
3	TF/14-2/CHY/005	K.Vasantham
4	TF/14-2/CHY/006	K.S.Thushara
5	TF/14-2/CHY/007	D.Karthik Kumar
6	TF/14-2/CHY/008	Soma saha
7	TF/14-2/CHY/009	S.Marivel
8	TF/14-2/CHY/010	Amarnath Velidandi
9	TF/14-2/CHY/013	N.Haridharan
10	TF/14-2/CHY/014	Kannan Vembaiyan
11	TF/14-2/CHY/015	Sushma Fulchand Pardeshi

12	TF/14-2/CHY/018	P.Ilaiyaraja
13	TF/14-2/CHY/019	J.Senthilkumaran
14	TF/14-2/CHY/020	A.Padmesh
15	TF/14-2/CHY/023	N.Raja
16	TF/14-2/CHY/024	R.Prabu

DEPARTMENT OF CIVIL ENGINEERING		
S.No	**Application No.**	**NAME**
1	TF/14-2/CIVIL/001	Pala Gireesh Kumar
2	TF/14-2/CIVIL/003	S.Anjan Kumar
3	TF/14-2/CIVIL/005	R.Sathya Prakash
4	TF/14-2/CIVIL/006	M.Ganesan
5	TF/14-2/CIVIL/007	S.Sinthana Gorky
6	TF/14-2/CIVIL/011	Vivek B Krishnan
7	TF/14-2/CIVIL/012	K.Ramarjun
8	TF/14-2/CIVIL/014	P.S.Divya
9	TF/14-2/CIVIL/015	Balaji Venkateswaran
10	TF/14-2/CIVIL/016	S.Naveen Kumar
11	TF/14-2/CIVIL/017	S.Priya
12	TF/14-2/CIVIL/018	D.Saranya Devi

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (CSE)		
S.No	**Application No.**	**NAME**
1	TF/14-2/CSE/003	B. Ramesh
2	TF/14-2/CSE/004	P. Ponmalar
3	TF/14-2/CSE/005	G. Usha Devi
4	TF/14-2/CSE/006	G. Sooriya Prabha
5	TF/14-2/CSE/008	R. Shamini
6	TF/14-2/CSE/009	S. Thirupurasundari
7	TF/14-2/CSE/010	B. Rajaram
8	TF/14-2/CSE/011	R. Deepan Chakkaravarthy
9	TF/14-2/CSE/012	T. Pandiyavathi
10	TF/14-2/CSE/013	K. Vidhya
11	TF/14-2/CSE/014	M. Kaliraja
12	TF/14-2/CSE/015	K.C. Kavitha
13	TF/14-2/CSE/016	S.L. Vijayakumar
14	TF/14-2/CSE/017	K. Gurunathan
15	TF/14-2/CSE/018	E. Baby Salini
16	TF/14-2/CSE/019	S.M. Sassirekha
17	TF/14-2/CSE/020	S. Shanthini Priyanka
18	TF/14-2/CSE/021	I. Stephie Rachel
19	TF/14-2/CSE/022	R. Sakthi Murugan
20	TF/14-2/CSE/023	K. Karunambiga
21	TF/14-2/CSE/024	A. Wisy Shantha
22	TF/14-2/CSE/025	R.S. Anu Gowsalya
23	TF/14-2/CSE/026	P. Nagasundari
24	TF/14-2/CSE/027	M. Shankar
25	TF/14-2/CSE/028	R. Nantha Kumar
26	TF/14-2/CSE/029	A. John Divakaran
27	TF/14-2/CSE/030	K. Selvarani
28	TF/14-2/CSE/031	M. Prem Kumar
29	TF/14-2/CSE/032	R. Kalpanasonika
30	TF/14-2/CSE/034	S. Shanmuga Priya
31	TF/14-2/CSE/035	R. Murugesh
32	TF/14-2/CSE/036	U. Murugan
33	TF/14-2/CSE/037	T. Gopalakrishnan
34	TF/14-2/CSE/038	B. Mohan Raj
35	TF/14-2/CSE/039	D. Prema Latha
36	TF/14-2/CSE/040	M. Amaresh
37	TF/14-2/CSE/041	M. Sindu
38	TF/14-2/CSE/042	V. Vinoth Kumar

39	TF/14-2/CSE/043	P. Malathi
40	TF/14-2/CSE/044	R. Thilagavathi
41	TF/14-2/CSE/045	A. Maria Nancy
42	TF/14-2/CSE/046	T. Brindha
43	TF/14-2/CSE/047	M.S. Manju
44	TF/14-2/CSE/048	A. Jenefa
45	TF/14-2/CSE/049	S. Ramalakshmi
46	TF/14-2/CSE/050	P. Subhashree
47	TF/14-2/CSE/051	V. Rajkumar
48	TF/14-2/CSE/052	V. Alexandriya Celin
49	TF/14-2/CSE/053	P. Pravin
50	TF/14-2/CSE/054	T. Mariya Thangam
51	TF/14-2/CSE/055	S. Nandhini
52	TF/14-2/CSE/056	P. Kalaivani
53	TF/14-2/CSE/057	N. Viswanathan
54	TF/14-2/CSE/058	R. Shanmuga Priya
55	TF/14-2/CSE/059	R. Renuga Devi
56	TF/14-2/CSE/060	Blessy Selvam
57	TF/14-2/CSE/061	M. Chitra Devi
58	TF/14-2/CSE/062	R. Pavithra
59	TF/14-2/CSE/063	A. Rajalakshmi
60	TF/14-2/CSE/064	M. Ram Prasath
61	TF/14-2/CSE/065	R.S. Rampriya
62	TF/14-2/CSE/066	R. Thamizhamuthu
63	TF/14-2/CSE/069	J. Sharmila
64	TF/14-2/CSE/070	S. Jeevitha
65	TF/14-2/CSE/072	D. Uma Priya
66	TF/14-2/CSE/073	E. Selvam
67	TF/14-2/CSE/074	K. Nandhini
68	TF/14-2/CSE/075	J. Jenifer
69	TF/14-2/CSE/076	J. Arulanand
70	TF/14-2/CSE/077	G. Anusuya
71	TF/14-2/CSE/079	J. Kokila
72	TF/14-2/CSE/080	T. Karthikeyan
73	TF/14-2/CSE/081	K. Nooriya
74	TF/14-2/CSE/082	S. Manikandan
75	TF/14-2/CSE/083	G. Ragunath
76	TF/14-2/CSE/084	S. Jayapradha
77	TF/14-2/CSE/085	M. Manimala
78	TF/14-2/CSE/087	J. Jasmine Shirley
79	TF/14-2/CSE/088	E. Sri Santhoshini
80	TF/14-2/CSE/089	S. Ezhilarasi
81	TF/14-2/CSE/090	M. Birunda Devi
82	TF/14-2/CSE/091	R. Vijayalakshmi
83	TF/14-2/CSE/092	P. Poorana Priya
84	TF/14-2/CSE/094	R. Sitrarasu
85	TF/14-2/CSE/095	Bhukya krishna Priya
86	TF/14-2/CSE/096	A. Mohana Devi
87	TF/14-2/CSE/097	C. Dhivya
88	TF/14-2/CSE/098	V. Senthil
89	TF/14-2/CSE/099	S. Koushalya
90	TF/14-2/CSE/100	L. Kavisankar
91	TF/14-2/CSE/101	R. Anitha Rajalakshmi
92	TF/14-2/CSE/102	M. Ramasaravanan
93	TF/14-2/CSE/103	S.D. Manikandan
94	TF/14-2/CSE/104	R.A. Ananda Balaji
95	TF/14-2/CSE/105	A.M. Lavenya
96	TF/14-2/CSE/106	P. Kardeepa
97	TF/14-2/CSE/107	K. Abirami
98	TF/14-2/CSE/109	R. Sudha Abirami
99	TF/14-2/CSE/110	M. Sowmiya

100	TF/14-2/CSE/111	J. Geetha
101	TF/14-2/CSE/112	G. Tamilkumaran
102	TF/14-2/CSE/113	M. Ganesan
103	TF/14-2/CSE/114	P. Sumathi
104	TF/14-2/CSE/115	A. Vishnupriya
105	TF/14-2/CSE/116	M. Raja
106	TF/14-2/CSE/117	F. Christy Pricillaw
107	TF/14-2/CSE/119	K. Rajarajan
108	TF/14-2/CSE/120	K. Kalai Arasan
109	TF/14-2/CSE/121	E. Elakkiya
110	TF/14-2/CSE/122	V. Vinolia
111	TF/14-2/CSE/123	P. Esakkiraj
112	TF/14-2/CSE/124	O.S. Jannath Nisha
113	TF/14-2/CSE/125	P. Bagyalakshmi
114	TF/14-2/CSE/126	S. Srimathi
115	TF/14-2/CSE/128	T. Suganya
116	TF/14-2/CSE/129	B. Yamini
117	TF/14-2/CSE/130	S. Gokul Pran
118	TF/14-2/CSE/131	R. Rajeshwari
119	TF/14-2/CSE/132	S. Thavamaniyan
120	TF/14-2/CSE/134	S. Senthilkumar
121	TF/14-2/CSE/135	Nizar Ahamed
122	TF/14-2/CSE/136	K. Dakshina
123	TF/14-2/CSE/137	N. Celin

