



### **1.3.1**

**Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum**

**Greater Noida Institute of Technology (Engg. Institute)**

**Plot No. 7, Knowledge Park II, Greater Noida**

**Uttar Pradesh 201310 India**



**GNIOT**  
ENGG. INSTITUTE

Plot No. 7, Knowledge Park II, Greater Noida  
Uttar Pradesh (India) 201310  
[www.gniot.net.in](http://www.gniot.net.in)

Criteria – 1

Key indicator – 1.3.1

*Institution integrates crosscutting issues relevant to Professional Ethics, Gender Equality, Human Values, Environment and Sustainability in transacting the Curriculum*

## Session 2021-2022

### INDEX

Sl. No	Description	Page No.
1.	List of Subjects integrates crosscutting issues	
2.	Evaluation Schemes of the University	
3.	Syllabus of the Subjects included in the list	



**Courses which address the Environment and Sustainability, Gender Equality, Human Values, Professional Ethics, into the Curriculum**

Session 2021-2022

Sl. No	Year	Semester	Subject Code	Subject Name	Category
1	FOURTH	7th	KOE074	RENEWABLE ENERGY RESOURCES	Environment and Sustainability
2	FOURTH	7th / 8th	KHU701/ KHU801	RURAL DEVELOPMENT: ADMINISTRATION AND	Environment and Sustainability
3	FOURTH	7th	KOE078	SOIL AND WATER CONSERVATION	Environment and Sustainability
4	FOURTH	7th	KOE072	BIOECONOMICS	Environment and Sustainability
5	THIRD (CE)	5th	KCE057	Air & Noise Pollution Controll	Environment and Sustainability
6	FOURTH	7th	KCE074	Solid waste Management	Environment and Sustainability
7	FOURTH	7th	KOE079	INTRODUCTION TO WOMEN'S AND GENDER	Gender Equality
8	SECOND	3rd / 4th	KVE 301/ KVE401	Universal Human values	Human Values & Professional Ethics
9	SECOND (MBA)	3rd	KVE301	Universal Human Values & Professional Ethics	Human Values
10	THIRD	5th/6th	KNC502 / KNC602	Indian Tradition, Culture and Society	Human Values & Professional Ethics
11	THIRD	5th/6th	KNC501 / KNC601	Constitution of India, Law and Engineering	Human Values
12	FOURTH	7th	KOE076	VISION FOR HUMANE SOCIETY	Human Values
13	FOURTH	8th	KOE089	Human Values in Madhyasth Darshan	Human Values
14	FOURTH	8th	KOE098	Human Values in Buddha & Jain Darsana	Human Values
15	FOURTH	8th	KOE099	Human Values in Vedic Darshan	Human Values
16	FIRST (MBA)	1st	KMBN101	Management Concepts & Organisational Behaviour	Professional Ethics
17	FIRST (MBA)	1st	KMBN107	Business Communication	Professional Ethics
18	SECOND	3rd / 4th	KAS301/ KAS401	Technical Communication	Professional Ethics
19	FIRST	1st	KNC101	Soft Skill I	Professional Ethics
20	FIRST	2nd	KNC201	Soft Skill II	Professional Ethics

Session 2019-2020

Session 2020-2021

Session 2021-2022

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**



**Evaluation Scheme & Syllabus**

**For**

**B.Tech. 2<sup>nd</sup> Year**

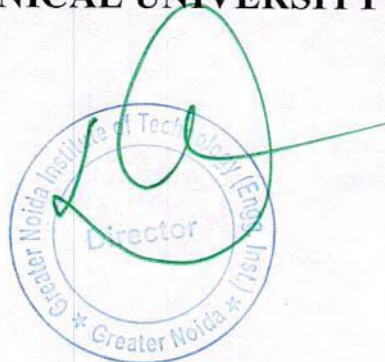
**(Computer Science and Engineering/CS/CSIT)**

**On**

**AICTE Model Curriculum**

**(Effective from the Session: 2019-20)**

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**

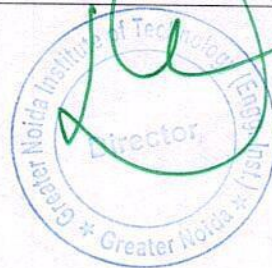


**B.TECH (COMPUTER SCIENCE AND ENGINEERING)**

**SEMESTER- III**

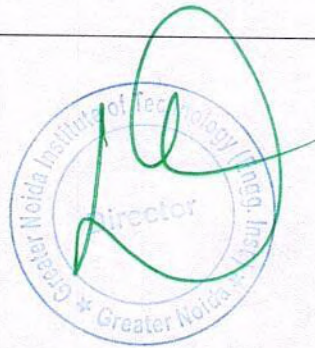
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE031-38/ KAS302	Engineering Science Course/Maths IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE 301	Technical Communication/Universal Human values	2	1	0	30	20	50		100		150	3
			3	0	0								
3	KCS301	Data Structure	3	1	0	30	20	50		100		150	4
4	KCS302	Computer Organization and Architecture	3	1	0	30	20	50		100		150	4
5	KCS303	Discrete Structures & Theory of Logic	3	0	0	30	20	50		100		150	3
6	KCS351	Data Structures Using C Lab	0	0	2					25	25	50	1
7	KCS352	Computer Organization Lab	0	0	2					25	25	50	1
8	KCS353	Discrete Structure & Logic Lab	0	0	2					25	25	50	1
9	KCS354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>950</b>	<b>22</b>

\*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.



**SEMESTER- IV**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS402/ KOE041-48	Maths IV/Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS301	Universal Human Values/ Technical Communication	3	0	0	30	20	50		100		150	3
			2	1	0								
3	KCS401	Operating Systems	3	0	0	30	20	50		100		150	3
4	KCS402	Theory of Automata and Formal Languages	3	1	0	30	20	50		100		150	4
5	KCS403	Microprocessor	3	1	0	30	20	50		100		150	4
6	KCS451	Operating Systems Lab	0	0	2				25		25	50	1
7	KCS452	Microprocessor Lab	0	0	2				25		25	50	1
8	KCS453	Python Language Programming Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming/Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>900</b>	<b>21</b>



Session 2020-2021  
Session 2021-2022

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**



**EVALUATION SCHEME & SYLLABUS  
FOR  
B. TECH. THIRD YEAR**

**Computer Science  
Computer Engineering  
Computer Science and Engineering  
(Computer Science and Engineering/CS)**

**On**

**Choice Based Credit System  
(Effective from the Session: 2020-21)**

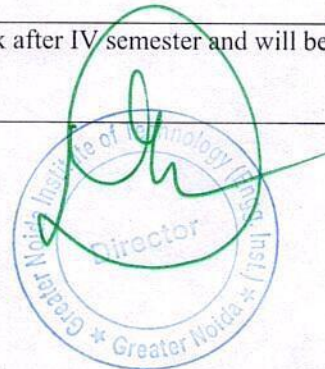


**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY,  
UTTAR PRADESH, LUCKNOW**

**B.TECH (COMPUTER SCIENCE & ENGINEERING/ COMPUTER SCIENCE)  
CURRICULUM STRUCTURE**

SEMESTER- V													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS501	Database Management System	3	1	0	30	20	50		100		150	4
2	KCS502	Compiler Design	3	1	0	30	20	50		100		150	4
3	KCS503	Design and Analysis of Algorithm	3	1	0	30	20	50		100		150	4
4	Deptt. Elective-I	Departmental Elective-I	3	0	0	30	20	50		100		150	3
5	Deptt. Elective-II	Departmental Elective-II	3	0	0	30	20	50		100		150	3
6	KCS551	Database Management System Lab	0	0	2				25		25	50	1
7	KCS552	Compiler Design Lab	0	0	2				25		25	50	1
8	KCS553	Design and Analysis of Algorithm Lab	0	0	2				25		25	50	1
9	KCS554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>17</b>	<b>3</b>	<b>8</b>							<b>950</b>	<b>22</b>

\*The Mini Project or internship (4 weeks) conducted during summer break after IV semester and will be assessed during V semester.





**SEMESTER- VI**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS601	Software Engineering	3	1	0	30	20	50		100		150	4
2	KCS602	Web Technology	3	1	0	30	20	50		100		150	4
3	KCS603	Computer Networks	3	1	0	30	20	50		100		150	4
4	Deptt. Elective-III	Departmental Elective-III	3	0	0	30	20	50		100		150	3
5		Open Elective-I [Annexure - B(iv)]	3	0	0	30	20	50		100		150	3
6	KCS651	Software Engineering Lab	0	0	2				25		25	50	1
7	KCS652	Web Technology Lab	0	0	2				25		25	50	1
8	KCS653	Computer Networks Lab	0	0	2				25		25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>0</b>	<b>3</b>	<b>6</b>							<b>900</b>	<b>21</b>

**Departmental Elective-I**

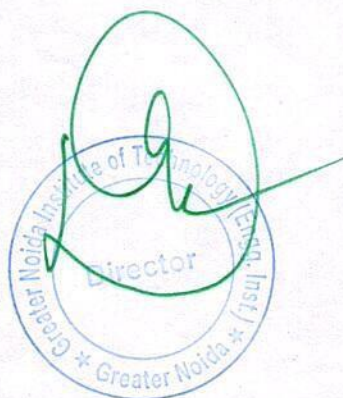
1. KCS-051 Data Analytics
2. KCS-052 Web Designing
3. KCS-053 Computer Graphics
4. KCS-054 Object Oriented System Design

**Departmental Elective-II**

1. KCS-055 Machine Learning Techniques
2. KCS-056 Application of Soft Computing
3. KCS-057 Augmented & Virtual Reality
4. KCS-058 Human Computer Interface

**Departmental Elective-III**

1. KCS-061 Big Data
2. KCS-062 Image Processing
3. KCS-063 Real Time Systems
4. KCS-064 Data Compression



Session 2021-2022

**COMPUTER SCIENCE AND ENGINEERING/CS**

**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

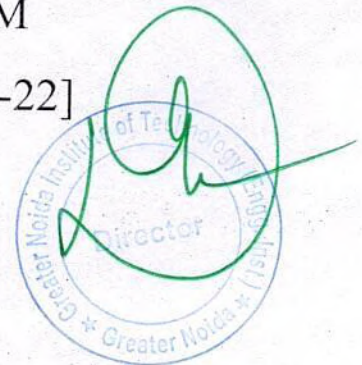
**B. TECH. FOURTH (IV) YEAR**

**(COMPUTER SCIENCE AND ENGINEERING/CS)**

**AS PER**

**AICTE MODEL CURRICULUM**

**[Effective from the Session: 2021-22]**



# COMPUTER SCIENCE AND ENGINEERING/CS

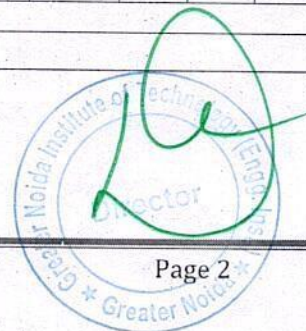
## B.TECH

### (COMPUTER SCIENCE & ENGINEERING/CS) CURRICULUM STRUCTURE

SEMESTER- VII													
Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KHU701/KHU702	HSMC -1 / HSMC-2	3	0	0	30	20	50		100		150	3
2	KCS07X	Departmental Elective-IV	3	0	0	30	20	50		100		150	3
3	KCS07X	Departmental Elective-V	3	0	0	30	20	50		100		150	3
4	KOE07X	Open Elective-II	3	0	0	30	20	50		100		150	3
5	KCS751A	The Department may conduct one Lab of either of the two Electives (4 or 5) based on the elective chosen for the curriculum. The Department shall on its own prepare complete list of practical for the Lab and arrange for proper setup and conduct accordingly.	0	0	2				25		25	50	1
6	KCS752	Mini Project or Internship Assessment*	0	0	2				50			50	1
7	KCS753	Project	0	0	8				150			150	4
8		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>12</b>	<b>0</b>	<b>12</b>							<b>850</b>	<b>18</b>

\*The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.

SEMESTER- VIII													
Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KHU801/KHU802	HSMC-1#/HSMC-2#	3	0	0	30	20	50		100		150	3
2	KOE08X	Open Elective-III	3	0	0	30	20	50		100		150	3
3	KOE08X	Open Elective-IV	3	0	0	30	20	50		100		150	3
4	KCS851	Project 1	0	0	18				100		300	400	9
5		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>9</b>	<b>0</b>	<b>18</b>							<b>850</b>	<b>18</b>



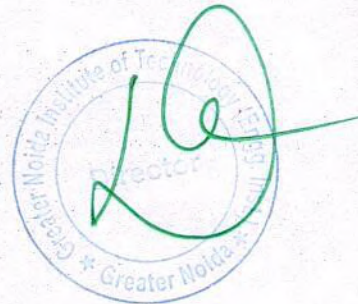
# COMPUTER SCIENCE AND ENGINEERING/CS

## Departmental Elective-IV

1. KCS071 Artificial Intelligence
2. KCS072 Natural language processing
3. KCS073 High Performance Computing
4. KCS074 Cryptography and Network Security
5. KCS075 Design & Development of Applications
6. KCS076 Software Testing
7. KCS077 Distributed Systems

## Departmental Elective-V

1. KCS078 Deep Learning
2. KCS079 Service Oriented Architecture
3. KCS710 Quantum Computing
4. KCS711 Mobile Computing
5. KCS712 Internet of Things
6. KCS713 Cloud Computing
7. KCS714 Blockchain Architecture Design



## OPEN ELECTIVES II LIST 2021-22

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DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW



### EVALUATION SCHEME & SYLLABUS

FOR

OPEN ELECTIVES II LIST

AS PER

AICTE MODEL CURRICULUM

[Effective from the Session:2021-22]

Note:

1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \* It is mandatory that for these subjects (KOE069, KOE076, KOE087, KOE097 & KOE098) only Trained Faculty (who had done the FDP for these courses) will teach the courses.



## OPEN ELECTIVES II LIST 2021-22

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B.Tech. VII Semester (2021-22)

### OPEN ELECTIVE-II

KOE071	FILTER DESIGN
KOE072	BIOECONOMICS
KOE073	MACHINE LEARNING
KOE074	RENEWABLE ENERGY RESOURCES
KOE075	OPERATIONS RESEARCH
KOE076	VISION FOR HUMANE SOCIETY
KOE077	DESIGN THINKING
KOE078	SOIL AND WATER CONSERVATION ENGINEERING
KOE079	INTRODUCTION TO WOMEN'S AND GENDER STUDIES



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DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW



EVALUATION SCHEME & SYLLABUS

FOR

III & IV  
OPEN ELECTIVES LIST

AS PER

AICTE MODEL CURRICULUM

**[Effective from the Session: 2021-22]**



Note:

1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \*\* It is mandatory that for these subjects (KOE089, KOE098 & KOE099) only Trained Faculty (who had done the FDP for these courses) will teach the courses.

