

INDIRA GANDHI INSTITUTE OF TECHNOLOGY, SARANG

**Course Structure for 2nd Year B.Tech
ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

(Admission Batch: 2018-19 Onwards)

Third Semester				Fourth Semester			
Theory				Theory			
Course Code	Course Name	L-T-P (Periods/ Week)	Credits	Course Code	Course Name	L-T-P (Periods/ Week)	Credits
HSHM3203/ HSHM3204	Engineering Economics/ Organizational Behaviour	3-0-0	3	HSHM3204/ HSHM3203	Organizational Behaviour/ Engineering Economics	3-0-0	3
BSMA1208	Applied Mathematics	3-1-0	3		Programme Core Subject		
ESEC2213	Analog Electronic Circuits	3-0-0	3	PCEC4203	Digital Electronics	3-0-0	3
	Programme Core Subject			PCEC4204	Embedded Systems	3-0-0	3
PCEC4201	Signals and Systems	3-0-0	3	PCEC4205	Electromagnetic Theory	3-0-0	3
PCEC4202	Network Theory	3-0-0	3	(Any One)	Open Elective I Refer List of Open Electives	3-0-0	3
	Mandatory Course III	2-0-0	0		Mandatory Course IV	2-0-0	0
MCHM9203/ MCHM9204	Constitution of India/ Essence of Indian Traditional Knowledge			MCHM9204/ MCHM9203	Essence of Indian Traditional Knowledge/ Constitution of India		
	Total (Theory)	18	15		Total (Theory)	17	15
	Honours/ Minor	3-1-0	4		Honours/ Minor	3-1-0	4
HNEC0201	Probability Theory & Random Processes			HNEC0202	Digital Audio and Video Engineering		
MNEC0201	Elements of Embedded System Design			MNEC0202	Fundamentals of Digital Design		
	Practical/ Sessional				Practical/ Sessional		
PCEC7201	Analog Electronic Circuits Lab	0-0-3	2	PCEC7203	Digital Design Lab	0-0-3	2
PCEC7202	Network Theory Lab	0-0-3	2	PCEC7204	Embedded Systems Lab	0-0-3	2
	Total (Practical/ Sessional)	6	4	PCEC7205	Electromagnetic Engineering and Simulation Lab	0-0-3	2
	TOTAL	24	19		Total (Practical/ Sessional)	9	6
	TOTAL	24	19		TOTAL	26	21
TOTAL SEMESTER CREDITS: 19				TOTAL SEMESTER CREDITS: 21			
TOTAL CUMULATIVE CREDITS: 62				TOTAL CUMULATIVE CREDITS: 83			

Press, 2nd Edition, 2016.

4. Abhijit Chakrabarti, "Circuit Theory Analysis and Synthesis", Dhanpat Rai & Co, 7th Edition, 2018.

Reference Books:

1. Franklin F. Kuo, "Network Analysis and Synthesis", Wiley, 2nd Edition, 2006.
2. A Ramakalyan, "Linear Circuits Analysis and Synthesis", Oxford University Press, 1st Edition, 2004
3. Sivananda & Deepa, "Problems & Solutions in Electric Circuit Analysis", Jaico Book, 1st Edition, 2008.

Course Outcomes:

1. To demonstrate, analyze and solve problems related to networks using various network theorems.
2. To design networks and circuits for different applications.

MANDATAORY COURSE

MCHM9203	CONSTITUTION OF INDIA	2-0-0	Credit-0
<p>OBJECTIVES OF THE STUDY</p> <ol style="list-style-type: none"> 1. To create awareness about the constitutional values and objectives written in the Indian Constitution. 2. To ascertain the views of student teachers regarding the achievement made in respect of each of the values /objectives in the present context in India. <p>Course content</p> <p>Module 1 Meaning of the constitution law and constitutionalism, Historical perspective of the Constitution of India, Salient features and characteristics of the Constitution of India, Scheme of the fundamental rights The scheme of the Fundamental Duties and its legal status</p> <p>Module 2 The Directive Principles of State Policy – Its importance and implementation, Federal structure and distribution of legislative and financial powers between the Union and the States</p> <p>Module 3 Parliamentary Form of Government in India – The constitution powers and status of the President of India Amendment of the Constitutional Powers and Procedure, The historical perspectives of the constitutional amendments in India</p> <p>Module 4 Emergency Provisions: National Emergency, President Rule, Financial Emergency</p>			