DEPARTMENT OF ELECTRONICS AND COMMUNICATIONS ENGINEERING(ECE)		
S.No	**Application No.**	**NAME**
1	TF/14-2/ECE/001	G.Venkatakrishnan
2	TF/14-2/ECE/002	N.Sri krishna yadav
3	TF/14-2/ECE/003	S.Muruganantham
4	TF/14-2/ECE/004	K.Sangeetha
5	TF/14-2/ECE/005	G.Aswini
6	TF/14-2/ECE/006	C.Jayakumar
7	TF/14-2/ECE/007	R.Jagatheesan
8	TF/14-2/ECE/008	V.Selvalakshmi
9	TF/14-2/ECE/009	R.Vithiya
10	TF/14-2/ECE/010	V.Nithya
11	TF/14-2/ECE/011	B.Monisha Pradeeba
12	TF/14-2/ECE/014	S.Kavitha
13	TF/14-2/ECE/015	Shaik lal john basha
14	TF/14-2/ECE/016	Joseph Anthony Prathap
15	TF/14-2/ECE/017	K.Jamunarani
16	TF/14-2/ECE/018	A.Maheshwari
17	TF/14-2/ECE/019	K.Manikandan
18	TF/14-2/ECE/021	R.Krishnakumari
19	TF/14-2/ECE/022	Hanumantha Rao Gottam
20	TF/14-2/ECE/023	J.Joselyn Priyadarshini
21	TF/14-2/ECE/024	J.Abanah shirley
22	TF/14-2/ECE/025	D.Tracy Jennifer
23	TF/14-2/ECE/026	S.Bindhusha
24	TF/14-2/ECE/028	J.Anandpushparaj
25	TF/14-2/ECE/029	D.Gowri
26	TF/14-2/ECE/030	K.Jameela Begum
27	TF/14-2/ECE/031	J.Shamini
28	TF/14-2/ECE/032	B.Anand
29	TF/14-2/ECE/033	G.Umasurya kumari
30	TF/14-2/ECE/034	G.Nhivashini
31	TF/14-2/ECE/035	V.Ramniwas
32	TF/14-2/ECE/036	M.B.Anitha
33	TF/14-2/ECE/037	P.Mahalakshmi
34	TF/14-2/ECE/038	S.Archana

35	TF/14-2/ECE/039	S.Ezhilarasan
36	TF/14-2/ECE/041	Pawan Kumar
37	TF/14-2/ECE/042	B.Lakshmi priyanka
38	TF/14-2/ECE/043	G.Saranya
39	TF/14-2/ECE/045	Salih Sulaiman
40	TF/14-2/ECE/046	M.Alarmel Mangai
41	TF/14-2/ECE/047	P.Sangeetha
42	TF/14-2/ECE/049	N.Poorani
43	TF/14-2/ECE/050	A.P.Richithaa
44	TF/14-2/ECE/051	G.Guruvendhan
45	TF/14-2/ECE/052	A.Karthik
46	TF/14-2/ECE/053	S.Suganya
47	TF/14-2/ECE/054	M.Sashiganth
48	TF/14-2/ECE/055	K.Rajadurga
49	TF/14-2/ECE/056	K.Aiswarya
50	TF/14-2/ECE/057	Logeswaran
51	TF/14-2/ECE/058	A.K.Arshiya Sulthana
52	TF/14-2/ECE/059	M.Shanmugapriya
53	TF/14-2/ECE/060	J.Silva Deena
54	TF/14-2/ECE/061	R.Meenakshi
55	TF/14-2/ECE/062	R.Divya
56	TF/14-2/ECE/063	R.Manivannan
57	TF/14-2/ECE/064	P.Anitha
58	TF/14-2/ECE/065	Mekapothula Tejaswi
59	TF/14-2/ECE/066	V.Saranya
60	TF/14-2/ECE/067	T.Kannathal
61	TF/14-2/ECE/068	S.Ramkumar
62	TF/14-2/ECE/069	Salai Kishwar Jahan.A
63	TF/14-2/ECE/072	M.S.Elamaruthi
64	TF/14-2/ECE/073	S.Gowri Lakshmi
65	TF/14-2/ECE/074	S.Mathi Priya
66	TF/14-2/ECE/075	H.Sudarsan
67	TF/14-2/ECE/076	G.Senthilkumar
68	TF/14-2/ECE/077	S.Dhinesh
69	TF/14-2/ECE/078	S.Akhilan
70	TF/14-2/ECE/079	Debi Prasad Panda
71	TF/14-2/ECE/080	R.Indhumathi
72	TF/14-2/ECE/081	G.Shanmugasundaram
73	TF/14-2/ECE/082	E.Samuel John Antony
74	TF/14-2/ECE/083	D.Sivasankar Prasad
75	TF/14-2/ECE/084	P.Devasundar
76	TF/14-2/ECE/086	K.Balakrishnan
77	TF/14-2/ECE/087	S.Nurul Hutha
78	TF/14-2/ECE/088	B.Raghuraman
79	TF/14-2/ECE/089	B.Sharmila
80	TF/14-2/ECE/090	V.Shalini
81	TF/14-2/ECE/091	V.Jeyanthi
82	TF/14-2/ECE/093	D.Antony Pandiarajan
83	TF/14-2/ECE/094	PL.Natchiammai
84	TF/14-2/ECE/095	M.Uma Sorna Rani
85	TF/14-2/ECE/096	S.Devendran
86	TF/14-2/ECE/097	M.Vadivelan
87	TF/14-2/ECE/098	T.Aarthy
88	TF/14-2/ECE/099	M.Nagarajan
89	TF/14-2/ECE/100	G.Sujeetha
90	TF/14-2/ECE/101	N.Rajkumar
91	TF/14-2/ECE/103	T.Ashok
92	TF/14-2/ECE/104	S.Saraswathi
93	TF/14-2/ECE/105	T.Mangaiyarthilagam
94	TF/14-2/ECE/106	J.Vincy
95	TF/14-2/ECE/107	Rashmita Sahoo

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING(EEE)		
S.No	**Application No.**	**NAME**
1	TF/14-2/EEE/003	P. Raviprasath
2	TF/14-2/EEE/004	M. Anantha Kumar
3	TF/14-2/EEE/005	Birendra Kumar Debta
4	TF/14-2/EEE/006	N. Jayanthi
5	TF/14-2/EEE/007	Guguloth Ravi
6	TF/14-2/EEE/009	B. Sathiyasivam
7	TF/14-2/EEE/010	A. Tamil Selvan
8	TF/14-2/EEE/012	S.V. Kirubakaran
9	TF/14-2/EEE/013	K. Sekar
10	TF/14-2/EEE/014	Baseem Khan
11	TF/14-2/EEE/015	K.S. Jeevananthan
12	TF/14-2/EEE/016	P. Arulmani
13	TF/14-2/EEE/019	R. Durga Devi
14	TF/14-2/EEE/020	G. Mahendran
15	TF/14-2/EEE/022	V. Prasad
16	TF/14-2/EEE/024	P. Ponraj
17	TF/14-2/EEE/025	M. Sreeram
18	TF/14-2/EEE/027	B. Annaselvaraj
19	TF/14-2/EEE/028	S.B. Suphaseni
20	TF/14-2/EEE/029	Nikita Abraham
21	TF/14-2/EEE/030	E.K. Muhammad Farooque
22	TF/14-2/EEE/031	M. Poovizhi
23	TF/14-2/EEE/034	C.M. Vinodhini
24	TF/14-2/EEE/035	D. Nalini
25	TF/14-2/EEE/039	D. Muralisankar
26	TF/14-2/EEE/040	G.S. Mahendra
27	TF/14-2/EEE/041	A. Shanmuga Priya
28	TF/14-2/EEE/045	M.S. Suhanya
29	TF/14-2/EEE/047	A. Chithambaram
30	TF/14-2/EEE/049	Elamparithi
31	TF/14-2/EEE/050	K. Dwarakesh
32	TF/14-2/EEE/051	L. Maheswari
33	TF/14-2/EEE/052	Gopala Krishna Pamula
34	TF/14-2/EEE/056	Arunkumar
35	TF/14-2/EEE/057	M.M. Rajan Singaravel
36	TF/14-2/EEE/058	S. Brakadeesh
37	TF/14-2/EEE/059	C.K. Aravind
38	TF/14-2/EEE/060	T.G. Vijayalakshmi
39	TF/14-2/EEE/061	K. Ramesh Kumar
40	TF/14-2/EEE/063	P. Ashok
41	TF/14-2/EEE/065	P. Hari Prasath
42	TF/14-2/EEE/066	D. Jeya Priyanka
43	TF/14-2/EEE/067	N. Prabaharan
44	TF/14-2/EEE/068	K. Balachandar
45	TF/14-2/EEE/071	N. Manimekalai

DEPARTMENT OF HUMANITIES (ECONOMICS)		
S.No	**Application No.**	**NAME**
1	TF/14-2/ECO/001	Sharmila Tamang
2	TF/14-2/ECO/002	S.Thamarai Selvi
3	TF/14-2/ECO/003	P.Ranjith Kumar
4	TF/14-2/ECO/004	S.Yoga
5	TF/14-2/ECO/005	D.Anbalagan