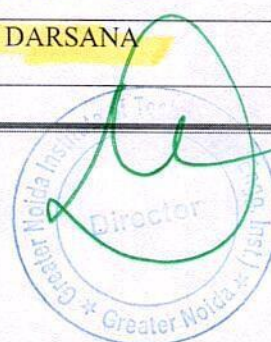
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**B. TECH.**  
**VIII Semester (2021-22)**  
**OPEN ELECTIVE –III**

KOE-080	FUNDAMENTALS OF DRONE TECHNOLOGY
KOE-081	CLOUD COMPUTING
KOE-082	BIO MEDICAL SIGNAL PROCESSING
KOE-083	ENTREPRENEURSHIP DEVELOPMENT
KOE-084	INTRODUCTION TO SMART GRID
KOE-085	QUALITY MANAGEMENT
KOE-086	INDUSTRIAL OPTIMIZATION TECHNIQUES
KOE-087	VIROLOGY
KOE-088	NATURAL LANGUAGE PROCESSING
KOE-089	<b>**HUMAN VALUES IN MADHYASTH DARSHAN</b>

**OPEN ELECTIVE –IV**

KOE-090	ELECTRIC VEHICLES
KOE-091	AUTOMATION AND ROBOTICS
KOE-092	COMPUTERIZED PROCESS CONTROL
KOE-093	DATA WAREHOUSING & DATA MINING
KOE-094	DIGITAL AND SOCIAL MEDIA MARKETING
KOE-095	MODELING OF FIELD-EFFECT NANO DEVICES
KOE-096	MODELLING AND SIMULATION OF DYNAMIC SYSTEMS
KOE-097	BIG DATA
KOE-098	<b>**HUMAN VALUES IN BUDDHA AND JAIN DARSHAN</b>
KOE-099	<b>**HUMAN VALUES IN VEDIC DARSANA</b>





2021-22

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**



**Evaluation Scheme & Syllabus**

**For**

**B.Tech. 2<sup>nd</sup> Year**

**(Information Technology)**

**On**

**AICTE Model Curriculum**

**(Effective from the Session: 2019-20)**

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**



2021-22

**B.TECH (COMPUTER SCIENCE AND ENGINEERING)****Information Technology****SEMESTER- III**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE031-38/ KAS302	Engineering Science Course/Maths-IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE301	Technical Communication/Universal Human Values	2	1	0	30	20	50		100		150	3
			3	0	0								
3	KCS301	Data Structure	3	1	0	30	20	50		100		150	4
4	KCS302	Computer Organization and Architecture	3	1	0	30	20	50		100		150	4
5	KCS303	Discrete Structures & Theory of Logic	3	0	0	30	20	50		100		150	3
6	KCS351	Data Structures Using C Lab	0	0	2				25		25	50	1
7	KCS352	Computer Organization Lab	0	0	2				25		25	50	1
8	KCS353	Discrete Structure & Logic Lab	0	0	2				25		25	50	1
9	KCS354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>950</b>	<b>22</b>

\*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.



2021-22

## SEMESTER- IV

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS402/ KOE041- 48	Maths IV/Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS401	Universal Human Values/Technical Communication	3	0	0	30	20	50		100		150	3
			2	1	0								
3	KCS401	Operating Systems	3	0	0	30	20	50		100		150	3
4	KCS402	Theory of Automata and Formal Languages	3	1	0	30	20	50		100		150	4
5	KIT401	Web Designing	3	1	0	30	20	50		100		150	4
6	KCS451	Operating Systems Lab	0	0	2				25		25	50	1
7	KIT451	Web Designing Lab	0	0	2				25		25	50	1
8	KCS453	Python Language Programming Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming/ Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>900</b>	<b>21</b>



2021-22

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

**B. TECH. THIRD YEAR**

**Computer Engineering And Information Technology**

**Computer Science and Information Technology**

**Information Technology**

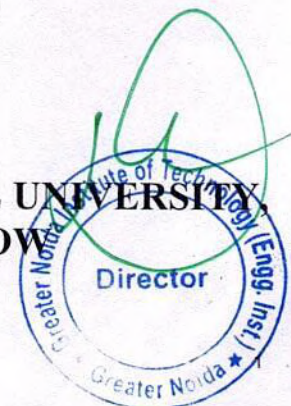
**(IT and CSI)**

**On**

**Choice Based Credit System**

**(Effective from the Session: 2020-21)**

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW**



2021-22

**B.TECH (INFORMATION TECHNOLOGY AND CSI) CURRICULUM STRUCTURE**

SEMESTER- V													
Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS501	Database Management System	3	1	0	30	20	50		100		150	4
2	KIT501	Web Technology	3	1	0	30	20	50		100		150	4
3	KCS503	Design and Analysis of Algorithm	3	1	0	30	20	50		100		150	4
4	Deptt- Elective-I	Departmental Elective-I	3	0	0	30	20	50		100		150	3
5	Deptt- Elective-II	Departmental Elective-II	3	0	0	30	20	50		100		150	3
6	KCS551	Database Management System Lab	0	0	2				25		25	50	1
7	KIT551	Web Technology Lab	0	0	2				25		25	50	1
8	KCS553	Design and Analysis of Algorithm Lab	0	0	2				25		25	50	1
9	KCS554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>17</b>	<b>3</b>	<b>8</b>							<b>950</b>	<b>22</b>

\*The Mini Project or internship (4 weeks) conducted during summer break after IV semester and will be assessed during V semester.



2021-22

SEMESTER- VI													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS601	Software Engineering	3	1	0	30	20	50		100		150	4
2	KIT601	Data Analytics	3	1	0	30	20	50		100		150	4
3	KCS603	Computer Networks	3	1	0	30	20	50		100		150	4
4	Deptt- Elective-III	Departmental Elective-III	3	0	0	30	20	50		100		150	3
5		Open Elective-I	3	0	0	30	20	50		100		150	3
6	KCS651	Software Engineering Lab	0	0	2					25	25	50	1
7	KIT651	Data Analytics Lab	0	0	2					25	25	50	1
8	KCS653	Computer Networks Lab	0	0	2					25	25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>0</b>	<b>3</b>	<b>6</b>							<b>900</b>	<b>21</b>

**Departmental Elective-I**

1. KIT-051 Statistical Computing
2. KIT-052 Compiler Design
3. KCS-053 Computer Graphics
4. KCS-054 Object Oriented System Design

**Departmental Elective-II**

5. KCS-055 Machine Learning Techniques
6. KCS-056 Application of Soft Computing
7. KCS-057 Augmented & Virtual Reality
8. KCS-058 Human Computer Interface

**Departmental Elective-III**

1. KCS-061 Big Data
2. KCS-062 Image Processing
3. KIT -061 Blockchain Architecture Design
4. KCS-064 Data Compression



2021-22

# INFORMATION TECHNOLOGY /CSIT

DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW



## EVALUATION SCHEME & SYLLABUS

FOR

B. TECH. FOURTH (IV) YEAR  
(INFORMATION TECHNOLOGY /CSIT)

AS PER

AICTE MODEL CURRICULUM

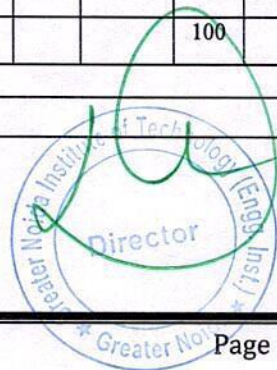
[Effective from the Session: 2021-22]



2021-22

**INFORMATION TECHNOLOGY /CSIT****B.TECH IV YEAR****(INFORMATION TECHNOLOGY /CSIT) CURRICULUM STRUCTURE**

SEMESTER- VII													
Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KHU701/KHU702	HSMC -1 / HSMC-2	3	0	0	30	20	50		100		150	3
2	KCS07X	Departmental Elective-IV	3	0	0	30	20	50		100		150	3
3	KCS07X	Departmental Elective-V	3	0	0	30	20	50		100		150	3
4	KOE07X	Open Elective-II	3	0	0	30	20	50		100		150	3
	KIT751A	The Department may conduct one Lab of either of the two Electives (4 or 5) based on the elective chosen for the curriculum. The Department shall on its own prepare complete list of practical for the Lab and arrange for proper setup and conduct accordingly.	0	0	2					25	25	50	1
6	KIT752	Mini Project or Internship Assessment*	0	0	2					50		50	1
7	KIT753	Project 1	0	0	8					150		150	4
8		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>12</b>	<b>0</b>	<b>12</b>							<b>850</b>	<b>18</b>
*The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.													
SEMESTER- VIII													
Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KHU801/KHU802	HSMC-2#/HSMC-1#	3	0	0	30	20	50		100		150	3
2	KOE08X	Open Elective-III	3	0	0	30	20	50		100		150	3
3	KOE08X	Open Elective-IV	3	0	0	30	20	50		100		150	3
4	KIT851	Project	0	0	18					100	300	400	9
5		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>9</b>	<b>0</b>	<b>18</b>							<b>850</b>	<b>18</b>





2021-22

## INFORMATION TECHNOLOGY /CSIT

### Departmental Elective-IV

1. KCS071 Artificial Intelligence
2. KCS072 Natural language processing
3. KCS073 High Performance Computing
4. KCS074 Cryptography and Network Security
5. KCS075 Design & Development of Applications
6. KCS076 Software Testing
7. KCS077 Distributed Systems

### Departmental Elective-V

1. KCS078 Deep Learning
2. KCS079 Service Oriented Architecture
3. KCS710 Quantum Computing
4. KCS711 Mobile Computing
5. KCS712 Internet of Things
6. KCS713 Cloud Computing
7. KIT071 Software Project Management



2021-22

**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

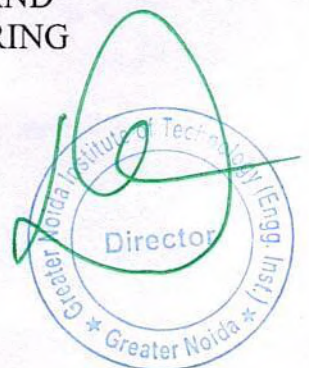
**B. TECH. SECOND YEAR**

**ELECTRONICS ENGINEERING/ ELECTRONICS AND  
COMMUNICATION ENGINEERING/ ELECTRONICS AND  
TELECOMMUNICATION ENGINEERING/ ELECTRONICS AND  
INSTRUMENTATION ENGINEERING/ INSTRUMENTATION AND  
CONTROL ENGINEERING/ APPLIED ELECTRONICS AND  
INSTRUMENTATION/ INSTRUMENTATION ENGINEERING**

**AS PER**

**AICTE MODEL CURRICULUM**

**[Effective from the Session: 2019-20]**



2021-22

## B.Tech. (Electronics &amp; Communication Engg.)

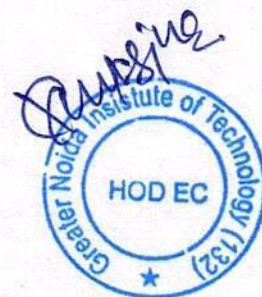
## Semester III

Sr. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
	KOE031-38/ KAS302	Engg. Science Course /Maths IV	3	1	0	30	20	50		100		150	4
1.	KAS301/ KVE301	Technical Communication /Universal Human values	2	1	0	30	20	50		100		150	3
			3	0	0								
2.	KEC301	Electronic Devices	3	1	0	30	20	50		100		150	4
3.	KEC302	Digital System Design	3	1	0	30	20	50		100		150	4
4.	KEC303	Network Analysis and Synthesis	3	0	0	30	20	50		100		150	3
6.	KEC351	Electronics Devices Lab	0	0	2				25		25	50	1
7.	KEC352	Digital System Design Lab	0	0	2				25		25	50	1
8.	KEC353	Network Analysis and Synthesis lab	0	0	2				25		25	50	1
9.	KEC354	Mini Project or Internship Assessment	0	0	2			50				50	1
10.	KNC301 /KNC302	Computer System Security /Python Programming	2	0	0	15	10	25		50			0
11.		MOOCs (Essential for Hons. Degree)											
		<b>TOTAL</b>										<b>950</b>	<b>22</b>

\*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

## Semester IV

Sr. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1.	KAS402/ KOE041-48	Maths-IV / Engg. Science Course	3	1	0	30	20	50		100		150	4
2.	KVE401/ KAS401	Universal Human Values/ Technical Communication	3	0	0	30	20	50		100		150	3
			2	1	0								
3.	KEC401	Communication Engineering	3	0	0	30	20	50		100		150	3
4.	KEC402	Analog Circuits	3	1	0	30	20	50		100		150	4
5.	KEC403	Signal System	3	1	0	30	20	50		100		150	4
6.	KEC451	Communication Engineering Lab	0	0	2				25		25	50	1
7.	KEC452	Analog Circuits Lab	0	0	2				25		25	50	1
8.	KEC453	Signal System Lab	0	0	2				25		25	50	1
9.	KNC402/ KNC401	Python Programming/ Computer System Security	2	0	0	15	10	25		50			0
10.		MOOCs (Essential for Hons. Degree)											
		<b>TOTAL</b>										<b>900</b>	<b>21</b>



2021-22

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

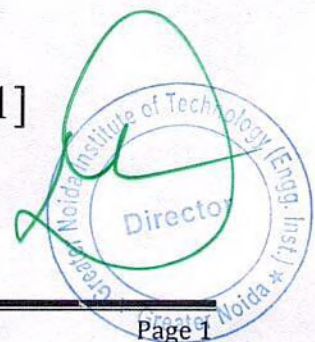
**B. TECH. THIRD YEAR**

**ELECTRONICS ENGINEERING  
ELECTRONICS AND COMMUNICATION ENGINEERING  
ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

**AS PER**

**AICTE MODEL CURRICULUM**

**[Effective from the Session: 2020-21]**



2021-22

## ELECTRONICS AND COMMUNICATION ENGINEERING

### B.Tech. V Semester

### Electronics and Communication Engineering

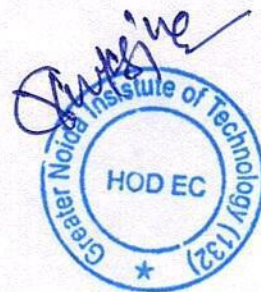
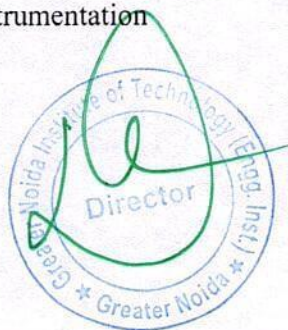
S. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KEC-501	Integrated Circuits	3	1	0	30	20	50		100		150	4
2	KEC-502	Microprocessor & Microcontroller	3	1	0	30	20	50		100		150	4
3	KEC-503	Digital Signal Processing	3	1	0	30	20	50		100		150	4
4	KEC-051-054	Department Elective-I	3	0	0	30	20	50		100		150	3
5	KEC-055-058	Department Elective-II	3	0	0	30	20	50		100		150	3
6	KEC-551	Integrated Circuits Lab	0	0	2				25		25	50	1
7	KEC-552	Microprocessor & Microcontroller Lab	0	0	2				25		25	50	1
8	KEC-553	Digital Signal Processing Lab	0	0	2				25		25	50	1
9	KEC-554	Mini Project/Internship **	0	0	2				50			50	1
10	KNC501/KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			NC
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>950</b>	<b>22</b>

\*\*The Mini Project or Internship (4weeks) conducted during summer break after IV Semester and will be assessed during Vth Semester.