Local Self Government – Constitutional Scheme in India

Module 5

Scheme of the Fundamental Right to Equality Scheme of the Fundamental Right to certain Freedom under Article 19 , Scope of the Right to Life and Personal Liberty under Article 21

REFERENCES

1. Austin, Granville (1996), ³ 'The Indian Constitution: Cornerstone of a Nation', Oxford: Clarendon Press, p. 308.
2. Nehru, Jawaharlal (1949), ³ 'Independence and after', New Delhi: Publication Division, Govt. of India, p.375
3. Wheare, K.C.(1964), ³'Modern Constitutions', London: Oxford University Press,p.98.
4. Frankfurter, Felix (1961), ³'Mr. Justice Holmes and the Supreme Court', Cambridge: The Belknap press of Harvard University Press, P.59.
5. Kashyap, S.C.(1995), ³'Our Constitution', New Delhi: National Book Trust, India,p.51.
6. Basu, D.D.(1991), ³ Introduction to the Constitution of India', New Delhi

Course Outcomes:

After study of the course, the students are able to-

1. Have general knowledge and legal literacy and thereby to take up competitive examinations
2. Understand state and central policies, fundamental duties
3. Understand Electoral Process, special provisions
4. Understand powers and functions of Municipalities, Panchayats and Co-operative Societies, and
5. Understand Engineering ethics and responsibilities of Engineers.
6. Have an awareness about basic human rights in India

MANDATORY COURSE

MCHM9204	ESSENCE OF INDIAN TRADITIONAL KNOWLEDGE	2-0-0	Credit-0
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Course Objectives:

1. The course aims at imparting basic principles of thought process, reasoning and inferencing. Sustainability is at the core of Indian Traditional Knowledge Systems connecting society and nature.
2. Holistic life style of Yogic-science and wisdom capsules in Sanskrit literature are also important in modern society with rapid technological advancements and societal disruptions
3. The course focuses on introduction to Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.

Course content :

□ Basic Structure of Indian Knowledge System (i) वेद, (ii) उन्नवेद (आयुर्वेद, धनुर्वेद, गन्धर्वेद, स्थानत्यआदद) (iii) वेदांग (शिक्षा, कल्न, नरुत, व्याकरण, ज्योनतषछांद), (iv) उनाइग (धर्मस्र, र्ीर्ासा, नुराण, तकमिस्र)

I. VEDA II. UPAVEDA (AYURVEDA, DHANURVEDA, GANDHARVA VEDA, STHAPATYA Etc) iii. VEDANGA (SIKHYA, KALPA, NIRUTA, BYAKARANA, JYOTISYA CHHANDA) IV. UPANGA (DHARMA SASTRA, MIMANSA, TARKA SASTRA, PURANA)

- Modern Science and Indian Knowledge System
- Yoga and Holistic Health care
- Case Studies.

Course Outcomes:

Ability to understand, connect up and explain basics of Indian Traditional knowledge modern scientific perspective.

Suggested Text/Reference Books

1. V. Sivaramakrishna (Ed.), Cultural Heritage of India-Course Material, Bharatiya Vidya Bhavan, Mumbai, 5th Edition, 2014
2. Swami Jitatmanand, Modern Physics and Vedant, Bharatiya Vidya Bhavan
3. Fritzof Capra, Tao of Physics
4. Fritzof Capra, The wave of Life
5. V N Jha (Eng. Trans.), Tarkasangraha of Annam Bhatta, Inernational Chinmay Foundation, Velliarnad, Amaku,am
6. Yoga Sutra of Patanjali, Ramakrishna Mission, Kolkatta
7. GN Jha (Eng. Trans.) Ed. R N Jha, Yoga-darshanam with Vyasa Bhashya, Vidyanidhi Prakasham, Delhi, 2016
8. RN Jha, Science of Consciousness Psychotherapy and Yoga Practices, Vidyanidhi Prakasham, Delhi, 2016 9.
9. P R Sharma (English translation), Shodashang Hridayam