DEPARTMENT OF HUMANITIES (ENGLISH)		
S.No	**Application No.**	**NAME**
1	TF/14-2/ENG/004	G.Sankar
2	TF/14-2/ENG/006	U.Gopika Sankar
3	TF/14-2/ENG/007	J.Muthulekha
4	TF/14-2/ENG/008	N.Shabnam Niher
5	TF/14-2/ENG/009	M.P.Shabitha
6	TF/14-2/ENG/014	G.Balaji Srinivas

DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING		
S.No	**Application No.**	**NAME**
1	TF/14-2/ICE/002	N.Jayanthi
2	TF/14-2/ICE/003	S.Arulkumar
3	TF/14-2/ICE/004	M.Vennila
4	TF/14-2/ICE/005	M.Lavanya
5	TF/14-2/ICE/006	S.Sankara Narayanan
6	TF/14-2/ICE/007	M.Vijayasarathy
7	TF/14-2/ICE/008	J.Sivaraman
8	TF/14-2/ICE/009	S.Kumaravel
9	TF/14-2/ICE/010	Preeti Kumari
10	TF/14-2/ICE/012	C.Barath Kanna
11	TF/14-2/ICE/013	Nevin Augustine
12	TF/14-2/ICE/014	Prabhu Priya. Siripurapu
13	TF/14-2/ICE/015	V.Elakkiya
14	TF/14-2/ICE/016	R.Sai Divya
15	TF/14-2/ICE/017	S.Karthick
16	TF/14-2/ICE/019	Veena Mathew
17	TF/14-2/ICE/020	B.Ashkar
18	TF/14-2/ICE/021	S.Sunjai Nakshatharan
19	TF/14-2/ICE/022	Kush Mudgal
20	TF/14-2/ICE/023	N.Raj Kumar
21	TF/14-2/ICE/024	G.Sujeetha
22	TF/14-2/ICE/025	V.Madhumathi
23	TF/14-2/ICE/026	M.Valluvan
24	TF/14-2/ICE/027	S.Gowri Lakshmi
25	TF/14-2/ICE/028	K.Karthick Babu
26	TF/14-2/ICE/029	P.Prabhaharan
27	TF/14-2/ICE/030	R.Lalithambika
28	TF/14-2/ICE/031	K.Pradeep
29	TF/14-2/ICE/032	G.Gopalakrishnan
30	TF/14-2/ICE/033	R.Priya Dharshini
31	TF/14-2/ICE/034	P.Annapoorani
32	TF/14-2/ICE/035	L.Maheswari
33	TF/14-2/ICE/036	M.Sudha
34	TF/14-2/ICE/037	S.Revathi
35	TF/14-2/ICE/038	C.A.Sangeetha
36	TF/14-2/ICE/039	K.Priya
37	TF/14-2/ICE/040	R.Sasikumar

DEPARTMENT OF MATHEMATICS		
S.No	**Application No.**	**NAME**
1	TF/14-2/Maths/001	A.Balu
2	TF/14-2/Maths/002	M.Ramaboopathi
3	TF/14-2/Maths/004	R.Prem kumar
4	TF/14-2/Maths/005	J.Vijayarangam
5	TF/14-2/Maths/006	T.Senthilkumar
6	TF/14-2/Maths/007	A.Subha
7	TF/14-2/Maths/008	R.Sathya
8	TF/14-2/Maths/009	Ganapathirao Maradana
9	TF/14-2/Maths/010	V.Vijaya Bharathi
10	TF/14-2/Maths/011	M.H.Riath

11	TF/14-2/Maths/012	P.Joyal Roy
12	TF/14-2/Maths/013	Tanmay Sarkar
13	TF/14-2/Maths/015	V.Balakumar
14	TF/14-2/Maths/016	Radha
15	TF/14-2/Maths/018	M.G.Gnanavel
16	TF/14-2/Maths/019	G.Muniasamy
17	TF/14-2/Maths/020	Vemula Ramakrishna Reddy
18	TF/14-2/Maths/023	G.Revathi
19	TF/14-2/Maths/024	J.Sabaskar
20	TF/14-2/Maths/025	A.Anuradha
21	TF/14-2/Maths/026	S.Saranya
22	TF/14-2/Maths/027	J.Rajakumar
23	TF/14-2/Maths/028	M.Mary Jansi Rani
24	TF/14-2/Maths/029	S.P. Jothi Prakash
25	TF/14-2/Maths/031	S.Prabhu
26	TF/14-2/Maths/032	P.Shirley Sujitha
27	TF/14-2/Maths/033	U.Annadurai
28	TF/14-2/Maths/034	G.Arockia Prabakar
29	TF/14-2/Maths/037	S.Vinoth
30	TF/14-2/Maths/038	M.Prakash

DEPARTMENT OF MANAGEMENT STUDIES		
S.No	**Application No.**	**NAME**
1	TF/14-2/MBA/001	V.Gopala Krishnan
2	TF/14-2/MBA/002	Pradeep Kumar Behera
3	TF/14-2/MBA/003	A.Eronimus
4	TF/14-2/MBA/004	A.G.Sneha Sowmya Jayasree
5	TF/14-2/MBA/005	S.Mahendran
6	TF/14-2/MBA/006	R.Krishnakumari
7	TF/14-2/MBA/007	C.B.Gayathri
8	TF/14-2/MBA/008	K.Rahmath Nisha
9	TF/14-2/MBA/009	J.Meenakshi
10	TF/14-2/MBA/010	P.Murugan
11	TF/14-2/MBA/011	Arun Kumar Anthony
12	TF/14-2/MBA/012	S.Manochandar
13	TF/14-2/MBA/013	K.Nirmala
14	TF/14-2/MBA/014	S.Savitha
15	TF/14-2/MBA/015	Annie Seren Mercy
16	TF/14-2/MBA/016	G.V.Sobha
17	TF/14-2/MBA/017	K.K.Ravi Chandran
18	TF/14-2/MBA/018	Chandan Chandrashekar
19	TF/14-2/MBA/019	M.Divyashree
20	TF/14-2/MBA/020	R.Venkatesan
21	TF/14-2/MBA/022	L.Philo Daisy Rani
22	TF/14-2/MBA/023	R.D.Suresh
23	TF/14-2/MBA/025	M.Rupesh Kumar
24	TF/14-2/MBA/026	P.Boominathan
25	TF/14-2/MBA/027	R.Kalyan Kumar
26	TF/14-2/MBA/028	S.Maheshwaran
27	TF/14-2/MBA/029	K.Kalai Vani
28	TF/14-2/MBA/030	R.Satyaprakash

DEPARTMENT OF COMPUTER APPLICATIONS		
S.No	**Application No.**	**NAME**
1	TF/14-2/MCA/001	K.Sridevi
2	TF/14-2/MCA/002	R.Sakthi Murugan
3	TF/14-2/MCA/003	U.Arun
4	TF/14-2/MCA/004	R.Gobi
5	TF/14-2/MCA/005	K.Kalaiselvi
6	TF/14-2/MCA/006	S.Dhravida Ganga
7	TF/14-2/MCA/007	Shailesh Pancham Khapre

8	TF/14-2/MCA/008	M.S.Manju
9	TF/14-2/MCA/009	Blessy Selvam
10	TF/14-2/MCA/010	L.Umarani
11	TF/14-2/MCA/011	S.Aarthee
12	TF/14-2/MCA/012	N.Renuka Devi
13	TF/14-2/MCA/013	M.P.Anuradha
14	TF/14-2/MCA/014	R.Vidhya
15	TF/14-2/MCA/015	T.Ruso
16	TF/14-2/MCA/016	K.Mahalakshmi
17	TF/14-2/MCA/017	J.Kokila
18	TF/14-2/MCA/018	P.Priscilla eben Nallathai
19	TF/14-2/MCA/019	V.Gayathri
20	TF/14-2/MCA/020	P.Sathya
21	TF/14-2/MCA/021	C.Kanimozhi
22	TF/14-2/MCA/023	A.Kumaresan
23	TF/14-2/MCA/024	L.Soosai Suresh
24	TF/14-2/MCA/025	S.Thirunirai senthil
25	TF/14-2/MCA/026	R.Sheik Abdullah
26	TF/14-2/MCA/027	S.Suresh
27	TF/14-2/MCA/028	Bhukya Krishna Priya

DEPARTMENT OF MECHANICAL ENGINEERING		
S.No	**Application No.**	**NAME**
1	TF/14-2/MECH/001	B. Girinath
2	TF/14-2/MECH/002	N.M. Sivaram
3	TF/14-2/MECH/004	R.D. Ramesh Ganth
4	TF/14-2/MECH/006	V. Dhinakaran
5	TF/14-2/MECH/007	A.R. Sivaram
6	TF/14-2/MECH/009	S. Tamilselvan
7	TF/14-2/MECH/010	M. Arul Prakasa Jothi
8	TF/14-2/MECH/013	S. Ramasamy
9	TF/14-2/MECH/014	N. Karthikeyan
10	TF/14-2/MECH/015	S. Kasirajan
11	TF/14-2/MECH/017	J. Vipin Allien
12	TF/14-2/MECH/018	N. Nagasathya
13	TF/14-2/MECH/019	T. Paramaguru
14	TF/14-2/MECH/020	M. Manickavasagam
15	TF/14-2/MECH/021	J. Sivakumar
16	TF/14-2/MECH/022	K. Paranthaman
17	TF/14-2/MECH/024	K. Augustine Babu
18	TF/14-2/MECH/025	C. Anand Chairman
19	TF/14-2/MECH/026	S. Baskaran
20	TF/14-2/MECH/027	S. Thiyagarajan
21	TF/14-2/MECH/028	M. Prabakaran
22	TF/14-2/MECH/030	Sivakumar Selvaraju