#### Course Code

#### Course Title

KEC-051	Computer Architecture and Organization
KEC-052	Industrial Electronics
KEC-053	VLSI Technology
KEC-054	Advance Digital Design using Verilog
	<b>Department Elective-II</b>
KEC-055	Electronics Switching
KEC-056	Advance Semiconductor Device
KEC-057	Electronics Measurement & Instrumentation
KEC-058	Optical Communication



2021-22

## ELECTRONICS AND COMMUNICATION ENGINEERING

### B.Tech. VI Semester Electronics and Communication Engineering

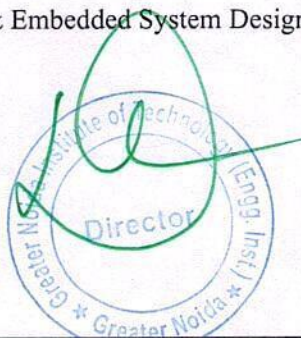
S. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KEC-601	Digital Communication	3	1	0	30	20	50		100		150	4
2	KEC-602	Control System	3	1	0	30	20	50		100		150	4
3	KEC-603	Antenna and Wave Propagation	3	1	0	30	20	50		100		150	4
4		Department Elective-III	3	0	0	30	20	50		100		150	3
5		Open Elective-I	3	0	0	30	20	50		100		150	3
6	KEC-651	Digital Communication Lab	0	0	2				25		25	50	1
7	KEC-652	Control System Lab	0	0	2				25		25	50	1
8	KEC-653	Elective Lab	0	0	2				25		25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			NC
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>900</b>	<b>21</b>

**Course Code****Course Title****Department Elective-III**

KEC-061	Microcontroller & Embedded System Design
KEC-062	Satellite Communication
KEC-063	Data Communication Networks
KEC-064	Analog Signal Processing
KEC-065	Random Variables & Stochastic Process

**Course Code****Elective Lab**

KEC-653A	Measurement & Instrumentation Lab
KEC-653B	Cad for Electronics Lab
KEC-653C	Microcontroller & Embedded System Design Lab



2021-22

**ELECTRONICS AND COMMUNICATION ENGINEERING**

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**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

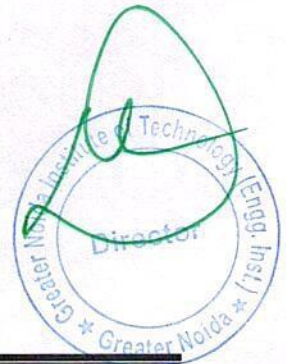
**B. TECH. FOURTH YEAR**

**ELECTRONICS ENGINEERING  
ELECTRONICS AND COMMUNICATION ENGINEERING  
ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

**AS PER**

**AICTE MODEL CURRICULUM**

**[Effective from the Session: 2021-22]**



# ELECTRONICS AND COMMUNICATION ENGINEERING

## B.Tech. VII Semester Electronics and Communication Engineering

S. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1.	KHU701/KHU702	HSMC-1#/HSMC-2#	3	0	0	30	20	50		100		150	3
2.	KEC-071-074	Department Elective –IV	3	0	0	30	20	50		100		150	3
3.	KEC-075-076	Department Elective –V	3	0	0	30	20	50		100		150	3
4.		Open Elective-II	3	0	0	30	20	50		100		150	3
5.	KEC-751X	Lab for Department Elective -	0	0	2					25	25	50	1
6.	KEC-752	Mini Project or Internship Assessment**	0	0	2					50		50	1
7.	KEC-753	Project I	0	0	8					150		150	4
		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>850</b>	<b>18</b>

**Course Code****Course Title****Department Elective-I**

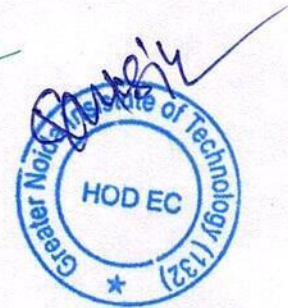
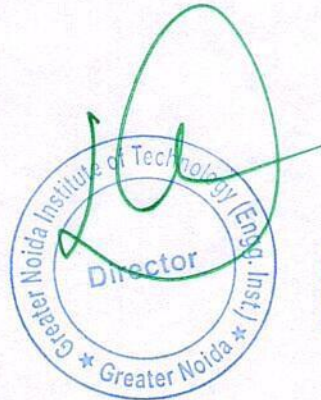
KEC-071	Digital Image Processing
KEC-072	VLSI Design
KEC-073	Optical Network
KEC-074	Microwave & Radar Engineering

**Department Elective-II**

KEC-075	Information Theory & Coding
KEC-076	Wireless & Mobile Communication
KEC-077	Micro & Smart Systems
KEC-078	Speech Processing

**Course Code****\*\*\*Elective Lab**

KEC753A	Digital Image Processing Lab
KEC753B	VLSI Design Lab
KEC753C	Optical System and Networking Lab
KEC753D	Microwave & Radar Engineering Lab



\*\*\*Students will opt one subject from the list of Department Elective-IV with its corresponding lab. i.e. if someone has opted Digital Image Processing (KEC071) from Department Elective-IV then it will be mandatory to opt the DIP Lab (KEC751A).

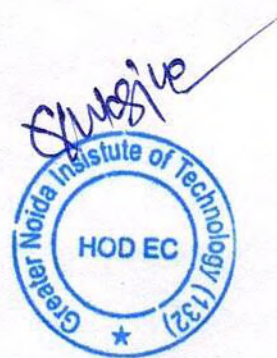


## ELECTRONICS AND COMMUNICATION ENGINEERING

### B.Tech. VIII Semester

#### Electronics and Communication Engineering

S. No.	Course Code	Course Title	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1.	KHU701/KHU702	HSMC -1 #/HSMC-2 #	3	0	0	30	20	50		100		150	3
2.		Open Elective –III	3	0	0	30	20	50		100		150	3
3.		Open Elective –IV	3	0	0	30	20	50		100		150	3
4.	KEC-851	Project II	0	0	18				100		300	400	9
		MOOCs (Essential for Hons.)											
		<b>Total</b>										<b>850</b>	<b>18</b>



Session : 2021-22

**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS  
FOR**

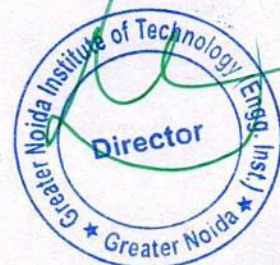
**B. TECH. 2<sup>nd</sup> YEAR**

**ELECTRICAL ENGINEERING**

**BASED ON**

**AICTE MODEL CURRICULUM**

**[Effective from the Session: 2019-20]**

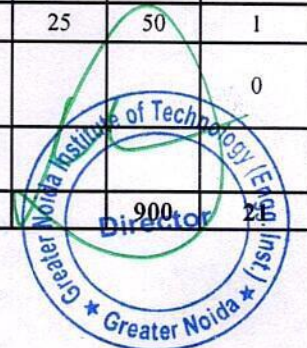


**EVALUATION SCHEME - B.TECH 2<sup>nd</sup> YEAR (ELECTRICAL ENGINEERING)**

SEMESTER- III													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	P S	TE	PE		
1	KOE031-38/ KAS302	Engg. Science Course/Maths IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE301	Technical Communication/Universal Human values	2	1	0	30	20	50		100		150	3
			3	0	0								
3	KEE301	Electromagnetic Field Theory	3	1	0	30	20	50		100		150	4
4	KEE302	Electrical Measurements & Instrumentation	3	1	0	30	20	50		100		150	4
5	KEE303	Basic Signals & Systems	3	0	0	30	20	50		100		150	3
6	KEE351	Analog Electronics Lab	0	0	2				25		25	50	1
7	KEE352	Electrical Measurements and instrumentation Lab	0	0	2				25		25	50	1
8	KEE353	Electrical Workshop	0	0	2				25		25	50	1
9	KEE354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>950</b>	<b>22</b>

\*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

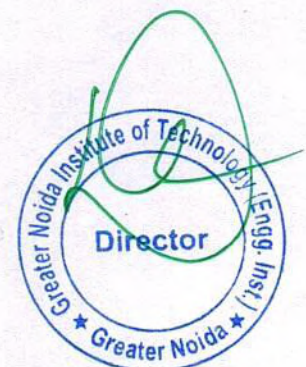
SEMESTER IV													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	P S	TE	PE		
1	KAS402/ KOE041-48	Maths IV/Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS401	Universal Human Values/Technical Communication	3	0	0	30	20	50		100		150	3
			2	1	0								
3	KEE401	Digital Electronics	3	0	0	30	20	50		100		150	3
4	KEE402	Electrical Machines-I	3	1	0	30	20	50		100		150	4
5	KEE403	Networks Analysis & Synthesis	3	1	0	30	20	50		100		150	4
6	KEE451	Circuit Simulation Lab	0	0	2				25		25	50	1
7	KEE452	Electrical Machines - I Lab	0	0	2				25		25	50	1
8	KEE453	Digital Electronics Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming/Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>900</b>	<b>28</b>



**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY UTTAR PRADESH, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS  
FOR  
B. TECH. 3<sup>rd</sup> YEAR (EE)  
ELECTRICAL ENGINEERING**



**BASED ON  
AICTE MODEL CURRICULUM  
*[Effective from the Session: 2020-21]***

# ELECTRICAL ENGINEERING

## EVALUATION SCHEME - B.TECH 3<sup>rd</sup> YEAR (ELECTRICAL ENGINEERING)

<b>SEMESTER V</b>													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KEE501	Power System - I	3	1	0	30	20	50		100		150	4
2	KEE502	Control System	3	1	0	30	20	50		100		150	4
3	KEE503	Electrical Machines-II	3	1	0	30	20	50		100		150	4
4	KEE051- KEE054	Departmental Elective-I	3	0	0	30	20	50		100		150	3
5	KEE055- KEE058	Departmental Elective-II	3	0	0	30	20	50		100		150	3
6	KEE551	Power System-I Lab	0	0	2				25		25	50	1
7	KEE552	Control System Lab	0	0	2				25		25	50	1
8	KEE553	Electrical Machines - II Lab	0	0	2				25		25	50	1
9	KEE554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
11		MOOCs (Essential for Hons. Degree)											
<b>Total</b>			<b>17</b>	<b>3</b>	<b>8</b>							<b>950</b>	<b>22</b>

\*The Mini Project or internship (4 weeks) conducted during summer break after IV semester and will be assessed during V semester.

### DEPARTMENT ELECTIVE - I

KEE051 Robotics  
 KEE052 Sensors and Transducers  
 KEE053 Industrial Automation and Control  
 KEE054 Electrical Standards and Engineering Practices

### DEPARTMENT ELECTIVE - II

KEE055 Optimization Techniques  
 KEE056 Neural Networks & Fuzzy System  
 KEE057 Digital Signal Processing  
 KEE058 Analog & Digital Communication



# ELECTRICAL ENGINEERING

<b>SEMESTER VI</b>													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KEE601	Power System-II	3	1	0	30	20	50		100		150	4
2	KEE602	Microprocessor and Microcontroller	3	1	0	30	20	50		100		150	4
3	KEE603	Power Electronics	3	1	0	30	20	50		100		150	4
4	KEE06*	Departmental Elective-III	3	0	0	30	20	50		100		150	3
5	KOE06*	Open Elective-I	3	0	0	30	20	50		100		150	3
6	KEE651	Power System-II Lab	0	0	2					25	25	50	1
7	KEE652	Microprocessor and Microcontroller Lab	0	0	2					25	25	50	1
8	KEE653	Power Electronics Lab	0	0	2					25	25	50	1
10	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
11		MOOCs (Essential for Hons. Degree)											
<b>Total</b>			<b>17</b>	<b>3</b>	<b>6</b>							<b>900</b>	<b>21</b>

### DEPARTMENT ELECTIVE - III

- KEE 061 Special Electrical Machines
- KEE 062 Electrical Machine Design
- KEE 063 Digital Control System
- KEE 064 Electrical and Hybrid Vehicles



Session: 2021-22

# ELECTRICAL ENGINEERING

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**DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW**



## **EVALUATION SCHEME & SYLLABUS FOR**

**B. TECH. Fourth (IV) YEAR  
ELECTRICAL ENGINEERING**

**ON**

**AICTE MODEL CURRICULUM)**

**[Effective from the Session: 2021-22]**



# ELECTRICAL ENGINEERING

## ELECTRICAL ENGINEERING

### EVALUATION SCHEME - B.TECH 4th YEAR

SEMESTER- VII													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	T A	Total	PS	TE	PE		
1	KHU701 /KHU702	HSMC -1 #/ HSMC-2 #	3	0	0	30	20	50		100		150	3
2	KEE07X	<b>Departmental Elective-IV</b>	3	0	0	30	20	50		100		150	3
3	KEE07X	<b>Departmental Elective-V</b>	3	0	0	30	20	50		100		150	3
4	KOE07X	Open Elective-II	3	0	0	30	20	50		100		150	3
5	KEE751	Industrial Automation & PLC Lab	0	0	2					25	25	50	1
6	KEE752	Mini Project or Internship Assessment*	0	0	2					50		50	1
7	KEE753	Project I	0	0	8					150		150	4
8		MOOCs (Essential for Hons. Degree)											
		<b>TOTAL</b>	<b>12</b>	<b>0</b>	<b>12</b>							<b>850</b>	<b>18</b>

\*The Mini Project or internship (4 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.

#### Department Elective - IV

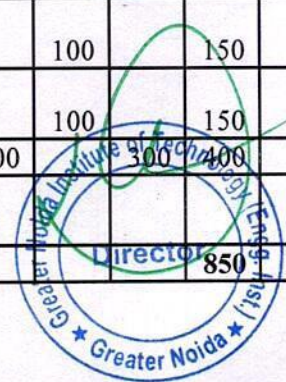
KEE070: Advanced Micro processors & Micro Controllers  
 KEE071: Energy Conservation and Auditing  
 KEE072: HVDC & AC Transmission  
 KEE073: High Voltage Engineering  
 KEE074: Power Quality and FACTS

#### Department Elective - V

KEE075: Electric drives  
 KEE076: Power System dynamics and Control  
 KEE077: Power System Protection  
 KEE078: Deregulated Power System  
 KEE079: Utilization of Electrical Energy & Electric Traction

### SEMESTER- VIII

SEMESTER- VIII													
Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	C T	T A	Total	PS	TE	PE		
1	KHU801/ KHU802	HSMC-2#/HSMC-1#	3	0	0	3 0	2 0	50		100		150	3
2	KOE08X	Open Elective-III	3	0	0	3 0	2 0	50		100		150	3
3	KOE08X	Open Elective-IV	3	0	0	3 0	2 0	50		100		150	3
4	KEE851	Project II	0	0	18					100		100	9
5		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>9</b>	<b>0</b>	<b>18</b>							<b>850</b>	<b>18</b>





Session : 2021-22

DR. A.P.J. ABDUL KALAM TECHNICAL  
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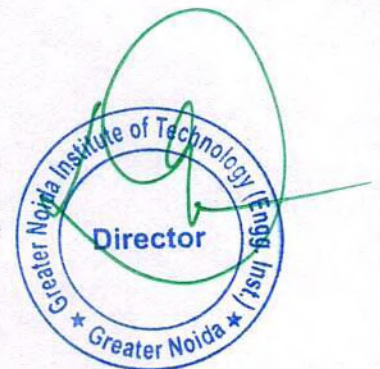
EVALUATION SCHEME & SYLLABUS

FOR

OPEN ELECTIVES I  
(VI SEMESTER)

AS PER

AICTE MODEL CURRICULUM  
[Effective from the Session: 2020-21]



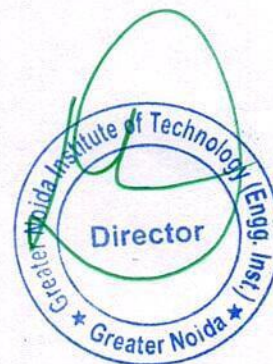
## B.Tech. VI Semester

### OPEN ELECTIVE-I

<b>KOE060</b>	<b>IDEA TO BUSINESS MODEL</b>
KOE061	REAL TIME SYSTEMS
KOE062	EMBEDDED SYSTEM
KOE063	INTRODUCTION TO MEMS
KOE064	OBJECT ORIENTED PROGRAMMING
KOE065	COMPUTER BASED NUMERICAL TECHNIQUES
KOE066	GIS & REMOTE SENSING
KOE067	BASICS OF DATA BASE MANAGEMENT SYSTEM
KOE068	SOFTWARE PROJECT MANAGEMENT
KOE069	*UNDERSTANDING HUMAN BEING, NATURE AND EXISTENCE COMPREHENSIVELY

#### NOTE:

1. The Student shall choose an open Elective Subject from the list of open elective courses in such a manner that he/she has not studied the same course in any form during the degree programme.
2. The students shall choose an Open Elective course from the prescribed list of open elective courses available at University website for 3rd year (2020-21) in such a manner that he/she has not studied the same subject or allied subject in any semester during the entire degree program.
3. Subject to aforesaid condition, the open Elective courses may be offered from the department to all students irrespective of branch. There is no restriction related to branch. The students of any branch (irrespective of department) can select the open elective subjects from the prescribed list of open elective courses.
4. \* It is mandatory that for subjects (KOE069) only trained Faculty (who had done the FDP for these courses) will teach the courses.