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING (MME)		
S.No	**Application No.**	**NAME**
1	TF/14-2/MME/001	T. Viswanathan
2	TF/14-2/MME/002	A. Joseph Berkmans
3	TF/14-2/MME/003	C.P. Suresh Kumar
4	TF/14-2/MME/004	Kritika Singh
5	TF/14-2/MME/005	S. Ramakrishnan
6	TF/14-2/MME/006	Arun Raphel
7	TF/14-2/MME/007	P. Susila
8	TF/14-2/MME/008	M. Ramakrishnan
9	TF/14-2/MME/009	R. John Felix Kumar
10	TF/14-2/MME/010	Naveena
11	TF/14-2/MME/011	J. Maya
12	TF/14-2/MME/012	B. Thirumaran
13	TF/14-2/MME/013	C. Anand Chairman

14	TF/14-2/MME/014	S. Krishnamoorthi
15	TF/14-2/MME/015	Venukumar. Sarila

DEPARTMENT OF PHYSICS		
S.No	**Application No.**	**NAME**
1	TF/14-2/PHY/002	S.Mathi
2	TF/14-2/PHY/003	S.Gowrishankar
3	TF/14-2/PHY/005	P.Michael Sahaya Lucy Shanthi
4	TF/14-2/PHY/006	M.Prabu
5	TF/14-2/PHY/007	M.Nirosha
6	TF/14-2/PHY/008	N.Imthiyas Ahamed
7	TF/14-2/PHY/009	A.Lakshmi Chandru
8	TF/14-2/PHY/010	S.Thennarasu
9	TF/14-2/PHY/011	P.Pramila
10	TF/14-2/PHY/012	Naveena
11	TF/14-2/PHY/013	K.Shanmugasundaram
12	TF/14-2/PHY/014	Sowri Babu Kotikala
13	TF/14-2/PHY/015	F.Malar Auxilia
14	TF/14-2/PHY/016	K.R.Vijayaraghavan
15	TF/14-2/PHY/017	B.Thirumaran
16	TF/14-2/PHY/018	P.Rajiv Gandhi
17	TF/14-2/PHY/019	V.P.Devarajan
18	TF/14-2/PHY/020	Kamal Hussain
19	TF/14-2/PHY/021	Durga Rao Tadisetti
20	TF/14-2/PHY/022	N.Ambikeswari
21	TF/14-2/PHY/023	T.Veeramani
22	TF/14-2/PHY/024	M.Nabeel Rashin
23	TF/14-2/PHY/025	B.Govardhanan
24	TF/14-2/PHY/026	M.Nandhagopal
25	TF/14-2/PHY/027	S.Stellamary

DEPARTMENT OF PRODUCTION ENGINEERING		
S.No	**Application No.**	**NAME**
1	TF/14-2/PROD/001	K. Ganesa Balamurugan
2	TF/14-2/PROD/002	M. Vijayakumar
3	TF/14-2/PROD/003	R. Varthini
4	TF/14-2/PROD/004	Beri Venkata Himasekhar Sai
5	TF/14-2/PROD/005	Mukesh Shamrao Dadge
6	TF/14-2/PROD/006	G. Suresh
7	TF/14-2/PROD/007	S. Aravind Raj
8	TF/14-2/PROD/008	A. Palanisamy
9	TF/14-2/PROD/009	C. Anand Chairman
10	TF/14-2/PROD/010	J. Vipin Allien
11	TF/14-2/PROD/011	J. Cyril Pilligrin
12	TF/14-2/PROD/012	R. Dinesh Kumar
13	TF/14-2/PROD/013	M. Satthiyaraju
14	TF/14-2/PROD/014	M. Sriranganathan
15	TF/14-2/PROD/015	F. Leo Princely
16	TF/14-2/PROD/016	S. Baskaran
17	TF/14-2/PROD/017	M. Arun Prasad
18	TF/14-2/PROD/018	T.M. Shinesh

SYLLABUS FOR WRITTEN TEST FOR SELECTION OF TEMPORARY FACULTY –JUNE -2014

DEPARTMENT OF ARCHITECTURE

Building Construction and Materials
Building Services (Water supply and Drainage, Lighting, Air-conditioning, Fire, Electrical and Mechanical Services)
History/ Contemporary Architecture
Energy Efficient/ Green Buildings
Urban Planning/ urban Design
Landscape Architecture
Professional Practice, Bye-laws and Construction Management

CENTRE FOR ENERGY & ENVIRONMENTAL SCIENCE AND TECHNOLOGY (CEESAT)

1. Heat Transfer.
2. Mass Transfer
3. Fluid Mechanics.
4. Thermal Engineering.
5. Wind Energy
6. Solar energy.
7. Air Pollution.
8. Water Pollution.
9. Basics of Mechanics
10. Basics of Electrical Engineering and Biotechnology.

DEPARTMENT OF CHEMICAL ENGINEERING

ENGINEERING MATHEMATICS

Linear Algebra: Matrix algebra, Systems of linear equations, Eigen values and eigenvectors.

Calculus*:* Functions of single variable, Limit, continuity and differentiability, Mean value theorems, Evaluation of definite and improper integrals, Partial derivatives, Total derivative, Maxima and minima, Gradient, Divergence and Curl, Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equations (linear and nonlinear), Higher order linear differential equations with constant coefficients, Cauchy's and Euler's equations, Initial and boundary value problems, Laplace transforms, Solutions of one dimensional heat and wave equations and Laplace equation.

Complex variables: Analytic functions, Cauchy's integral theorem, Taylor and Laurent series, Residue theorem.

Probability and Statistics: Definitions of probability and sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Random variables, Poisson, Normal and Binomial distributions.

Numerical Methods: Numerical solutions of linear and non-linear algebraic equations Integration by trapezoidal and Simpson's rule, single and multi-step methods for differential equations.

CHEMICAL ENGINEERING

Process Calculations and Thermodynamics: Laws of conservation of mass and energy; use of tie components; recycle, bypass and purge calculations; degree of freedom analysis. First and Second laws of thermodynamics. First law application to close and open systems. Second law and Entropy. Thermodynamic properties of pure substances: equation of state and departure function, properties of mixtures: partial molar properties, fugacity, excess properties and activity coefficients; phase equilibria: predicting VLE of systems; chemical reaction equilibria.

Fluid Mechanics and Mechanical Operations: Fluid statics, Newtonian and non-Newtonian fluids, Bernoulli equation, Macroscopic friction factors, energy balance, dimensional analysis, shell balances, flow through pipeline systems, flow meters, pumps and compressors, packed and fluidized beds, elementary boundary layer theory, size reduction and size separation; free and hindered settling; centrifuge and cyclones; thickening and classification, filtration, mixing and agitation; conveying of solids.

Heat Transfer: Conduction, convection and radiation, heat transfer coefficients, steady and unsteady heat conduction, boiling, condensation and evaporation; types of heat exchangers and evaporators and their design.

Mass Transfer: Fick's laws, molecular diffusion in fluids, mass transfer coefficients, film, penetration and surface renewal theories; momentum, heat and mass transfer analogies; stagewise and continuous contacting and stage efficiencies; HTU & NTU concepts design and operation of equipment for distillation, absorption, leaching, liquid-liquid extraction, drying, humidification, dehumidification and adsorption.

Chemical Reaction Engineering: Theories of reaction rates; kinetics of homogeneous reactions, interpretation of kinetic data, single and multiple reactions in ideal reactors, non-ideal reactors; residence time distribution, single parameter model; non-isothermal reactors; kinetics of heterogeneous catalytic reactions; diffusion effects in catalysis.

Instrumentation and Process Control: Measurement of process variables; sensors, transducers and their dynamics, transfer functions and dynamic responses of simple systems, process reaction curve, controller modes (P, PI, and PID); control valves; analysis of closed loop systems including stability, frequency response and controller tuning, cascade, feed forward control.

Plant Design and Economics: Process design and sizing of chemical engineering equipment such as compressors, heat exchangers, multistage contactors; principles of process economics and cost estimation including total annualized cost, cost indexes, rate of return, payback period, discounted cash flow, optimization in design.

Chemical Technology: Inorganic chemical industries; sulfuric acid, NaOH, fertilizers (Ammonia, Urea, SSP and TSP); natural products industries (Pulp and Paper, Sugar, Oil, and Fats); petroleum refining and petrochemicals; polymerization industries; polyethylene, polypropylene, PVC and polyester synthetic fibers.

DEPARTMENT OF CHEMISTRY

Organic Chemistry

Reaction mechanism: Definition of reaction mechanism, transition state theory, kinetics, qualitative picture. Substituent effects, linear free energy relationships, Hammett equation and related modifications. Basic mechanistic concepts like kinetic *vs* thermodynamic control, Hammond postulate, Curtin-Hammett principle, isotope effects, general and specific acid-base catalysis, and nucleophilic catalysis.

Nucleophilic substitution: Reactivity, structural and solvent effects, substitution in S_N1, S_N2, S_Ni. Neighbouring group participation - Norbornyl and bridgehead systems, substitution at allylic and vinylic carbons, substitution by ambident nucleophiles, aromatic nucleophilic substitution, S_NAr, benzyne, S_N1. Aromatic nucleophilic substitution of activated halides

Addition to carbon-carbon multiple bonds: Electrophilic, nucleophilic and free radical addition. Stereochemistry and orientation of the addition.Hydrogenation, halogenation, hydroxylation, hydroboration. Addition to carbonyl compounds - 1,2 and 1,4-addition, benzoin, Knoevenegal, Stobbe and Darzenglycidic ester reactions.

Elimination reactions: E1, E2, E1CB- mechanism, stereochemistry, orientation of double bonds - Hoffmann, Zaitsev, Bredts rule - pyrolytic elimination, Chugaev reaction. Oxidation and reduction: Reduction using hydride reagents, $LiAlH_4$, $NABH_4$ and other organoboranes: chemo- and stereoselectivity, catalytic hydrogenation (homogenous and heterogeneous catalysts), Swern and Dess-Martin oxidations, Corey-Kim oxidation, PCC, $KMnO_4$ oxidations.

Theories of aromaticity: Aromaticity, antiaromaticity, Huckel's rule, annulences and heteroannulenes, fullerenes (C60). Other conjugated systems, Chichibabin reaction. Aromatic electrophilic substitution: Orientation, reactivity, and mechanisms. Substitution in thiophene and pyridine. Reactive intermediates - carbenes, nitrenes, radicals, Ylides - Formation, stability and their applications.

Fundamentals of photochemistry: Qualitative introduction about different transitions, cis-trans isomerization, Paterno-Buchi reaction, Norrish type I and II reactions, photo reduction of ketones, photochemistry of arenes, di-pi-methane and Hoffmann-Loeffler-Freytag rearrangements.

Pericyclic reactions: Classification, electrocyclic, sigmatropic, cycloaddition and ene reactions, Woodward-Hoffmann rules, and FMO theory, Claisen, Cope, Sommelet-Hauser, and Diels-Alder reactions in synthesis, stereochemical aspects.

Optical activity and chirality: absolute and relative configuration - R-S notation system, molecules with more than one asymmetric center. Enantiotopic and diastereotopic atoms, groups and faces.Stereo specific and stereo selective synthesis, optical isomerism of biphenyls, allenes and spiranes.Compounds containing chiral nitrogen and sulfur.Geometrical isomerism, E, Z- nomenclature of olefins, cumulenes and oximes.

Conformational analysis: Fischer projection, inter-conversion of Sawhorse, Newman and Fischer projections, conformational analysis of ethane and disubstituted ethane derivatives, cycloalkanes and substituted cyclohexane. Conformation and stereochemistry of cis and transdecalin and 9-methyldecalin. Anomeric effect in cyclic compounds.

Rearrangementreactions: involving electron deficient, carbon, nitrogen, oxygen centers, emphasis on synthetic utility of these rearrangements. Baker–Venkataraman, benzilic acid, [1,2]-Meisenheimer, [2,3]-Meisenheimer, Wagner-Meerwein, Pinacol, Demyanov, Dienone-Phenol, Favorskii, Wolff, Hofmann, Curtius, Lossen, Schmidt, Beckmann, Benzidine, Hofmann-Loffler rearrangements.

Introduction to retrosynthesis: Synthon, synthetic equivalent, target molecule, functional group interconversion, disconnection approach, importance of the order of events in organic synthesis. Chemoselectivity, one group C-C and C-X disconnection (disconnection of alcohols, alkenes, and carbonyl compounds).

Two group C-C & C-X disconnections: 1,3 and 1,5 difunctionalised compounds, α,β-unsaturated carbonyl compounds, control in carbonyl condensation, synthesis of 3,4,5 and 6 membered rings in organic synthesis. Diels- Alder reaction, connection in retro synthesis.

Protecting groups: Protection of hydroxyl, carboxyl, carbonyl, amino groups.Umpolung reagents, definition of umpolung, acyl anion equivalent, protection of carbon-carbon multiple bonds.Illustration of protection and deprotection in synthesis.

Reagents in organic synthesis: Functional group transformation, complex metal hydrides, Gilman's reagent, lithium diisoproplyamide (LDA), dicyclohexylcarbodimide, timethylsilyl iodide, Woodward and Provost hydroxylation, osmium tetraoxide, DDQ, SeO_2, lead tetraacetate, H_2O_2,phase transfer catalyst, crown ethers and Merrifield resin, Wilkinson's catalyst, Baker yeast.

Name reactions in organic synthesis: Peterson olefination, McMurry, Shapiro reaction, Wittig and its modifications, palladium based reactions - Suzuki, Heck, Sonagashira, Hiyama, Stille, Glazer-Eglington coupling, Sharplessepoxidation, Henry reaction, Michael addition, aldol, Claisen, Dieckman condensations, Barton, Baylis Hillman reaction, Stork enamine reaction and selective mono and di alkylation *via*enamines.

Inorganic Chemistry

Theories of coordination compounds - VB theory - CFT - splitting of d orbitals in ligand fields and different symmetries - CFSE - factors affecting the magnitude of 10 Dq - evidence for crystal field stabilization - spectrochemical series - site selection in spinels - tetragonal distortion from octahedral symmetry - Jahn-Teller distortion - Nephelauxetic effect - MO theory - octahedral - tetrahedral and square planar complexes - p-bonding and molecular orbital theory - experimental evidence for p-bonding.

Reactions: Substitution reactions in square planar complexes - the rate law for nucleophilic substitution in a square planar complex - the trans effect - theories of trans effect - mechanism of nucleophilic substitution in square planar complexes - kinetics of octahedral substitution - ligand field effects and reaction rates - mechanism of substitution in octahedral complexes - reaction rates influenced by acid and bases - racemization and isomerization - mechanisms of redox reactions - outer sphere mechanisms - excited state outer sphere electron transfer reactions - inner sphere mechanisms - mixed valent complexes.

Electronic spectra and magnetism: Microstates, terms and energy levels for $d^1 – d^9$ ions in cubic and square fields - selection rules - band intensities and band widths - Orgel and Tanabe-Sugano diagrams - evaluation of 10 Dq and β for octahedral complexes of cobalt and nickel - charge transfer spectra - magnetic properties of coordination compounds - change in magnetic properties of complexes in terms of spin orbit coupling - temperature independent paramagnetism - spin cross over phenomena.

IR and Raman spectroscopy: Structural elucidation of simple molecules like N_2O, ClF_3, NO_3^-, ClO_4^- - effect of coordination on ligand vibrations - uses of group vibrations in the structural elucidation of metal complexes of urea, thiourea, cyanide, thiocyanate, nitrate, sulphate and DMSO - effect of isotopic substitution on the vibrational spectra of molecules - applications of Raman spectroscopy

Structure: Structure of coordination compounds with reference to the existence of various coordination numbers (2, 3, 4, 5 & 6) - site preferences - isomerism - trigonal prism - absolute configuration of complexes - stereo selectivity and conformation of chelate rings - coordination number seven and eight. Spectral and magnetic properties of lanthanide and actinide complexes.

Structure and bonding in organometallics: 18/16-electron rule - metal carbonyls – bonding – spectra – nitrosyls - dinitrogen complexes – phosphines - metal alkyls, aryls, hydrides and dihydrogen complexes - π-bonding ligands – metallocenes - electronic structure and bonding in ferrocene - synthesis, physical and spectroscopic properties of metallocenes - fluxional molecules.

Reaction mechanism and catalysis: Ligand substitution - oxidative addition and reductive elimination - 1,1 and 1,2-insertion - addition and elimination reactions - alkene isomerization- hydroboration - hydrocyanation - hydrogenation of olefins - Wilkinson's catalyst - hydroformylation of olefins - Wacker-Smidt synthesis - Monsanto acetic acid process -Eastman Halcon process - Fischer-Tropsch process - hydrosilylation.

Carbenes: Fischer and Schrock carbenes - bonding & reactivity - Grubbs catalyst - carbynes structure, synthesis and reactions- alkene metathesis – mechanism - RCM-ROMP, SHOP and ADMET - C-H and C-C activation - agostic bonds - Ziegler-Natta polymerization of olefins - Heck reaction - The PausonKhand reaction - Ene reaction.

Transport of metal ions: Uptake, transport and storage of metal ions by organisms - structure and functions of biological membranes - the generation of concentration gradients (the Na^+-K^+ pump) - mechanisms of ion-transport across cell membranes – bleomycin - siderophores (e.g. enterobactin and desferrioxamine) - transport of iron by transferring - storage of iron by ferritin - bio chemistry of calcium as hormonal messenger.