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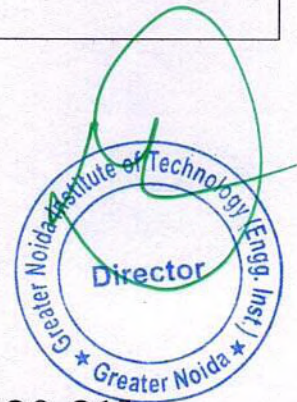


EVALUATION SCHEME & SYLLABUS

FOR

**COMMON NON CREDIT COURSE (NC)**  
**(V & VI Semester)**

<b>1</b>	<b>KNC501/ KNC601</b>	<b>CONSTITUTION OF INDIA, LAW AND ENGINEERING</b>
<b>2</b>	<b>KNC502/ KNC602</b>	<b>INDIAN TRADITION, CULTURE AND SOCIETY</b>



[Effective from the Session: 2020-21]

Session : 2021-22

## OPEN ELECTIVES II LIST 2021-22

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DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW



### EVALUATION SCHEME & SYLLABUS

FOR

OPEN ELECTIVES II LIST

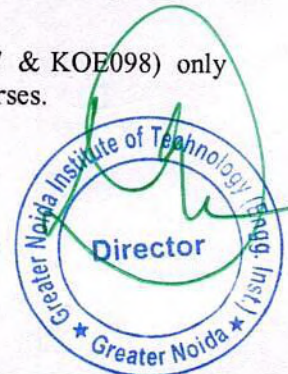
AS PER

AICTE MODEL CURRICULUM

[Effective from the Session:2021-22]

Note:

1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \* It is mandatory that for these subjects (KOE069, KOE076, KOE087, KOE097 & KOE098) only Trained Faculty (who had done the FDP for these courses) will teach the courses.



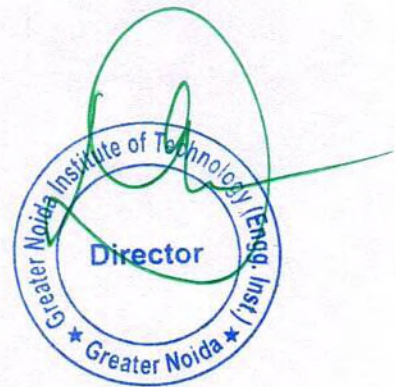
# OPEN ELECTIVES II LIST 2021-22

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B.Tech. VII Semester (2021-22)

## OPEN ELECTIVE-II

KOE071	FILTER DESIGN
KOE072	BIOECONOMICS
KOE073	MACHINE LEARNING
KOE074	RENEWABLE ENERGY RESOURCES
KOE075	OPERATIONS RESEARCH
KOE076	VISION FOR HUMANE SOCIETY
KOE077	DESIGN THINKING
KOE078	SOIL AND WATER CONSERVATION ENGINEERING
KOE079	INTRODUCTION TO WOMEN'S AND GENDER STUDIES



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EVALUATION SCHEME & SYLLABUS

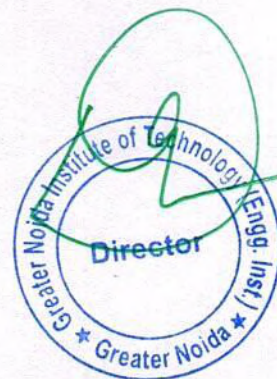
FOR

III & IV  
OPEN ELECTIVES LIST

AS PER

AICTE MODEL CURRICULUM

**[Effective from the Session: 2021-22]**



Note:

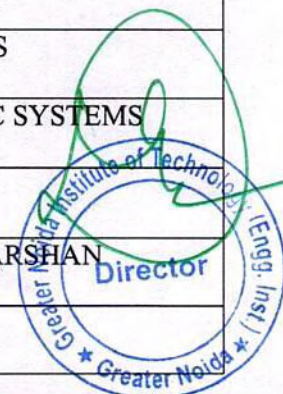
1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \*\* It is mandatory that for these subjects (KOE089, KOE098 & KOE099) only Trained Faculty (who had done the FDP for these courses) will teach the courses.

**B. TECH.**  
**VIII Semester (2021-22)**  
**OPEN ELECTIVE –III**

KOE-080	FUNDAMENTALS OF DRONE TECHNOLOGY
KOE-081	CLOUD COMPUTING
KOE-082	BIO MEDICAL SIGNAL PROCESSING
KOE-083	ENTREPRENEURSHIP DEVELOPMENT
KOE-084	INTRODUCTION TO SMART GRID
KOE-085	QUALITY MANAGEMENT
KOE-086	INDUSTRIAL OPTIMIZATION TECHNIQUES
KOE-087	VIROLOGY
KOE-088	NATURAL LANGUAGE PROCESSING
KOE-089	**HUMAN VALUES IN MADHYASTH DARSHAN

**OPEN ELECTIVE –IV**

KOE-090	ELECTRIC VEHICLES
KOE-091	AUTOMATION AND ROBOTICS
KOE-092	COMPUTERIZED PROCESS CONTROL
KOE-093	DATA WAREHOUSING & DATA MINING
KOE-094	DIGITAL AND SOCIAL MEDIA MARKETING
KOE-095	MODELING OF FIELD-EFFECT NANO DEVICES
KOE-096	MODELLING AND SIMULATION OF DYNAMIC SYSTEMS
KOE-097	BIG DATA
KOE-098	**HUMAN VALUES IN BUDDHA AND JAIN DARSHAN
KOE-099	**HUMAN VALUES IN VEDIC DARSANA



**HSMC & OPEN ELECTIVES II LIST 2021-22**

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**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS**

**FOR**

**HUMANITIES, SOCIAL SCIENCE AND  
MANAGEMENT COURSE  
(HSMC COURSE)**

**&**

**OPEN ELECTIVES II LIST**

**AS PER**

**AICTE MODEL CURRICULUM**

**[Effective from the Session:2021-22]**



Note:

1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \* It is mandatory that for these subjects (KOE069, KOE076, KOE087, KOE097 & KOE098) only Trained Faculty (who had done the FDP for these courses) will teach the courses.



## HSMC & OPEN ELECTIVES II LIST 2021-22

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B.Tech. VII Semester (2021-22)

### HUMANITIES, SOCIAL SCIENCE AND MANAGEMENT COURSE (HSMC COURSE) HSMC1/HSMC2

KHU701/ KHU801	RURAL DEVELOPMENT: ADMINISTRATION AND PLANNING
KHU702/ KHU802	PROJECT MANAGEMENT & ENTREPRENEURSHIP

### OPEN ELECTIVE-II

KOE071	FILTER DESIGN
KOE072	BIOECONOMICS
KOE073	MACHINE LEARNING
KOE074	RENEWABLE ENERGY RESOURCES
KOE075	OPERATIONS RESEARCH
KOE076	VISION FOR HUMANE SOCIETY
KOE077	DESIGN THINKING
KOE078	SOIL AND WATER CONSERVATION ENGINEERING
KOE079	INTRODUCTION TO WOMEN'S AND GENDER STUDIES



**Evaluation Scheme 2021-22**
**2<sup>nd</sup> Year (ODD)**
**SEMESTER- III**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE031-38/ KAS302	Engg. Science Course/Maths IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE301	Technical Communication/Universal Human Values	2	1	0	30	20	50		100		150	3
			3	0	0								
3	KME301	Thermodynamics	3	1	0	30	20	50		100		150	4
4	KME302	Fluid Mechanics & Fluid Machines	3	1	0	30	20	50		100		150	4
5	KME303	Materials Engineering	3	0	0	30	20	50		100		150	3
6	KME351	Fluid Mechanics Lab	0	0	2				25		25	50	1
7	KME352	Material Testing Lab	0	0	2				25		25	50	1
8	KME353	Computer Aided Machine Drawing-I Lab	0	0	2				25		25	50	1
9	KME354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>950</b>	<b>22</b>

\*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

**2<sup>nd</sup> Year (EVEN)**
**SEMESTER- IV**

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS402/ KOE041-48	Maths IV/Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS401	Universal Human Values/Technical Communication	3	0	0	30	20	50		100		150	3
			2	1	0								
3	KME401	Applied Thermodynamics	3	0	0	30	20	50		100		150	3
4	KME402	Engineering Mechanics	3	1	0	30	20	50		100		150	4
5	KME403	Manufacturing Processes	3	1	0	30	20	50		100		150	4
6	KME451	Applied Thermodynamics Lab	0	0	2				25		25	50	1
7	KME452	Manufacturing Processes Lab	0	0	2				25		25	50	1
8	KME453	Computer Aided Machine Drawing-II Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming / Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>										<b>900</b>	<b>21</b>

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**3<sup>rd</sup> Year (ODD)**

Sl. No.	Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Credits	
			L	T	P	CT	TA	Total	PS	TE	PE			
1	KME 501	Heat and Mass Transfer	3	1	0	30	20	50		100		150	4	
2	KME 502	Strength of Material	3	1	0	30	20	50		100		150	4	
3	KME 503	Industrial Engineering	3	1	0	30	20	50		100		150	4	
4		Departmental Elective-I	3	0	0	30	20	50		100		150	3	
5		Departmental Elective-II	3	0	0	30	20	50		100		150	3	
6	KME 551	Heat Transfer LAB	0	0	2				25		25	50	1	
7	KME 552	Python Lab	0	0	2				25		25	50	1	
8	KME 553	Internet of Things Lab	0	0	2				25		25	50	1	
9	KME 554	Mini Project or Internship Assessment*	0	0	2				50			50	1	
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			NC	
11	MOOCs (Essential for Hons. Degree)													
	Total		17	3	6							950	22	

**3<sup>rd</sup> Year (EVEN)**

Sl. No.	Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Credits
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KME 601	Refrigeration and Air Conditioning	3	1	0	30	20	50		100		150	4
2	KME 602	Machine Design	3	1	0	30	20	50		100		150	4
3	KME 603	Theory of Machine	3	1	0	30	20	50		100		150	4
4		Departmental Elective-III	3	0	0	30	20	50		100		150	3
5		Open Elective-I	3	0	0	30	20	50		100		150	3
6	KME 651	Refrigeration and Air Conditioning Lab	0	0	2				25		25	50	1
7	KME 652	Machine Design Lab	0	0	2				25		25	50	1
8	KME 653	Theory of Machine Lab	0	0	2				25		25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			NC
10	Total		17	3	6							900	21

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**DR. A. P. J. ABDUL KALAM TECHNICAL UNIVERSITY  
LUCKNOW, UTTAR PRADESH**



**STUDY & EVALUATION SCHEME WITH SYLLABUS**

**FOR**

**B. TECH. 4<sup>th</sup> YEAR**

**MECHANICAL ENGINEERING**

**[Effective from Session: 2021-22]**



**4<sup>th</sup> Year (ODD)**

Sl. No.	Code	Subject	Periods			Evaluation Scheme			End Semester			Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE074	HSMC-1/HSMC-2 (RER)	3	0	0	30	20	50		100		150	3
2		Departmental Elective-IV	3	0	0	30	20	50		100		150	3
3		Departmental Elective-V	3	0	0	30	20	50		100		150	3
4	KHU 702	Open Elective-II (PM&E)	3	0	0	30	20	50		100		150	3
5	KME 751	Measurement & Metrology Lab	0	0	2				25		25	50	1
6	KME 752	Mini Project or Internship Assessment*	0	0	2				50			50	1
7	KME 753	Project	0	0	8				150			150	4
8		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>9</b>	<b>0</b>	<b>12</b>	<b>21</b>						<b>850</b>	<b>18</b>

\*The Mini Project or internship (5 - 6 weeks) conducted during summer break after VI semester and will be assessed during VII semester.

**4<sup>th</sup> Year (EVEN)**

Sl. No.	Code	Subject	Periods			Evaluation Scheme			End Semester			Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KHU 801	HSMC-2/HSMC-1 (RDA&P)	3	0	0	30	20	50		100		150	3
2	KOE 085	Open Elective-III (QM)	3	0	0	30	20	50		100		150	3
3	KOE 091	Open Elective-IV (Auto.&R)	3	0	0	30	20	50		100		150	3
4	KME 851	Project	0	0	18				100		300	400	9
5		MOOCs (Essential for Hons. Degree)											
		<b>Total</b>	<b>9</b>	<b>0</b>	<b>18</b>	<b>27</b>						<b>850</b>	<b>18</b>

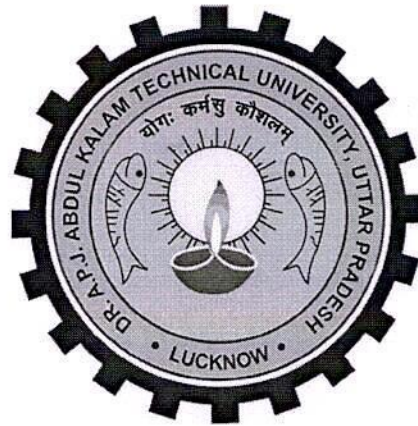
**Department Electives**

	Specialization-1	Specialization-2	Specialization-3	Specialization-4	Specialization-5
Specialization	Manufacturing and Automation	Automation and Industry 4.0	Design and Analysis	Thermal Engineering	Automobile Engineering
Sem VII Code	KME 071			KME 072	KAU 072
Departmental Elective-IV	Additive manufacturing (Common to all Three Specializations)			HVAC systems	Hybrid Vehicle Propulsion
Sem VII Code	KME 073	KME 074	KME 075	KME 076	KAU 073
Departmental Elective-V	Mathematical Modeling of Manufacturing Processes	Machine Learning	Computer Graphics and product modeling	Power Plant Engineering	Vehicle Body Engineering & safety

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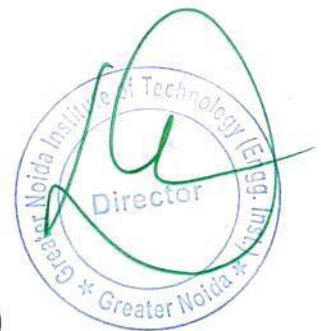
**EVALUATION SCHEME & SYLLABUS**

**FOR**

**B. TECH. SECOND YEAR**

**(CIVIL ENGINEERING)**

**(Effective from session 2019-20)**



## THIRD SEMESTER

## CIVIL ENGINEERING

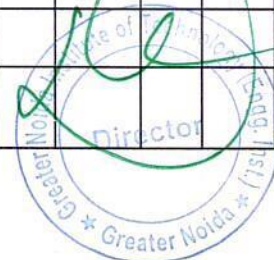
## SESSION 2019-20

S.No	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit	
	Codes		L	T	P	CT	TA	Total	PS	TE	PE			
1	KOE031-38/KAS303	Engineering Science Course/Maths III	3	1	0	30	20	50		100		150	4	
2	KAS301/KVE301	Technical Communication/ Universal Human Values	2	1	0	30	20	50		100		150	3	
			3	0	0									
3	KCE301	Engg. Mechanics	3	1	0	30	20	50		100		150	4	
4	KCE302	Surveying and Geomatics	3	1	0	30	20	50		100		150	4	
5	KCE303	Fluid Mechanics	3	0	0	30	20	50		100		150	3	
6	KCE351	Building Planning & Drawing Lab	0	0	2					25		25	50	1
7	KCE352	Surveying and Geomatics Lab	0	0	2					25		25	50	1
8	KCE353	Fluid Mechanics Lab	0	0	2					25		25	50	1
9	KCE354	Mini Project or Internship Assessment*	0	0	2			50				50	1	
10	KNC301/KNC302	Computer System Security/ Python Programming	2	0	2	15	10	25		50			0	
11		MOOCs (Essential for Hons. Degree)												
		Total										950	22	