Metalloporphyrins/Metalloenzymes: Dioxygen transport and storage - hemoglobin and myoglobin: electronic and spatial structures - hemeythrin and hemocyanine - synthetic oxygen carriers, model systems - blue copper proteins (Cu) - iron-sulfur proteins (Fe)-cytrochromes electron transport chain - carbon monoxide poisoning - iron enzymes - peroxidase, catalase and cytochrome P-450, copper enzymes - superoxide dismutase, vitamin B12 and B12 coenzymes, photosynthesis - photosystem-I & II, nitrogen fixation, cisplatin.

Fundamentals: Types of solids - close packing of atoms and ions - bcc , fcc and hep voids - Goldschmidt radius ratio - derivation - its influence on structures - structures of rock salt - cesium chloride - wurtzite - zinc blende - rutile - fluroite - antifluorite - diamond and graphite - spinel - normal and inverse spinels and perovskite - lattice energy of ionic crystals - Madelung constant - Born-Haber cycle and its applications.

Theories: Band theory of solids. Free electron Theory, zone theory, MO theory of solids -dislocation in solids: Schottky and Frenkel defects. Line defects and plane defects – non -stoichiometric compounds. Electrical properties: Energy bands, insulators, semiconductors and conductors - super conductors - dielectric properties, piezo-electricity, ferro electricity -conductivity in pure metals. Superconductivity: Occurrence, BCS theory, high temperature super conductors - introduction to nanoparticles - metal nanoparticles - particle size determination.

X- Ray diffraction: Theory- the crystal systems and Bravais lattices - Miller indices and labelling of planes - symmetry properties - crystallographic point groups and space groups - X-ray diffraction - powder and rotating crystal methods - systematic absences and determination of lattice types - analysis of X-ray data for cubic system - structure factor and Fourier synthesis - Fundamentals of electron and neutron diffraction.

Nuclear structure: Mass and charge, nuclear moments, binding energy, mass defect, packing fraction, stability, magic numbers. Modes of radioactive decay and rate of radioactive decay - half-life, average life, radioactive equilibrium: Transient and secular - nuclear reactions: Energetics and types - nuclear fission- liquid drop model - nuclear fusion - essential features of nuclear reactors - tracer techniques, neutron activation analysis - carbon and rock dating - application of tracers in chemical analysis, reaction mechanisms, medicine and industry.

Inorganic rings and polymers: Catenation, heterocatenation, intercalation chemistry, one dimensional conductor, polymeric sulfur nitride - Preparation, properties - isopoly anions - heteropoly anions - borazines - phosphazenes - phosphazene polymers - ring compounds of sulphur and nitrogen. Interhalogen compounds - oxoacids of selenium and tellurium. Noble gas chemistry and their halides and pseudohalides.

Physical Chemistry

Quantum chemistry: The failures of classical physics – Black body radiation - photoelectric effect - Bhor's quantum theory, Wave particle duality - Uncertainty principle, Quantum mechanical postulates, Schrodinger equation and its solution to the problem of a particle in one and three dimensional boxes. Quantum mechanical results for a rigid rotator and simple harmonic oscillator, Schrodinger equation for hydrogen atom and its solution - Derivation of Eigen function and Eigen value for hydrogen atom. Term symbols for electronic state in atoms – LS and JJ coupling. The origin of electronic quantum numbers and physical significance - radial probability density - significance of magnetic quantum number with respect to angular momentum.Hydrogen molecule ion and hydrogen molecule - Pauli's exclusion principle.Born Oppenheimer approximation, Mulliken designation of molecular orbitals.MO theory of bonding, MO treatment of H-bonded systems, ethylene, butadiene and benzene. Approximation methods: Perturbation and variation method, wave functions for many electron atoms – Hartree-Fock SCF method, Slater orbitals.

Group theory: Elements of group theory, definition, group multiplication tables, conjugate classes, conjugate and normal subgroups, symmetry elements and operations, point groups, assignment of point groups to molecules, Matrix representation of geometric transformation and point group, reducible and irreducible representations, construction of character tables, bases for irreducible representation, direct product, symmetry adapted linear combinations, projection operators. Orthogonality theorem - its consequences. Symmetry aspects of molecular orbital theory, planar π-systems, symmetry factoring of Huckel determinants, solving it for energy and MOs for ethylene and 1,4-butadiene, sigma bonding in AX_n molecules, hybridization, tetrahedral, octahedral, square planner, trigonal planar, linear, trigonalbipyramidal systems, hybrid orbitals as linear combination of AOs, electronic spectra, selection rule, polarization electron dipole transition, electronic transitions in formaldehyde, butadiene, configuration interaction, vibrational spectra, symmetry types of normal molecules, symmetry coordinates, selection rules for fundamental vibrational transition, IR and Raman activity of fundamentals in CO_2, H_2O, N_2F_2, the rule of mutual exclusion and Fermi resonance.

Thermodynamics: Laws of thermodynamics, Nernst heat theorem and other forms of stating the third law. Thermodynamic quantities at absolute zero, apparent exceptions to the third law - thermodynamics of systems of variable composition, partial molar properties, chemical potential, relationship between partial molar quantities, Gibbs Duhem equation and its applications (the experimental determination of partial molar properties not included) - thermodynamic properties of real gases, fugacity concept, calculation of fugacity of real gas, activity and activity coefficient, concept, definition, standard states and experimental determinations of activity and activity coefficient of electrolytes.

Phase rule, colloids and micelles: Three component systems, representation by triangular diagrams, systems of three liquids, formation of one pair of partially miscible liquids, formation of two pairs of partially miscible liquids, solid, liquid phases, eutectic systems - colloids: Distinction between suspension, colloidal solutions and true solutions, lyophilc and lyophobic colloids, Tyndall effect, stability of colloids, coagulation, emulsions, various types. Micelles: Surfactant (amphipathic molecule), micellisation, critical micelle concentration, size of micelle, aggregation number, thermodynamics of micellization, solubilisation behavior of micelles, reverse micelles.

Electrochemistry: Ion transport in solution - migration, convention and diffusion -Fick's laws of diffusion conduction - influence of ionic atmosphere on the conductivity of electrolytes - The Debye Huckel-Onsager equation for the equivalent conductivity of electrolytes - experimental verification of the equation - conductivity at high field and at high frequency - conductivity of non aqueous solutions - effect of ion association on conductivity. The electrode-electrolyte interface - electrical double layer - electro capillary phenomena -Lippmann equation - the Helmholz - Perrin - Guoy - Chapmann and Stern models, electrokinetic phenomena Tiseiius method of separation of protons of proteins - membrane potential. Elecrodics - mechanism of electrode reactions - polarization and over potential - the Butler volmer equation for one step and multistep electron transfer reaction - significance of equilibrium exchange current density and symmetry factor -significance of transfer coefficient - mechanism of the hydrogen evolution reaction and oxygen evolution reactions. Some electrochemical reactions of technological interest - corrosion and passivity of metals - construction and use of Pourbaix and Evans diagrams - methods of protection of metals from corrosion, fuel cells - electro deposition.

Chemical kinetics: Simultaneous reactions - opposing, parallel and consecutive reactions, the steady state approximation - theories of reaction rates - transition state theory and collision theory a comparison - enthalpy, entropy and free energy of activation, potential energy surfaces, reaction coordinates, kinetic isotope effects, factors determining reaction rates in solution, solvent dielectric constant and ionic strength. Chain reactions - linear reactions, branching chains - explosion limits; Rice–Herzfeld scheme; kinetics of free radical polymerization reactions. Enzyme catalysis - rates of enzyme catalysed reactions - effect of substrate concentration, pH and temperature - determination of Michael's parameters.

Statistical thermodynamics: Maxwel's law of distribution of molecular speeds, graphical representation, experimental verification - derivation of expressions for average, most probable and root mean square velocity. Concept of velocity space and phase space - perturbution and combination - laws of probability - microstates for distinguishable and indistinguishable particles. Derivation of Maxwell Boltzmann distribution law - partition functions and their calculation. Expressions for thermodynamic quantities in terms of partition functions - translational, rotational, vibrational and electronic contributions to the thermodynamic properties of perfect gases, Intermolecular forces in imperfect gases. Statistical interpretation of laws of thermodynamics, third law of thermodynamics and apparent expression to it. Quantum statistics: Limitation of classical statistics - quantum statistics and classical statistics, comparison - heat capacities of gases in general and hydrogen in particular - heat capacities of solids. Einstein and Debye models - Bose Einstein statistics and Fermi Dirac statistics and corresponding distribution functions - applications of quantum statistics to liquid helium, electrons in metal and Planck's radiation law.

Photochemistry: Absorption and emission of radiation, Franck Condon principle decay of electronically excited states, radiative and non-radiative processes, fluorescence and phosphorescence, spin-forbidden radiative transitions, inter conversion and intersystem crossing. Theory of energy transfer - resonance and exchange mechanism, triplet-triplet annihilation, photosensitization and quenching.Spontaneous and induced emissions.Einstein transition probability - inversion of population - laser and masers. Flash photolysis: Chemi and thermoluminescence.