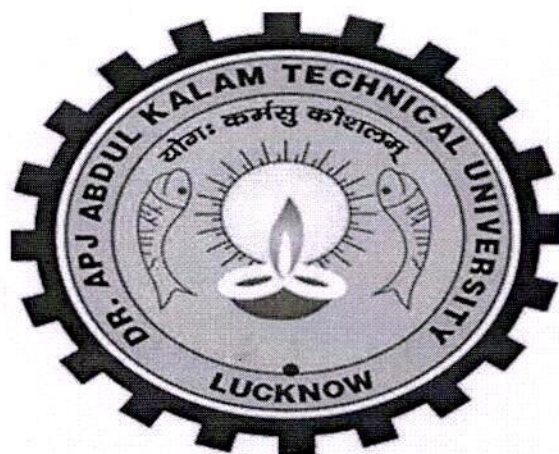
\*The Mini Project or Internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

## SEMESTER - IV

S.No	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit	
	Codes		L	T	P	CT	TA	Total	PS	TE	PE			
1	KAS403/KOE041-48	Maths III/ Engg. Science Course	3	1	0	30	20	50		100		150	4	
2	KVE401/KAS401	Universal Human Values/Technical Communication	3	0	0	30	20	50		100		150	3	
			2	1	0									
3	KCE401	Materials, Testing & Construction Practices	3	0	0	30	20	50		100		150	3	
4	KCE402	Introduction to Solid Mechanics	3	1	0	30	20	50		100		150	4	
5	KCE403	Hydraulic Engineering and Machines	3	1	0	30	20	50		100		150	4	
6	KCE451	Material Testing Lab	0	0	2					25		25	50	1
7	KCE452	Solid Mechanics Lab	0	0	2					25		25	50	1
8	KCE453	Hydraulics & Hydraulic Machine Lab	0	0	2					25		25	50	1
9	KNC402/KNC401	Python Programming/Computer System Security	2	0	0	15	10	25		50			0	
10		MOOCs (Essential for Hons. Degree)												
		Total										900	21	

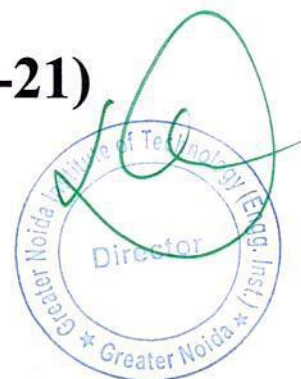


**DR. A.P.J ABDUL KALAM TECHNICAL  
UNIVERSITY, LUCKNOW**



**EVALUATION SCHEME & SYLLABUS  
FOR  
B. TECH. THIRD YEAR  
(CIVIL ENGINEERING)**

**(Effective from session 2020-21)**





No	Subject Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Cred
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCE 501	Geotechnical Engineering	3	1	0	30	20	50		100		150	4
2	KCE 502	Structural Analysis	3	1	0	30	20	50		100		150	4
3	KCE 503	Quantity Estimation and Construction Management	3	1	0	30	20	50		100		150	4
4		Departmental Elective-I	3	0	0	30	20	50		100		150	3
	KCE 051	Concrete Technology											
	KCE 052	Modern Construction Materials											
	KCE 053	Open Channel Flow											
	KCE 054	Engineering Geology											
5		Departmental Elective-II	3	0	0	30	20	50		100		150	3
	KCE-055	Engineering Hydrology											
	KCE-056	Sensor and Instrumentation Technologies for Civil Engineering Applications											
	KCE-057	Air and Noise Pollution Control											
	KCE-058	GIS and Advance Remote Sensing											
6	KCE-551	CAD Lab	0	0	2				25		25	50	1
7	KCE-552	Geotechnical Engineering Lab	0	0	2				25		25	50	1
8	KCE-553	Quantity Estimation and Management Lab	0	0	2				25		25	50	1
9	KCE-554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0								
11		MOOCs (Essential for Hons. Degree)											
		Total	17	3	8							950	22

\* The Mini Project or Internship (4 weeks) conducted during semester break after IV semester and will be assessed during V semester.

#### NOTE:

1. Regular classroom interaction with industry experts is to be ensured in all theory courses (minimum two expert talks from relevant Industry).
2. Working on experiments using virtual labs is to be ensured in lab courses.
3. Student's visit to Industry/Industry Expert's project site must be arranged as & when possible.



## SIXTH SEMESTER

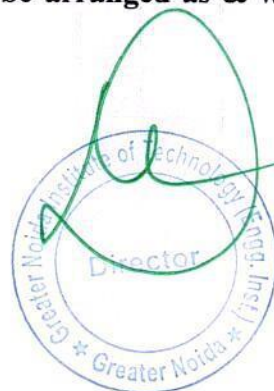
## CIVIL ENGINEERING

SESSION 2020-21

S.No	Subject Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Credi
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCE 601	Design of Concrete Structures	3	1	0	30	20	50		100		150	4
2	KCE 602	Transportation Engineering	3	1	0	30	20	50		100		150	4
3	KCE 603	Environmental Engineering	3	1	0	30	20	50		100		150	4
4		Departmental Elective-III	3	0	0	30	20	50		100		150	3
	KCE 061	Advance Structural Analysis											
	KCE 062	River Engineering											
	KCE 063	Repair and Rehabilitation of Structures											
	KCE 064	Foundation Design											
5		Open Elective-I	3	0	0	30	20	50		100		150	3
6	KCE 651	Transportation Engineering Lab	0	0	2				25		25	50	1
7	KCE 652	Environmental Engineering Lab	0	0	2				25		25	50	1
8	KCE 653	Structural Detailing Lab	0	0	2				25		25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			
10		MOOCs (Essential for Hons. Degree)											
		Total	17	3	6							900	21

## NOTE:

1. Regular classroom interaction with industry experts is to be ensured in all theory courses (minimum two expert talks from relevant Industry).
2. Working on experiments using virtual labs is to be ensured in lab courses.
3. Student's visit to Industry/Industry Expert's project site must be arranged as & when possible.



CIVIL ENGINEERING  
DR. A.P.J. ABDUL KALAM TECHNICAL  
UNIVERSITY, UTTAR PRADESH, LUCKNOW



EVALUATION SCHEME & SYLLABUS

FOR

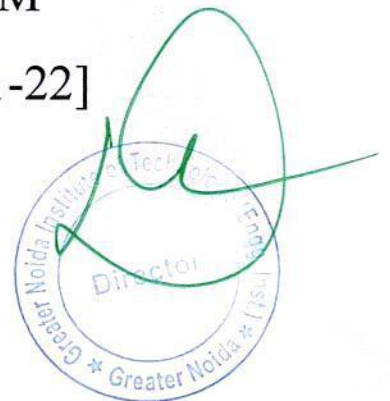
B. TECH. FOURTH YEAR

CIVIL ENGINEERING

AS PER

AICTE MODEL CURRICULUM

[Effective from the Session: 2021-22]



# CIVIL ENGINEERING

SEVENTH SEMESTER

CIVIL ENGINEERING

SESSION 2021-22

S.No	Subject Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit	
			L	T	P	CT	TA	Total	PS	TE	PE			
1	KHU701/ KHU702	HSMC-1*/HSMC-2*	3	0	0	30	20	50			100		150	3
2		Departmental Elective -IV	3	0	0	30	20	50			100		150	3
	KCE 070	Railway, Waterway and Airway Engineering												
	KCE 071	Sustainable Construction Methods												
	KCE 072	Probability Methods in Civil Engineering												
	KCE 073	Advance Concrete Design												
	KCE 074	Solid Waste Management												
3		Departmental Elective -V	3	0	0	30	20	50			100		150	3
	KCE 075	Design of Steel Structures												
	KCE 076	Urban Transportation Planning												
	KCE 077	Geosynthetics and Reinforced Soil Structures												
	KCE 078	Irrigation and Water Resource Engineering												
	KCE 079	Disaster Preparedness and Management												
4		Open Elective-II	3	0	0	30	20	50			100		150	3
5	KCE751	Concrete Lab	0	0	2					25		25	50	1
6	KCE752	Mini Project or Internship Assessment*	0	0	2					50			50	1
7	KCE753	Project	0	0	8					150			150	4
8		MOOCs (Essential for Hons. Degree)												
		Total	12	0	12								850	18

**NOTE:**

1. Regular classroom interaction with industry experts is to be ensured in all theory courses (minimum two expert talks from relevant Industry).
2. Working on experiments using virtual labs is to be ensured in lab courses.
3. Student's visit to Industry/Industry Expert's project site must be arranged as & when possible.
4. The Mini Project or Internship (4 - 6 weeks) conducted during semester break after VI semester will be assessed during VII semester.
5. Project work is to be identified during VI semester, Initiated in VII semester (KCE 753) and completed in VIII semester (KCE 851).

EIGHTH SEMESTER

CIVIL ENGINEERING

SESSION 2021-22



## CIVIL ENGINEERING

S.No	Subject Code	Subject	Periods			Evaluation Scheme				End Semester		Total	Cred	
			L	T	P	CT	TA	Total	PS	TE	PE			
1	KHU801/ KHU802	HSMC-1* / HSMC-2*	3	0	0	30	20	50			100		150	3
2		Open Elective-III	3	0	0	30	20	50			100		150	3
3		Open Elective -IV	3	0	0	30	20	50			100		150	3
4	KCE851	Project	0	0	18					100		300	400	9
5		MOOCs (Essential for Hons. Degree)												
		Total	9	0	18								850	18



2021-22

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DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY  
UTTAR PRADESH, LUCKNOW



EVALUATION SCHEME & SYLLABUS

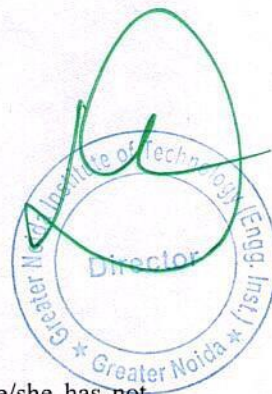
FOR

III & IV  
OPEN ELECTIVES LIST

AS PER

AICTE MODEL CURRICULUM

**[Effective from the Session: 2021-22]**



Note:

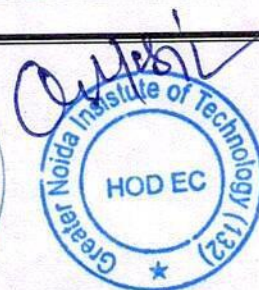
1. The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.
2. \*\* It is mandatory that for these subjects (KOE089, KOE098 & KOE099) only Trained Faculty (who had done the FDP for these courses) will teach the courses.

**B. TECH.**  
**VIII Semester (2021-22)**  
**OPEN ELECTIVE –III**

KOE-080	FUNDAMENTALS OF DRONE TECHNOLOGY
KOE-081	CLOUD COMPUTING
KOE-082	BIO MEDICAL SIGNAL PROCESSING
KOE-083	ENTREPRENEURSHIP DEVELOPMENT
KOE-084	INTRODUCTION TO SMART GRID
KOE-085	QUALITY MANAGEMENT
KOE-086	INDUSTRIAL OPTIMIZATION TECHNIQUES
KOE-087	VIROLOGY
KOE-088	NATURAL LANGUAGE PROCESSING
KOE-089	**HUMAN VALUES IN MADHYASTH DARSHAN

**OPEN ELECTIVE –IV**

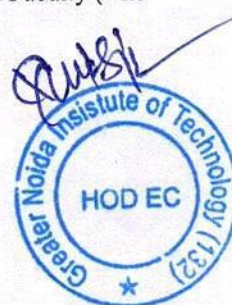
KOE-090	ELECTRIC VEHICLES
KOE-091	AUTOMATION AND ROBOTICS
KOE-092	COMPUTERIZED PROCESS CONTROL
KOE-093	DATA WAREHOUSING & DATA MINING
KOE-094	DIGITAL AND SOCIAL MEDIA MARKETING
KOE-095	MODELING OF FIELD-EFFECT NANO DEVICES
KOE-096	MODELLING AND SIMULATION OF DYNAMIC SYSTEMS
KOE-097	BIG DATA
KOE-098	**HUMAN VALUES IN BUDDHA AND JAIN DARSHAN
KOE-099	**HUMAN VALUES IN VEDIC DARSANA



**OPEN ELECTIVE –III**

<b>KOE-080</b>	<b>FUNDAMENTALS OF DRONE TECHNOLOGY</b>
<b>KOE-081</b>	<b>CLOUD COMPUTING</b>
<b>KOE-082</b>	<b>BIO MEDICAL SIGNAL PROCESSING</b>
<b>KOE-083</b>	<b>ENTREPRENEURSHIP DEVELOPMENT</b>
<b>KOE-084</b>	<b>INTRODUCTION TO SMART GRID</b>
<b>KOE-085</b>	<b>QUALITY MANAGEMENT</b>
<b>KOE-086</b>	<b>INDUSTRIAL OPTIMIZATION TECHNIQUES</b>
<b>KOE-087</b>	<b>VIROLOGY</b>
<b>KOE-088</b>	<b>NATURAL LANGUAGE PROCESSING</b>
<b>KOE-089</b>	<b>**HUMAN VALUES IN MADHYASTH DARSHAN</b>

\*\* It is mandatory that for these subjects (KOE089) only Trained Faculty (who had done the FDP for these courses) will teach the courses.