Surface chemistry: Surface Phenomena, Gibbs adsorption isotherm, types of adsorption isotherms, solid-liquid interfaces, contact angle and wetting, solid-gas interface, physisorption and chemisorption, Freundlich, derivation of Langmuir and BET isotherms, surface area determination. Kinetics of surface reactions involving adsorbed species, Langmuir-Hinshelwood mechanism, Langmuir-Rideal mechanism, Rideal-Eley mechanism. Surface Films, Langmuir-Blodgett films, self assembled mono layers, collapse pressure, surface area and mechanism of heterogeneous catalysis, phase transfer catalysis. Chemical analysis of surfaces: Surface preparations - spectroscopic surface characterization methods, electron spectroscopy, ion scattering spectrometry, secondary ion scattering microscopy (SIMS) - Auger electron spectroscopy - instrumentation and application. Electron stimulated micro analysis, scanning probe microscopes.

DEPARTMENT OF CIVIL ENGINEERING

STRUCTURAL ENGINEERING

Mechanics: Bending moment and shear force in statically determinate beams. Simple stress and strain relationship: Stress and strain in two dimensions, principal stresses, stress transformation, Mohr's circle. Simple bending theory, unsymmetrical bending, flexural and shear stresses, unsymmetrical bending, shear centre. Thin and thick cylinders, uniform torsion, buckling of column, combined and direct bending stresses.

Structural Analysis: Analysis of statically determinate and indeterminate structures, influence lines for determinate and indeterminate structures. Basic concepts of matrix methods of structural analysis.

Concrete Structures: Concrete Technology- properties of concrete, basics of mix design. Concrete design- basic working stress and limit state design concepts, analysis and design of members subjected to flexure, shear, compression and torsion by limit state methods. Basic elements of prestressed concrete, analysis of beam sections at transfer and service loads.

Steel Structures: Analysis and design of tension and compression members, beams and beam-columns, column bases. Connections-simple and eccentric, beam–column connections, plate girders and trusses. Plastic analysis of beams and frames.

Building materials and construction, construction management – principles and applications

ENVIRONMENTAL ENGINEERING

Water requirements: Quality standards, basic unit processes and operations for water treatment. Drinking water standards, water requirements, Water quality and tests, bacteriology of water – tests, basic unit operations and unit processes for surface water treatment, distribution of water.Sewage and sewerage treatment, quantity and characteristics of wastewater. Primary, secondary and tertiary treatment of wastewater, sludge disposal, effluent discharge standards. Domestic wastewater treatment, quantity of characteristics of domestic wastewater, primary and secondary treatment Unit operations and unit processes of domestic wastewater, sludge disposal.

Air Pollution: Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

Municipal Solid Wastes: Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse / recycle, energy recovery, treatment and disposal).

EIA: Evolution of EIA – Concepts – Methodologies – Screening – Scoping – Mitigation – Public participation - Environmental Audit – Life cycle assessment – EMS

TRANSPORTATION ENGINEERING

Highway Engineering: Highway development and planning - Highway alignment - Geometric design - Pavement materials - Pavement Design

Traffic Engineering: Characteristics of traffic elements – Highway capacity – Traffic studies and surveys - Road accidents - Traffic regulation and control

Railway Engineering: Location surveys and alignment - Permanent way - Geometric design - Track Junctions - Points and crossings - Railway stations and yards - Signaling and interlocking

Airport Engineering: Aircraft characteristics - Airport obstructions and zoning - Runway -Taxiways and aprons - Terminal area planning

Docks and Harbours: Types of harbour - Layout and planning principles - breakwaters – docks - wharves and quays - Transit sheds – warehouses - navigation aids

GEOTECHNICAL ENGINEERING

Soil Mechanics: Origin of soils, soil classification, three-phase system, fundamental definitions, relationship and interrelationships, permeability &seepage, effective stress principle, consolidation, compaction, shear strength.

Foundation Engineering: Sub-surface investigations- scope, drilling bore holes, sampling, penetration tests, plate load test. Earth pressure theories, effect of water table, layered soils. Stability of slopes - infinite slopes, finite slopes. Foundation types-foundation design requirements. Shallow foundations-bearing capacity, effect of shape, water table and other factors, stress distribution, settlement analysis in sands & clays. Deep foundations–pile types, dynamic &static formulae, load capacity of piles in sands &clays, negative skin friction.

WATER RESOURCES ENGINEERING

Fluid Mechanics and Hydraulics: Properties of fluids, principle of conservation of mass, momentum, energy and corresponding equations, potential flow, applications of momentum and Bernoulli's equation, laminar and turbulent flow, flow in pipes, pipe networks. Concept of boundary layer and its growth. Uniform flow, critical flow and gradually varied flow in open channels, specific energy concept, hydraulic jump. flow measurements in channels, pipes. Dimensional analysis and similitude. Velocity triangles and specific speed of pumps and turbines.

Hydrology: Rainfall, evaporation & infiltration, unit hydrographs, flood estimation, reservoir capacity, Ground water, Well hydraulics.

Irrigation: Duty, delta, estimation of evapotranspiration. Crop water requirements. Hydraulic structures, gravity dams and spillways, earthen dams. Weirs on permeable foundation, cross drainage works. Types of irrigation system, irrigation methods. Water logging and drainage.

SURVEYING

Importance of surveying, principles and classifications, mapping concepts, coordinate system, map projections, measurements of distance and directions, leveling, theodolite traversing, plane table surveying, errors and adjustments, curves, remote sensing and GIS

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

1. Data Structures and Algorithms
Development of Algorithms - Notations, Concepts - Arrays - Linked lists - Stacks and queues Trees - Tree Traversing - Operations on Binary Trees – Sorting and Searching techniques - Graphs - BFS, DFS - Shortest path problems.

2. Operating Systems
Basic OS Concepts - Thread and process scheduling - Synchronization - Semaphores - Critical regions - Deadlock prevention and recovery - Memory Management - File Management - I/O Management – Case Studies on Windows and Linux OS.

3. Computer Organization and Architecture
Basic structure of Computers - Arithmetic - Addition & subtraction of signed numbers - Multiplication - Integer division - Floating point operations - Pipelining - Multiple bus organization - Micro programmed control – Hazards - Memory System - Semiconductor RAM memory - Cache memory - Virtual memory - Secondary storage - I/O Organization - Interrupts - DMA - Buses - Interface circuits - Serial communication links.

4. C Programming
C programming – Memory Concepts – Arithmetic Operations - Control Statements – Functions - Pointers – Structures – User Defined Data types - File handling.

5. Microprocessors
8085 processor - Architecture - Bus organization - Registers - ALU - Instruction set of 8085 - Instruction format - Addressing modes - System design using controllers - Microprocessor Interfacing Techniques - Segmented memory concepts - Bus concepts.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

MIC, MICROSTRIP and STRIPLINE fundamentals, S Parameters, ABCD parameters, smith chart basics, Different Lengths of Transmission lines. Basics of antennas, High frequency antennas, Metamaterial antennas. Basics of fiber optic communication, fiber amplifiers, applications. Microprocessors, Microcontrollers, Embedded systems, DSP Processors. Analog Integrated Circuits, Digital Systems, Basics of VLSI, Verilog, ASIC, DSP for VLSI, Communication Theory . Computer Networks. Wireless Communication, Electromagnetic Theory Signals & Systems, DSP, Statistical theory of Communication.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING (EEE)

Mathematics for electrical engineers;
Electric circuits, signals and systems and field theory;
DC machines, transformers and ac machines;
Transmission & distribution systems, power systems - analysis, operation & control;
Control systems;
Electrical and electronics measurements;
Power electronics and drives;
Analog and digital electronics – integrated circuits;
Microprocessors and basics of computers;

DEPARTMENT OF HUMANITIES (ECONOMICS)

Definition of Economics - National Income - Definition - Computation of National Income - Portfolio Investment - Business Cycle - Phillips Curve - Unemployment - Inflation - Aggregate Demand and Supply - Classical Vs Keynesian - Budget - Multiplier - Accelerator - Debt management - Federal Reserve System - Quantity theory of Money - Balance of Payments - Exchange Rates - IM and IS - Demand and Supply - Utility theories - Consumer Surplus - Producers Surplus - Cost Analysis – BEP

DEPARTMENT OF HUMANITIES (ENGLISH)

linguistics:

1. Language and linguistics – Language acquisition and learning – Behaviourist and Cognitivist schools.
2. Grammar, lexis – Phonology and morphology – Internalization – Grammatical competence – Generative grammar.
3. L 2 Acquisition and learning – Theories of SLA and SLL – Bilingualism— Bilingual communities – needs and reasons.
4. Contrastive analysis – Contrastive linguistics – Contrastive grammar –Semantics- Restriction in meaning.
5. Relevance of linguistics to teaching – Class room methods – Selection of materials - Managing learner difficulties.

English language teaching:

1. Theories of language teaching – Audio-lingual, grammar translation, total Immersion – Communicative language teaching – computer aided teaching
2. English for specific purposes – English for occupational purposes – English for Academic purposes – English for Science & Technology.
3. Importance of the four language skills – Role of materials, tasks in learning – Methodology and its role in the learning process.
4. Evaluation methods and testing techniques – testing as a teaching procedure – Designing tasks and tests – Evaluating testing methods.
5. Teacher orientation and training – Class room interaction – Motivating and Managing learners – Responding to diversity – School, curriculum and society – Teacher, a professional.