Session 2021-2022

**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY,  
UTTAR PRADESH, LUCKNOW**



## **Revised Evaluation Scheme & Syllabus**

### **MBA**

**(Dual Specialization in Marketing, HR, Finance, Operation, IB & IT)**

### **First Year**

**AS PER**

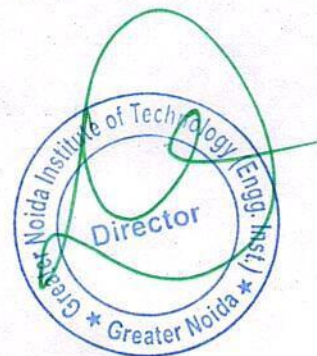
**AICTE MODEL CURRICULUM**

**(Effective from the Session: 2020-21)**



**MBA 1st Year Course Structure in accordance with  
AICTE Model Curriculum Effective w.e.f.  
Academic Session 2020-21  
Semester I**

SN	Codes	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER EVALUATION		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	KMBN101	MANAGEMENT CONCEPTS & ORGANISATIONAL BEHAVIOUR	4	0	0	30	20	0	50	100	0	150	3
2	KMBN102	MANAGERIAL ECONOMICS	4	0	0	30	20	0	50	100	0	150	3
3	KMBN103	FINANCIAL ACCOUNTING & ANALYSIS	3	1	0	30	20	0	50	100	0	150	3
4	KMBN104	BUSINESS STATISTICS & ANALYTICS	3	1	0	30	20	0	50	100	0	150	3
5	KMBN105	MARKETING MANAGEMENT	4	0	0	30	20	0	50	100	0	150	3
6	KMBN106	DESIGN THINKING	2	0	0	15	10	0	25	50		75	2
7	KMBN107	BUSINESS COMMUNICATION	3	1	0	30	20	0	50	100	0	150	3
<b>LAB / PRACTICALS</b>													
8	KMBN151	IT SKILLS LAB -1	0	0	3	0		50	50	-	100	150	3
9	KMBN152	MINI PROJECT -1	0	0	3	0	0	25	25	0	50	75	3
												1200	26



## Semester II

SN	CODE	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER EVALUATION		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	KMBN201	BUSINESS ENVIRONMENT & LEGAL ASPECT OF BUSINESS	4	0	0	30	20	0	50	100	0	150	3
2	KMBN202	HUMAN RESOURCE MANAGEMENT	4	0	0	30	20	0	50	100	0	150	3
3	KMBN203	BUSINESS RESEARCH METHODS	4	0	0	30	20	0	50	100	0	150	3
4	KMBN204	FINANCIAL MANAGEMENT & CORPORATE FINANCE	3	1	0	30	20	0	50	100	0	150	3
5	KMBN205	OPERATIONS MANAGEMENT	3	1	0	30	20	0	50	100	0	150	3
6	KMBN206	QUANTITATIVE TECHNIQUES FOR MANAGERS	3	1	0	30	20	0	50	100	0	150	3
7	KMBN207	DIGITAL MARKETING & E COMMERCE	4	0	0	30	20	0	50	100	0	150	3
8	KMBN208	MANAGEMENT INFORMATION SYSTEMS	2	0	0	15	10	0	25	25	0	50	2
			<b>LAB / PRACTICALS</b>										
9	KMBN251	IT SKILLS LAB-2	0	0	2	0	0	25	25	0	25	50	1
10	KMBN252	MINI PROJECT -2	0	0	3	0	0	25	25	0	25	50	2
											<b>1200</b>	<b>26</b>	

L/T/P – Lecture/Tutorial/Practical, CT/TA/PS- Class Test/Teachers Assessment/Practical Session, TE/PE- Term End/ Practical End



Evaluation Criteria and Marks	Understanding of Objectives with topic (20)	Understanding of the relevance of Research (20)	Interpretation & Analysis (20)	Presentation & Communication skills (20)	Query Handling (20)	Total (100)
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**MBA II Year Teaching and Evaluation Scheme**  
**W.E.F. Academic Session 2021-22**  
(In Accordance with AICTE Model Curriculum & New Education Policy)

**SEMESTER III**

SNo	Codes	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER EVALUATION		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	KMBN301	STRATEGIC MANAGEMENT	4	0	0	30	20	0	50	100	0	150	3
2	KMBN302	INNOVATION AND ENTREPRENEURSHIP	4	0	0	30	20	0	50	100	0	150	3
3	KVE 301	Universal Human Values and Professional Ethics	3	1	0	30	20	0	50	100	0	150	3
4		Elective- 1 Specialization Group-1	4	0	0	30	20	0	50	100	0	150	3
5		Elective -2 Specialization Group-1	4	0	0	30	20	0	50	100	0	150	3
6		Elective -1 Specialization Group-2	4	0	0	30	20	0	50	100	0	150	3
7		Elective -2 Specialization Group-2	4	0	0	30	20	0	50	100	0	150	3
8	KMBN308	Summer Training Project Report & Viva Voce	0	2	0	0	50	0	50	0	100	150	4
		<b>TOTAL</b>										<b>1200</b>	<b>25</b>

**SEMESTER IV**

SNo	Codes	SUBJECT	PERIODS			INTERNAL EVALUATION SCHEME				END SEMESTER EVALUATION		TOTAL	CREDIT
			L	T	P	CT	TA	PS	TOTAL	TE	PE		
1	KMBN401	Emerging Technologies in Global Business Environment	4	0	0	30	20	0	50	100	0	150	3
2		Elective- 3 Specialization Group-1	4	0	0	30	20	0	50	100	0	150	3
3		Elective -4 Specialization Group-1	4	0	0	30	20	0	50	100	0	150	3
4		Elective- 5 Specialization Group-1	4	0	0	30	20	0	50	100	0	150	3
5		Elective -3 Specialization Group-2	4	0	0	30	20	0	50	100	0	150	3
6		Elective -4 Specialization Group-2	4	0	0	30	20	0	50	100	0	150	3
7		Elective -5 Specialization Group-2	4	0	0	30	20	0	50	100	0	150	3

8	KMBN408	Research Project Report & Viva Voce	0	2	0	0	50	0	50	0	100	150	4
		TOTAL										1200	25

### Specialization Group: HUMAN RESOURCE (HR)

#### Elective Subjects in III Semester

S.No.	Code	Course Title
1	KMBN HR01	TALENT MANAGEMENT
2	KMBN HR02	EMPLOYEE RELATIONS AND LABOUR LAWS

#### Elective Subjects in IV Semester

S.No.	Code	Course Title
1	KMBN HR03	HR ANALYTICS
2	KMBN HR04	PERFORMANCE AND REWARD MANAGEMENT
3	KMBN HR05	INTERNATIONAL HRM

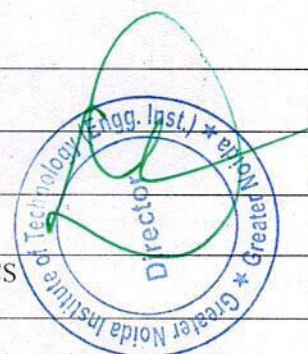
### Specialization Group: MARKETING (MK)

#### Elective Subjects in III Semester

S.No.	Code	Course Title
1	KMBN MK01	CONSUMER BEHAVIOUR AND MARKETING COMMUNICATION
2	KMBN MK02	MARKETING ANALYTICS

#### Elective Subjects in IV Semester

S.No.	Code	Course Title
1	KMBN MK03	B2B AND SERVICES MARKETING
2	KMBN MK04	SALES AND RETAIL MANAGEMENT
3	KMBN MK05	SOCIAL MEDIA AND WEB ANALYTICS



**Specialization Group: FINANCE (FM)**

## Elective Subjects in III Semester

S.No.	Code	Course Title
1	KMBN FM01	INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT
2	KMBN FM02	FINANCIAL PLANNING AND TAX MANAGEMENT

## Elective Subjects in IV Semester

S.No.	Code	Course Title
1	KMBN FM03	FINANCIAL DERIVATIVES
2	KMBN FM04	FOREIGN EXCHANGE AND RISK MANAGEMENT
3	KMBN FM05	FINANCIAL AND CREDIT RISK ANALYTICS

**Specialization Group: INTERNATIONAL BUSINESS (IB)**

## Elective Subjects in III Semester

S.No.	Code	Course Title
1	KMBN IB01	INTERNATIONAL BUSINESS MANAGEMENT
2	KMBN IB02	EXPORT IMPORT DOCUMENTATION

## Elective Subjects in IV Semester

S.No.	Code	Course Title
1	KMBN IB03	INTERNATIONAL LOGISTICS
2	KMBN IB04	CROSS CULTURAL MANAGEMENT
3	KMBN IB05	INTERNATIONAL TRADE LAWS

**Specialization Group: INFORMATION TECHNOLOGY (IT)**

## Elective Subjects in III Semester

S.No.	Code	Course Title
1	KMBN IT01	DATA ANALYTICS FOR BUSINESS DECISIONS



2	KMBN IT02	AI AND ML FOR BUSINESS
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**Elective Subjects in IV Semester**

S.No.	Code	Course Title
1	KMBN IT03	DATA BASE MANAGEMENT SYSTEM
2	KMBNI T04	CLOUD COMPUTING FOR BUSINESS
3	KMBN IT05	BUSINESS DATA WAREHOUSING & DATA MINING

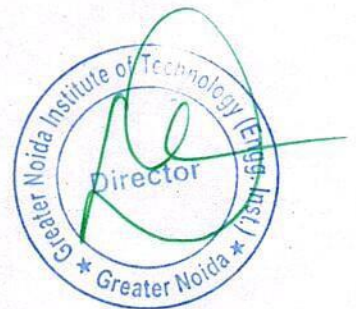
**Specialization Group: OPERATION MANAGEMENT (OM)**

**Elective Subjects in III Semester**

1	KMBN OM 01	SUPPLY CHAIN & LOGISTICS MANAGEMENT
2	KMBN OM 02	OPERATIONS PLANNING & CONTROL

**Elective Subjects in IV Semester**

3	KMBN OM 03	QUALITY MANAGEMENT
4	KMBN OM 04	PROJECT & SOURCING MANAGEMENT
5	KMBN OM 05	MANAGEMENT OF MANUFACTURING SYSTEM

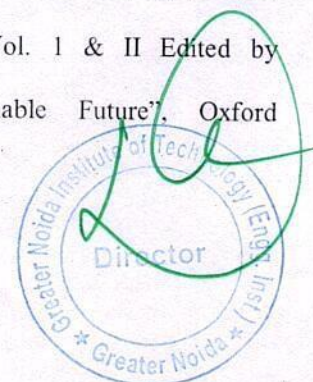


## HSMC & OPEN ELECTIVES II LIST 2021-22

KOE074	RENEWABLE ENERGY RESOURCES	3L:0T:0P	3 Credits
Unit	Topics	Lectures	
I	Introduction: Various non-conventional energy resources- Introduction, availability, classification, relative merits and demerits. Solar Cells: Theory of solar cells. Solar cell materials, solar cell array, solar cell power plant, limitations.	8	
II	Solar Thermal Energy: Solar radiation, flat plate collectors and their materials, applications and performance, focussing of collectors and their materials, applications and performance; solar thermal power plants, thermal energystorage for solar heating and cooling, limitations.	8	
III	Geothermal Energy: Resources of geothermal energy, thermodynamics of geo- thermal energy conversion-electrical conversion, non-electrical conversion, environmental considerations. Magneto-hydrodynamics (MHD): Principle of working of MHD Power plant, performance and limitations. Cells: Principle of working of various types of fuel cells and their working, performance and limitations.	8	
IV	Thermo-electrical and thermionic Conversions: Principle of working, performance and limitations. Wind Energy: Wind power and its sources, site selection, criterion, momentum theory, classification of rotors, concentrations and augments, wind characteristics. Performance and limitations of energy conversion systems.	8	
V	Bio-mass: Availability of bio-mass and its conversion theory. Ocean Thermal Energy Conversion (OTEC): Availability, theory and working principle, performance and limitations. Wave and Tidal Wave: Principle of working, performance and limitations. Waste Recycling Plants.	8	

### Text Book:

1. Raja etal, "Introduction to Non-Conventional Energy Resources" Scitech Publications.
2. John Twideu and Tony Weir, "Renewal Energy Resources" BSP Publications, 2006.
3. M.V.R. Koteswara Rao, "Energy Resources: Conventional & Non-Conventional" BSP Publications, 2006.
4. D.S. Chauhan, "Non-conventional Energy Resources" New Age International.
5. C.S. Solanki, "Renewal Energy Technologies: A Practical Guide for Beginners" PHI Learning.
6. Peter Auer, "Advances in Energy System and Technology". Vol. I & II Edited by Academic Press.
7. Godfrey Boyle, " Renewable Energy Power For A Sustainable Future", Oxford University Press.





## HSMC & OPEN ELECTIVES II LIST 2021-22

KHU701/ KHU801	<b>RURAL DEVELOPMENT: ADMINISTRATION AND PLANNING</b>	3L:0T:0P	3 Credits
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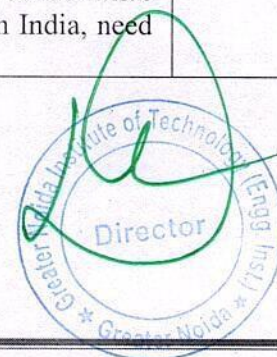
**COURSE OUTCOME:** After completion of the course student will be able to:

1. Students can understand the definitions, concepts and components of Rural Development
2. Students will know the importance, structure, significance, resources of Indian rural economy.
3. Students will have a clear idea about the area development programmes and its impact.
4. Students will be able to acquire knowledge about rural entrepreneurship.
5. Students will be able to understand about the using of different methods for human resource planning

Unit	Topics	Lectures
I	<b>Rural Planning &amp; Development:</b> Concepts of Rural Development, Basic elements of rural Development, and Importance of Rural Development for creation of Sustainable Livelihoods, An overview of Policies and Programmes for Rural Development- Programmes in the agricultural sector, Programmes in the Social Security, Programmes in area of Social Sector.	8
II	<b>Rural Development Programmes:</b> Sriniketan experiment, Gurgaon experiment, marthandam experiment, Baroda experiment, Firkha development scheme, Etawa pilot project, Nilokheri experiment, approaches to rural community development: Tagore, Gandhi etc	8
III	<b>Panchayati Raj &amp; Rural Administration:</b> Administrative Structure: bureaucracy, structure of administration; Panchayati Raj Institutions Emergence and Growth of Panchayati Raj Institutions in India; People and Panchayati Raj; Financial Organizations in Panchayati Raj Institutions, Structure of rural finance, Government & Non-Government Organizations / Community Based Organizations, Concept of Self help group.	8
IV	<b>Human Resource Development in Rural Sector:</b> Need for Human Resource Development, Elements of Human Resource Development in Rural Sector Dimensions of HRD for rural development-Health, Education, Energy, Skill Development, Training, Nutritional Status access to basic amenities - Population composition.	8
V	<b>Rural Industrialization and Entrepreneurship:</b> Concept of Rural Industrialization, Gandhian approach to Rural Industrialization, Appropriate Technology for Rural Industries, Entrepreneurship and Rural Industrialization-Problems and diagnosis of Rural Entrepreneurship in India, with special reference to Women Entrepreneurship; Development of Small Entrepreneurs in India, need for and scope of entrepreneurship in Rural area.	8

**Text Book:**

1. Corporate Social Responsibility: An Ethical Approach - Mark S. Schwartz
2. Katar Singh: Rural Development in India – Theory History and Policy
3. Todaro M.P. Economic Development in III World war
4. Arora R.C – Integrated Rural Development in India
5. Dhandekar V.M and Rath N poverty in India
6. A.N.Agarwal and Kundana Lal: Rural Economy of India
7. B.K.Prasad: Rural Development-Sarup & Son's Publications.