Computer Aided Language Learning

1. Computer – Scope in language teaching - Integration of CALL – the Natural languages –Synthesis – Universal Grammar.
2. Background of CALL – Constructivist theory of learning – Self learning and testing -- Interactive learning practice.
3. Individual styles and motivation – Student tracking—Affective impact of computer learning – Problems and possibilities.
4. Material production – Online communication – Reaching the disadvantaged lean – varied leaning pace – Creative element in CALL
5. Competence of English teachers in computer use – Interactive software and CD ROMs – Future trends

DEPARTMENT OF INSTRUMENTATION AND CONTROL ENGINEERING

Linear Algebra: Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus: Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivatives, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations: First order equation (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's and Euler's equations, Initial and boundary value problems, Partial Differential Equations and variable separable method.

Complex variables: Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent' series, Residue theorem, solution integrals.

Probability and Statistics: Sampling theorems, Conditional probability, Mean, median, mode and standard deviation, Random variables, Discrete and continuous distributions, Poisson, Normal and Binomial distribution, Correlation and regression analysis.

Numerical Methods: Solutions of non-linear algebraic equations, single and multi-step methods for differential equations.

Transform Theory: Fourier transform, Laplace transform, Z-transform.

Basics of Circuits and Measurement Systems: Kirchoff's laws, mesh and nodal Analysis. Circuit theorems. One-port and two-port Network Functions. Static and dynamic characteristics of Measurement Systems.Error and uncertainty analysis.Statistical analysis of data and curve fitting.

Transducers, Mechanical Measurement and Industrial Instrumentation: Resistive, Capacitive, Inductive and piezoelectric transducers and their signal conditioning. Measurement of displacement, velocity and acceleration (translational and rotational), force, torque, vibration and shock.Measurement of pressure, flow, temperature and liquid level.Measurement of pH, conductivity, viscosity and humidity.

Analog Electronics: Characteristics of diode, BJT, JFET and MOSFET. Diode circuits.Transistors at low and high frequencies, Amplifiers, single and multi-stage.Feedback amplifiers.Operational amplifiers, characteristics and circuit configurations.Instrumentation amplifier.Precision rectifier.V-to-I and I-to-V converter. Op-Amp based active filters. Oscillators and signal generators.

Digital Electronics: Combinational logic circuits, minimization of Boolean functions. IC families, TTL, MOS and CMOS.Arithmetic circuits. Comparators, Schmitt trigger, timers and mono-stable multi-vibrator. Sequential circuits, flip-flops, counters, shift registers. Multiplexer, S/H circuit.Analog-to-Digital and Digital-to-Analog converters.Basics of number system.Microprocessor applications, memory and input-output interfacing.Microcontrollers.

Signals, Systems and Communications: Periodic and aperiodic signals. Impulse response, transfer function and frequency response of first- and second order systems. Convolution, correlation and characteristics of linear time invariant systems.Discrete time system, impulse and frequency response. Pulse transfer function. IIR and FIR filters. Amplitude and frequency modulation and demodulation.Sampling theorem, pulse code modulation.Frequency and time division multiplexing. Amplitude shift keying, frequency shift keying and pulse shift keying for digital modulation.

Electrical and Electronic Measurements: Bridges and potentiometers, measurement of R,L and C. Measurements of voltage, current, power, power factor and energy. A.C & D.C current probes. Extension of instrument ranges. Q-meter and waveform analyzer.Digital voltmeter and multi-meter.Time, phase and frequency measurements.Cathode ray oscilloscope.Serial and parallel communication.Shielding and grounding.

Control Systems and Process Control: Feedback principles. Signal flow graphs. Transient Response, steady-state-errors.Routh and Nyquist criteria. Bode plot, root loci. Time delay systems.Phase and gain margin.State space representation of systems.Mechanical,

hydraulic and pneumatic system components.Synchro pair, servo and step motors. On-off, cascade, P, P-I, P-I-D, feed forward and derivative controller, Fuzzy controllers.

Analytical, Optical and Biomedical Instrumentation: Mass spectrometry. UV, visible and IR spectrometry.X-ray and nuclear radiation measurements.Optical sources and detectors, LED, laser, Photo-diode, photo-resistor and their characteristics.Interferometers, applications in metrology.Basics of fiber optics. Biomedical instruments, EEG, ECG and EMG. Clinical measurements.Ultrasonic transducers and Ultrasonography. Principles of Computer Assisted Tomography.

DEPARTMENT OF MANAGEMENT STUDIES

1. Marketing Management
2. Principles of management
3. Fundamentals of principal accounting
4. Financial management
5. Information Management
6. Corporate IS Strategy and Management
7. Intro to BAITC
8. System Analysis and Design
9. Software Project Management
10. Organizational behaviour
11. Human Resource Management
12. Operation Research
13. Production and operations research
14. Quantitative techniques

DEPARTMENT OF MATHEMATICS

Algebra, Matrix, Calculus, Differential Equations, Partial Differential Equations, Real Analysis, Complex Analysis, Complex Integration, Integral Transforms, Numerical Methods, Fourier Series, Probability and Statistics.

DEPARTMENT OF COMPUTER APPLICATIONS

1. Computer Organization and Architecture
2. Data Base Management Systems
3. Operating Systems
4. Computer Networks
5. Programming Languages
6. Data Structures and Algorithms
7. Software Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

Engineering Mechanics, Industrial safety, Mechatronics, Enginering Graphics, CAD/CAM, Automobile engineering, Thermal Engineering, Machine Design, Turbo machines, Power Plant Engineering, Refrigeration & Air-conditioning, Mechanics of Machines, Thermodynamics, Heat Transfer, GD & T, Machine drawing

DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

"The question paper for written test in dept Metallurgical and materials engineering , for temporary faculty year 2014, will be at the general competency level of a degree holder in B.Tech. Metallurgical and Materials Engineering. Question will cover various areas of metallurgy and materials."

DEPARTMENT OF PHYSICS

Mathematical Physics: Determinants and matrices – Vector analysis – Complex analysis – Ordinary differential equations – Fourier analysis.

Classical Mechanics: Lagrangian formulation – Central force problem – Hamiltonian formulation – Rigid body motion – Special theory of relativity.

Quantum Mechanics: Schrodinger Equation – Operators and eigenfunctions – solvable problems – angular momentum and spin – approximation methods – scattering theory.

Electronics: Network analysis – semiconductor devices – amplifiers and oscillators – operational amplifiers – digital circuits.

Electromagnetic Theory: Electrostatics – Magnetostatics – Maxwell equations – Electromagnetic waves and propagation.

Statistical Mechanics: Thermodynamics – Ensemble theory – Maxwell-Boltzmann statistics – Bose-Einstein statistics – Fermi-Dirac statistics.

Solid State Physics: Crystal structure – Lattice vibrations and thermal properties – conductors – semiconductors – dielectrics – magnetic materials.

Atomic and Molecular Physics: Atomic spectra – resonance spectroscopy – IR and microwave spectroscopy – electronic spectroscopy.

Nuclear Physics: Nuclear forces – nuclear models – radioactivity – nuclear reactions – elementary particles

DEPARTMENT OF PRODUCTION ENGINEERING

ENGINEERING MATHEMATICS: Linear Algebra Calculus Differential equations: Complex variables: Probability and Statistics: Numerical Methods:

GENERAL ENGINEERING: Engineering Materials: Applied Mechanics: Theory of Machines and Design: Thermal Engineering:

PRODUCTION ENGINEERING: Metal Casting: Metal Forming: Metal Joining Processes: Machining and Machine Tool Operations: Tool Engineering: Metrology and Inspection: Powder Metallurgy: Polymers and Composites: Manufacturing Analysis: Computer Integrated Manufacturing

INDUSTRIAL ENGINEERING: Product Design and Development: Engineering Economy and Costing: Work System Design: Facility Design: Production Planning and Inventory Control: Operation Research: Quality Management: Reliability and Maintenance: Management Information System. Intellectual Property System:

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI-620 015
OFFICE OF DEAN (FW)

DATA SHEET FOR TEMPORARY FACULTY-JUNE 2014

Post applied for : Temporary Faculty in Department of _____

<table>
<tr><th colspan="8">Details of Applicant</th><th>Remarks</th></tr>
<tr><td>1.</td><td colspan="3">Name and Address (with Email and Mobile No.)</td><td colspan="4"></td><td></td></tr>
<tr><td>2.</td><td colspan="3">Age/Date of Birth*</td><td colspan="4"></td><td></td></tr>
<tr><td>3.</td><td colspan="3">Category*: (SC/ST/OBC/PwD/UR)</td><td colspan="4"></td><td></td></tr>
<tr><td>4.</td><td colspan="3">Educational Qualifications:</td><td colspan="4"></td><td></td></tr>
<tr><td></td><td>Degree</td><td>Specialization</td><td>University</td><td>% of marks* /CGPA *</td><td>Class*</td><td>Year</td><td></td></tr>
<tr><td></td><td>UG</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>PG</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>Ph.D.</td><td></td><td></td><td colspan="2">Awarded/Pursuing/Not registered</td><td></td><td></td></tr>
<tr><td>5.</td><td colspan="3">GATE Score *</td><td colspan="4"></td><td></td></tr>
<tr><td>6.</td><td colspan="3">Have you cleared NET / SLET*</td><td colspan="4"></td><td></td></tr>
<tr><td>7.</td><td colspan="3">Place:
Date:</td><td colspan="5">Signature of the Applicant</td></tr>
</table>

***Attach Proof**