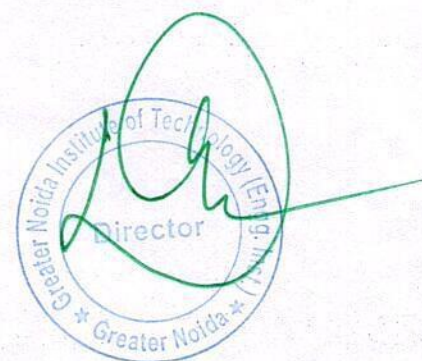


KOE078	<b>SOIL AND WATER CONSERVATION ENGINEERING</b>	3L:0T:0P	3Credits
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Unit	Topics	Lectures
I	Definition and scope of soil conservation, cause of soil erosion, Mechanism of erosion, universal soil loss equation, soil erosion due to wind and its control, vegetation management, i.e., strip cropping, stubble mulching and other practices.	8
II	Types of soil erosion due to water- sheet erosion, rill erosion, gully erosion, sediment transport in channels, sediment deposition in reservoirs. Methods of soil erosion control: bounding and terracing on agriculture land for gully control, bench terraces, vegetated water ways, chute spillways, drop inlet spillways, check dams, river training works.	8
III	Biological methods of soil erosion control, grass land management, forest management. Soil quality management, drainage works, reclamation of salt affected soils. Water conservation: water harvesting, rainfall- run off relation, water storage in ponds, lakes, reservoirs and aquifers, groundwater recharge through wells, check dams and storage works.	8
IV	Water losses: filtration, seepage and evaporation losses, pollution/contamination of water quality due to agricultural practices i.e., fertilizers and pesticides, self purification of surface water, sources of agricultural water pollution, pollutant dispersion in ground water.	8
V	Need of planned utilization of water resources, economics of water resources utilization. Flood plain zones management, modifying the flood, reducing susceptibility to damage, reducing the impact of flooding.	8

**Suggested reading:**

1. Alam Singh – Modern Geotechnical Engineering
2. K. R. Arora – Soil Mechanics and foundation Engineering.
3. N. C. Brady – Principles of Soil Sciences
4. B. C. Punmia – Soil Mechanics and Foundation Engineering



## HSMC & OPEN ELECTIVES II LIST 2021-22

KOE072	<b>BIOECONOMICS</b>	<b>3L:0T:0P</b>	<b>3 Credits</b>
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**OBJECTIVE:**

This course is designed with an objective to provide an understanding of the basic knowledge of bioeconomics to students so that they can explore entrepreneurship opportunities in the bio based industry. This course also serve interdisciplinary innovation in terms of sustainable bioeconomy

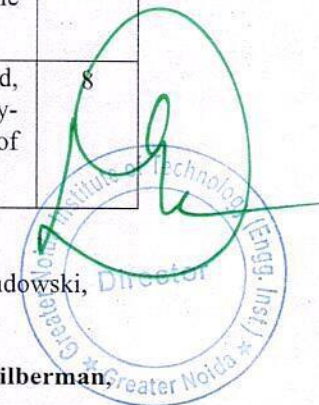
**COURSE OUTCOME:** After completion of the course student will be able to:

1. Students will be able to understand basic concept of Bioeconomics, challenges, opportunities& regulations
2. Students will be able to understand development and innovation in terms of bioeconomy towards sustainable development
3. Students will be able to understand Inter- and transdisciplinarity in bioeconomy & research approaches
4. Students will be able to explain biobased resources ,value chain, innovative use of biomass and biological knowledge to provide food, feed, industrial products

Unit	Topics	Lectur es
I	Introduction: Fundamentals, Types of filters and descriptive terminology, why we use Analog Filters, Circuit elements and scaling, Circuit simulation and modelling. Operational amplifiers: Op-amp models, Op-amp slew rate, Operational amplifiers with resistive feedback: Noninverting and Inverting, Analysing Op-amp circuits, Block diagrams and feedback, The Voltage follower, Addition and subtraction, Application of Op-amp resistor circuits.	8
II	Economic Growth, Development, and Innovation in terms of bioeconomy, Environmental Economics and the Role of Government, Modelling and Tools Supporting the Transition to a Bioeconomy, Role of biobased Economy in sustainable development.	8
III	Inter- and transdisciplinarity in Bioeconomy & research approaches, primary production, processing of biobased resources, Markets, Sustainability Management and Entrepreneurship in biobased products.	8
IV	Biobased Resources and Value Chains, Processing of Biobased Resources, Markets, Sustainability Management and Entrepreneurship opportunity in biobased product. Food Security and Healthy Nutrition in the Context of the Bioeconomy, Use of Biomass for the Production of Fuel and Chemicals, The importance of Biotechnology for the Bioeconomy.	8
V	sustainable and innovative use of biomass and biological knowledge to provide food, feed, industrial products, bioenergy and ecological services, importance of bioeconomy-related concepts in public, scientific, and political discourse, Dynamic Management of Fossil Fuel, Biofuel.	8

**Text Book:**

1. Principles of Bioeconomics by I. Sundar, Vedams eBooks (P) Ltd New Delhi, India
2. Bioeconomy: Shaping the Transition to a Sustainable, Biobased Economy by Iris Lewandowski, Springer.
3. Sociobiology and Bioeconomics by **Koslowski, Peter**
4. Modeling, Dynamics, Optimization and Bioeconomics I, by **Pinto, Alberto Adrego, Zilberman, David, Springer.**



**Course Outcomes:**

**After completion of the course student will be able to:**

CO-1 Understand air pollutants and their impacts.

CO-2 Explain air pollution chemistry and meteorological aspects of air pollutants.

CO-3 Demonstrate methods for controlling particulate air pollutants.

CO-4 Demonstrate methods for controlling gaseous air pollutants.

CO-5 Understand automotive emission standards.

CO-6 Apply methods for controlling noise pollution.

**Unit 1**

Air pollution: composition and structure of atmosphere, global implications of air pollution, classification of air pollutants: particulates, hydrocarbon, carbon monoxide, oxides of sulphur, oxides of nitrogen and photochemical oxidants. Indoor air pollution. Effects of air pollutants on humans, animals, property and plants. [8]

**Unit 2**

Air pollution chemistry, meteorological aspects of air pollution dispersion; temperature lapse rate and stability, wind velocity and turbulence, plume behaviour, dispersion of air pollutants, the Gaussian Plume Model, stack height and dispersion. [8]

**Unit 3**

Ambient air quality and standards, air sampling and measurements. Control of particulate air pollutants using gravitational settling chambers, cyclone separators, wet collectors, fabric filters (Bag-house filter), electrostatic precipitators (ESP). [8]

**Unit 4**

Control of gaseous contaminants: Absorption, Adsorption, Condensation and Combustion, Control of sulphur oxides, nitrogen oxides, carbon monoxide, and hydrocarbons. Automotive emission control, catalytic convertor, Euro-I, Euro-II and Euro-III specifications, Indian specifications. [8]

**Unit 5**

Noise pollution: Basics of acoustics and specification of sound; sound power, sound intensity and sound pressure levels; plane, point and line sources, multiple sources; outdoor and indoor noise propagation; psychoacoustics and noise criteria, effects of noise on health, annoyance rating schemes; special noise environments: Infrasound, ultrasound, impulsive sound and sonic boom; noise standards and limit values; noise instrumentation and monitoring procedure. Noise indices. Noise control methods. [8]

## CIVIL ENGINEERING

KCE074	Solid Waste Management	3L:0T:0P	3Credits
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**Course Outcomes: At the end of this course students will demonstrate the ability to:**

1. Understand the concept of solid waste management.
2. Explain handling and processing of solid waste.
3. Apply the concept of landfilling for disposal of solid waste.
4. Design composting and other solid waste conversion units.
5. Understand the various hazardous waste, risk assessment and legislation

Unit	Topics	Lectures
I	Solid waste: Public health and ecological impacts, Sources and types of solid wastes, material flow and waste generation, Functional elements: Waste generation, storage, collection, Transfer and transport, processing and recovery, disposal. Physical and chemical composition of municipal solid waste, integrated solid waste management, hierarchy of waste management options, different methods for generation rates. Storage: movable bins, fixed bins. Collection: home to home collection, community bin system. Theory and design of hauled container system, stationary container system.	8
II	Transportation: handcart, tri-cycle, animal cart, tripper truck, dumper placer, bulk refuse carrier, railroad transport, water transport, conveyors, layout of routes. Engineering system for on-site handling and processing of solid waste: separators, size reduction equipments, screening equipments, densification, baling, cubing, pelleting equipments.	8
III	Land filling: Site selection criteria, landfill layout, landfill sections, Occurrence of gases and leachate in landfills: composition and characteristics, generation factors, initial adjustment phase, transition phase, acid formation phase, methane formation phase, maturation phase of gases and leachate, Introduction to engineered landfills.	8
IV	Composting, types of composting, process description, design and operational consideration of aerobic composting, process description, design and operational consideration of anaerobic composting. Thermal conversion technologies: incineration and pyrolysis system, energy recovery, system. Overview of solid waste management practices in India.	8
V	Introduction to Hazardous wastes, Definition of Hazardous waste, The magnitude of the problem; Hazardous waste: Risk assessment, Environmental legislation, Characterization and site assessment, Waste minimization and resource recovery, Transportation of hazardous waste, Disposal of hazardous waste. Introduction to Electronic waste and Biomedical waste and their disposal.	8

### References

1. Tchobanoglous, G., Theisen, H., & Vigil, S.A; Integrated Solid Waste Management: McGraw Hill, New York
2. Solid Waste Engineering, Principle & Management issues by Ven Te Chow
3. Bhide, A.D., B.B. Sundaresan, Solid Waste Management in developing countries.
4. Manual on Municipal solid Waste Management, CPHEEO, Govt. of India.

KOE079	<b>INTRODUCTION TO WOMEN'S AND GENDER STUDIES</b>	3L:0T:0P	3Credits
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Unit	Topics	Lectures
I	<b>Women and Society:</b> Understanding Sex- Gender, Gender shaping Institutions, Theories of Gender construction Understanding Sexism and Androcentrism, Understanding Patriarchy and Theories of Patriarchy, Private and Public dichotomy, Sexual Division of Work, Patriarchy practices in different institutions and Text Books.	8
II	<b>Feminist Theory:</b> Rise of Feminism, Introduction to various stands of Feminism-Liberal Feminism, Radical Feminism, Marxist Feminism, Socialist Feminism, Cultural Feminism, Eco-Feminism, Post Colonial Feminism, Post Modern Feminism. Waves of Feminism.	8
III	<b>Women's Movement:</b> The socio-economic conditions of women during the age of Industrial revolution the Call for Women's Rights 1848, Women's rights movement 1848-1920, Historical Developments of Social Reform Movements in India , Women's groups and organizations, Women's Movement Movements for Uniform Civil code and ShahBano case, Dalit women and the question of double marginality.	8
IV	<b>Gender Roles and Psychology of Sex:</b> Difference Conceptualization of gender roles and gender role attitudes, Gender: Aggression, Achievement, Communication, Friendship and Romantic, Relationships Sex Differences in Mental Health Trauma relating to Rape , Taboo , Childhood Sexual Abuse , Domestic Violence , Sexual Harassment at Work Place, Educational Institutions, Eve Teasing etc.	8
V	<b>Gender and Representation:</b> Gender and Mass Media- Print Media, Gender and Mass Media-Electronic Media, Gender and Films, Advertisements, Mega Serials, Stereotyping and breaking the norms of women's roles Women's Representation in Literary Texts.	8

**Suggested reading:**

5. Basab iChakrabarti, Women's Studies: Various Aspects. UrbiPrakashani2014
6. Arvind Narrain. Queer: Despised Sexuality Law and Social Change. Book for Change. 2005
7. Chandra Talpade Mohanty, Feminism without Borders: Decolonizing Theory, Practicing Solidarity. Duke University Press.
8. Flavia Agnes. Law and Gender Inequality: The Politics of Women's Rights in India. Oxford University Press, 2001
9. Sonia Bathla, Women, Democracy and the Media: Cultural and Political Representations in the Indian Press, Sage, New Delhi, 1998.



**KVE401**

**Universal Human Values and Professional Ethics**

<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
3	0	0	3

**Objectives:**

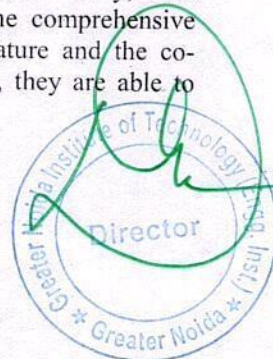
1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
2. To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession
3. To help students understand the meaning of happiness and prosperity for a human being.
4. To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
5. To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life

**Course Outcome:**

- On completion of this course, the students will be able to
1. Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society
  2. Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.
  3. Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society
  4. Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.
  5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

**Catalogue Description**

Every human being has two sets of questions to answer for his life: a) what to do? and, b) how to do?. The first set pertains to the value domain, and the other to the skill domain. Both are complimentary, but value domain has a higher priority. Today, education has become more and more skill biased, and hence, the basic aspiration of a human being, that is to live with happiness and prosperity, gets defeated, in spite of abundant technological progress. This course is aimed at giving inputs that will help to ensure the right understanding and right feelings in the students in their life and profession, enabling them to lead an ethical life. In this course, the students learn the process of self-exploration, the difference between the Self and the Body, the naturally acceptable feelings in relationships in a family, the comprehensive human goal in the society, the mutual fulfillment in the nature and the co-existence in existence. As a natural outcome of such inputs, they are able to evaluate an ethical life and profession ahead.



**UNIT-1**                    **Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration-what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

**UNIT-2**                    **Understanding Harmony in the Human Being - Harmony in Myself**

Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' - Sukh and Suvridha, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

**UNIT-3**                    **Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship**

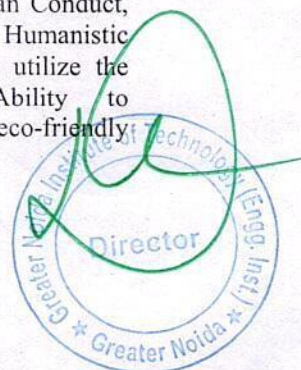
Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of *Nyaya* and program for its fulfillment to ensure *Ubhay-tripti*; Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship, Understanding the meaning of *Vishwas*; Difference between intention and competence, Understanding the meaning of *Samman*, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family); *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyavastha* )- from family to world family!.

**UNIT-4**                    **Understanding Harmony in the Nature and Existence - Whole existence as Co-existence**

Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence (*Sah-astitva*) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

**UNIT-5**                    **Implications of the above Holistic Understanding of Harmony on Professional Ethics**

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly





production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations.

**Text Books:**

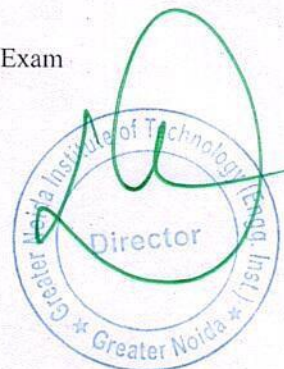
1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

**References:**

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
2. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
3. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
4. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
5. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
6. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
7. A N Tripathy, 2003, Human Values, New Age International Publishers.
8. SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati.
9. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers, Oxford University Press
10. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
11. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
12. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

**Mode of Evaluation:**

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam



# UNIVERSAL HUMAN VALUES AND PROFESSIONAL ETHICS

Code: KVE 301

Credit: 3

Teaching Hours: 36

## Course Objectives

1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
2. To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession
3. To help students understand the meaning of happiness and prosperity for a human being.
4. To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
5. To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life

## Course Outcomes

1. Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society
2. Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.
3. Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society
4. Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.
5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

## Course Description

Every human being has two sets of questions to answer for his life: a) what to do? and, b) how to do?. The first set pertains to the value domain, and the other to the skill domain. Both are complimentary, but value domain has a higher priority. Today, education has become more and more skill biased, and hence, the basic aspiration of a human being, that is to live with happiness and prosperity, gets defeated, in spite of abundant technological progress. This course is aimed at giving inputs that will help to ensure the right understanding and right feelings in the students in their life and profession, enabling them to lead an ethical life. In this course, the students learn the process of self-exploration, the difference between the Self and the Body, the naturally acceptable feelings in relationships in a family, the comprehensive human goal in the society, the mutual fulfillment in the nature and the co-existence in existence. As a natural outcome of such inputs, they are able to evaluate an ethical life and profession ahead.

## UNIT-1: Course Introduction - Need, Basic Guidelines, Content and Process for Value Education (6 Hours)

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration-what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self-exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority,

Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

**UNIT-2: Understanding Harmony in the Human Being - Harmony in Myself (7 Hours)**

Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

**UNIT-3: Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship (8 Hours)**

Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti; Trust (Vishwas) and Respect (Samman) as the foundational values of relationship, Understanding the meaning of Vishwas; Difference between intention and competence, Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (AkhandSamaj), Universal Order (Sarvabhaum Vyawastha )- from family to world family!.

**UNIT-4: Understanding Harmony in the Nature and Existence - Whole existence as Co-existence (8 Hours)**

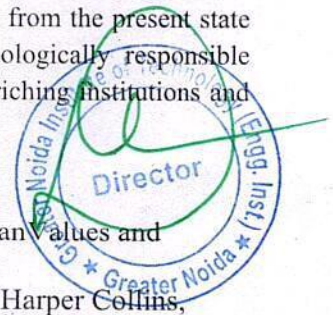
Understanding the harmony in the Nature, Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence (Sah-astitva) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

**UNIT-5: Implications of the above Holistic Understanding of Harmony on Professional Ethics (7 Hours)**

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations

**Suggested Readings**

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human values and Professional Ethics.
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3. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
4. Susan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
5. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
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# INDIAN TRADITIONS, CULTURAL AND SOCIETY

L: T:P: 2: 0:0

## Module 1- Society State and Polity in India

State in Ancient India: Evolutionary Theory, Force Theory, Mystical Theory Contract Theory, Stages of State Formation in Ancient India, Kingship , Council of Ministers Administration Political Ideals in Ancient India Conditions' of the Welfare of Societies, The Seven Limbs of the State, Society in Ancient India, Purusārtha, Varnāshrama System, Āshrama or the Stages of Life, Marriage, Understanding Gender as a social category, The representation of Women in Historical traditions, Challenges faced by Women. Four-class Classification, Slavery.

## Module 2- Indian Literature, Culture, Tradition, and Practices

Evolution of script and languages in India: Harappan Script and Brahmi Script. The Vedas, the Upanishads, the Ramayana and the Mahabharata, Puranas, Buddhist And Jain Literature in Pali,Prakrit And Sanskrit, Kautilya's Arthashastra, Famous Sanskrit Authors, Telugu Literature, Kannada Literature, Malayalam Literature ,Sangama Literature Northern Indian Languages & Literature, Persian And Urdu ,Hindi Literature

## Module 3- Indian Religion, Philosophy, and Practices

Pre-Vedic and Vedic Religion, Buddhism, Jainism, Six System Indian Philosophy, Shankaracharya, Various Philosophical Doctrines , Other Heterodox Sects, Bhakti Movement, Sufi movement, Socio religious reform movement of 19<sup>th</sup> century, Modern religious practices.

## Module 4-Science, Management and Indian Knowledge System

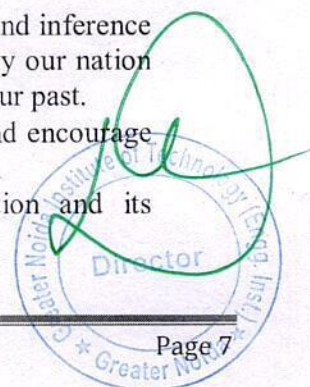
Astronomy in India, Chemistry in India, Mathematics in India, Physics in India, Agriculture in India, Medicine in India ,Metallurgy in India, Geography, Biology, Harappan Technologies, Water Management in India, Textile Technology in India ,Writing Technology in India Pyrotechnics in India Trade in Ancient India/,India's Dominance up to Pre-colonial Times

## Module 5- Cultural Heritage and Performing Arts

Indian Architect, Engineering and Architecture in Ancient India, Sculptures, Seals, coins, Pottery, Puppetry, Dance, Music, Theatre, drama, Painting, Martial Arts Traditions, Fairs and Festivals, Current developments in Arts and Cultural, Indian's Cultural Contribution to the World. Indian Cinema

## COURSE OBJECTIVES:

- The course aims at imparting basic principles of thought process, reasoning and inference to identify the roots and details of some of the contemporary issues faced by our nation and try to locate possible solutions to these challenges by digging deep into our past.
- To enable the students to understand the importance of our surroundings and encourage the students to contribute towards sustainable development.
- To sensitize students towards issues related to 'Indian' culture, tradition and its composite character.



- To make students aware of holistic life styles of Yogic-science and wisdom capsules in Sanskrit literature that are important in modern society with rapid technological advancements and societal disruptions.
- To acquaint students with Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.

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

#### Suggested Pedagogy for Teachers

- Project based learning
- Case studies
- Group discussion
- Presentations

#### Suggested Text & Reference Books

1. V. Sivaramakrishna (Ed.), *Cultural Heritage of India-Course Material*, Bharatiya Vidya Bhavan, Mumbai, 5th Edition, 2014
2. S. Baliyan, *Indian Art and Culture*, Oxford University Press, India
3. Swami Jitatanand, *Modern Physics and Vedant*, Bharatiya Vidya Bhavan
4. Romila Thapar, *Readings In Early Indian History* Oxford University Press , India
5. Fritz of Capra, *Tao of Physics*
6. Fritz of Capra, *The wave of Life*
7. V N Jha (English Translation), *Tarkasangraha of Annam Bhatta*, International Chinmay Foundation, Velliarnad, Amakuram
8. *Yoga Sutra of Patanjali*, Ramakrishna Mission, Kolkatta
9. GN Jha (Eng. Trans.) Ed. R N Jha, *Yoga-darshanam with Vyasa Bhashya*, Vidyanidhi Prakasham, Delhi, 2016
10. RN Jha, *Science of Consciousness Psychotherapy and Yoga Practices*, Vidyanidhi Prakasham, Delhi, 2016
11. P R Sharma ( English translation), *Shodashang Hridayam*
12. Basham, A.L., *The Wonder that was India* (34th impression), New Delhi, Rupa & co
13. Sharma, R.S., *Aspects of Political Ideas and Institutions in Ancient India*(fourth edition), Delhi, Motilal Banarsidass,



**Module 1--Introduction and Basic Information about Indian Constitution:**

Meaning of the constitution law and constitutionalism, Historical Background of the Constituent Assembly, Government of India Act of 1935 and Indian Independence Act of 1947, Enforcement of the Constitution, Indian Constitution and its Salient Features, The Preamble of the Constitution, Fundamental Rights, Fundamental Duties, Directive Principles of State Policy, Parliamentary System, Federal System, Centre-State Relations, Amendment of the Constitutional Powers and Procedure, The historical perspectives of the constitutional amendments in India, Emergency Provisions: National Emergency, President Rule, Financial Emergency, and Local Self Government – Constitutional Scheme in India.

**Module 2-Union Executive and State Executive:**

Powers of Indian Parliament Functions of Rajya Sabha, Functions of Lok Sabha, Powers and Functions of the President, Comparison of powers of Indian President with the United States, Powers and Functions of the Prime Minister, Judiciary – The Independence of the Supreme Court, Appointment of Judges, Judicial Review, Public Interest Litigation, Judicial Activism, LokPal, Lok Ayukta, The Lokpal and Lok ayuktas Act 2013, State Executives – Powers and Functions of the Governor, Powers and Functions of the Chief Minister, Functions of State Cabinet, Functions of State Legislature, Functions of High Court and Subordinate Courts.

**Module 3- Introduction and Basic Information about Legal System:**

**The Legal System:** Sources of Law and the Court Structure: Enacted law -Acts of Parliament are of primary legislation, Common Law or Case law, Principles taken from decisions of judges constitute binding legal rules. The Court System in India and Foreign Courtiers (District Court, District Consumer Forum, Tribunals, High Courts, Supreme Court). Arbitration: As an alternative to resolving disputes in the normal courts, parties who are in dispute can agree that this will instead be referred to arbitration. Contract law, Tort, Law at workplace.

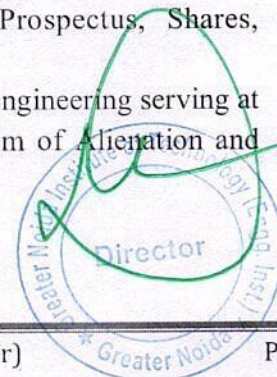
**Module 4- Intellectual Property Laws and Regulation to Information:**

**Intellectual Property Laws:** Introduction, Legal Aspects of Patents, Filing of Patent Applications, Rights from Patents, Infringement of Patents, Copyright and its Ownership, Infringement of Copyright, Civil Remedies for Infringement, Regulation to Information-Introduction, Right to Information Act, 2005, Information Technology Act, 2000, Electronic Governance, Secure Electronic Records and Digital Signatures, Digital Signature Certificates, Cyber Regulations Appellate Tribunal, Offences, Limitations of the Information Technology Act.

**Module 5 -Business Organizations and E-Governance:**

**Sole Traders, Partnerships:** Companies: The Company's Act: Introduction, Formation of a Company, Memorandum of Association, Articles of Association, Prospectus, Shares, Directors, General Meetings and Proceedings, Auditor, Winding up.

E-Governance and role of engineers in E-Governance, Need for reformed engineering serving at the Union and State level, Role of I.T. professionals in Judiciary, Problem of Alienation and Secessionism in few states creating hurdles in Industrial development.



## COURSE OBJECTIVE:

- To acquaint the students with legacies of constitutional development in India and help those to understand the most diversified legal document of India and philosophy behind it.
- To make students aware of the theoretical and functional aspects of the Indian Parliamentary System.
- To channelize students' thinking towards basic understanding of the legal concepts and its implications for engineers.
- To acquaint students with latest intellectual property rights and innovation environment with related regulatory framework.
- To make students learn about role of engineering in business organizations and e-governance.

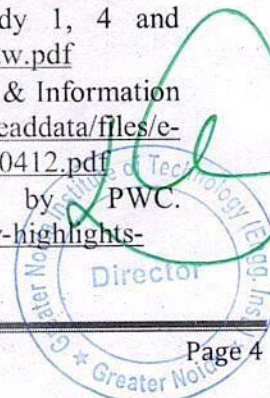
**COURSE OUTCOME:** At the end of the course, learners should be able to-

1. Identify and explore the basic features and modalities about Indian constitution.
2. Differentiate and relate the functioning of Indian parliamentary system at the center and state level.
3. Differentiate different aspects of Indian Legal System and its related bodies.
4. Discover and apply different laws and regulations related to engineering practices.
5. Correlate role of engineers with different organizations and governance models

**Pedagogy:** Lecture, Problem based learning, Group discussions, Visual media, Films, Documentaries, Debate forums.

### Suggested Readings:

- Brij Kishore Sharma: *Introduction to the Indian Constitution*, 8<sup>th</sup> Edition, PHI Learning Pvt. Ltd.
- Granville Austin: *The Indian Constitution: Cornerstone of a Nation (Classic Reissue)*, Oxford University Press.
- S.G Subramanian: *Indian Constitution and Indian Polity*, 2<sup>nd</sup> Edition, Pearson Education 2020.
- Subhash C. Kashyap: *Our Constitution: An Introduction to India's Constitution and constitutional Law*, NBT, 2018.
- Madhav Khosla: *The Indian Constitution*, Oxford University Press.
- PM Bakshi: *The Constitution of India*, Latest Edition, Universal Law Publishing.
- V.K. Ahuja: *Law Relating to Intellectual Property Rights* (2007)
- Suresh T. Viswanathan: *The Indian Cyber Laws*, Bharat Law House, New Delhi-88
- P. Narayan: *Intellectual Property Law*, Eastern Law House, New Delhi
- Prabudh Ganguli: *Gearing up for Patents: The Indian Scenario*, Orient Longman.
- BL Wadehra: *Patents, Trademarks, Designs and Geological Indications Universal Law Publishing - LexisNexis.*
- *Intellectual Property Rights: Law and Practice, Module III* by ICSI (only relevant sections)
- Executive programme study material Company Law, Module II, by ICSI (The Institute of Companies Secretaries of India) (Only relevant sections i.e., Study 1, 4 and 36). <https://www.icsi.edu/media/webmodules/publications/Company%20Law.pdf>
- Handbook on e-Governance Project Lifecycle, Department of Electronics & Information Technology, Government of India, <https://www.meity.gov.in/writereaddata/files/e-Governance-Project-Lifecycle-Participant-Handbook-5Day-CourseV1-20412.pdf>
- Companies Act, 2013 Key highlights and analysis by PWC. <https://www.pwc.in/assets/pdfs/publications/2013/companies-act-2013-key-highlights-and-analysis.pdf>





### Referred Case Studies:

- Keshavanand Bharati V. State of Kerala, AIR 1973 SC 1461.
- Maneka Gandhi V. Union of India AIR, 1978 SC 597.
- S.R. Bammai V. Union of India, AIR 1994 SC 1918.
- Kuldeep Nayyar V. Union of India, AIR 2006 SC312.
- A.D.M. Jabalpur V. ShivkantShakla, AIR 1976 SC1207.
- Remshwar Prasad V. Union of India, AIR 2006 SC980.
- Keshav Singh in re, AIR 1965 SC 745.
- Union of India V. Talsiram, AIR 1985 SC 1416.
- Atiabari Tea Estate Co.V. State of Assam, AIR 1961SC232.
- SBP & Co. Vs. Patel Engg. Ltd. 2005 (8) SCC 618.
- Krishna Bhagya Jala Nigam Ltd. Vs. G. Arischandra Reddy (2007) 2 SCC 720.
- Oil & Natural Gas Corporation Vs. Saw Pipes Ltd. 2003 (4) SCALE 92 – 185.

**\*\* (Other relevant case studies can be consulted by the teacher as per the topic).**

### Prescribed Legislations:

1. Information Technology Act, 2000 with latest amendments.
2. RTI Act 2005 with latest amendments.
3. Information Technology Rules, 2000
4. Cyber Regulation Appellate Tribunal Rules, 2000

### Suggested aid for Students and Pedagogic purpose

- RSTV debates on corporate law, IPR and patent issues
- NPTEL lectures on IPR and patent rights

**Episodes of 10 -part mini TV series “Samvidhan: The Making of Constitution of India” by RSTV.**



## HSMC & OPEN ELECTIVES II LIST 2021-22

KOE-076	<b>VISION FOR HUMANE SOCIETY</b>	3L:0T:0P	<b>3 Credits</b>
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Pre-requisites- for this subject only those faculty will teach these courses who had done the FDP for these courses.

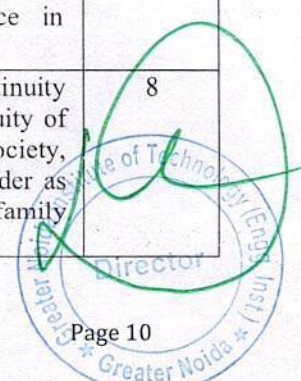
**Course Objectives:**

1. To help the students to understand the importance and types of relationship with expressions.
2. To develop the competence to think about the conceptual framework of undivided society as well as universal human order.
3. To help the students to develop the exposure for transition from current state to the undivided society and universal human order.

**Course Methodology:**

1. The methodology of this course is exploration and thus universally adaptable. It involves a systematic and rational study of the human being vis-à-vis the rest of existence.
2. It is free from any dogma or set of do's and don'ts related to values.
3. It is a process of self-investigation and self-exploration, and not of giving sermons. Whatever is found as truth or reality is stated as a proposal and the students are facilitated and encouraged to verify it in their own right, based on their Natural Acceptance and subsequent Experiential Validation.
4. This process of self-exploration takes the form of a dialogue between the teacher and the students to begin with, and then to continue within the student leading to continuous self-evolution.
5. This self-exploration also enables them to critically evaluate their pre-conditionings and present beliefs.

Unit	Topics	Lectures
I	Introduction to the course: Basic aspiration of a Human Being and program for its fulfilment, Need for family and relationship for a Human Being, Human-relationship and role of work in its fulfilment, Comprehensive Human Goal, Need for Undivided Society, Need for Universal Human Order, an appraisal of the Current State, Appraisal of Efforts in this Direction in Human History.	8
II	Understanding Human-Human Relationship & its fulfilment: Recognition of Human-Human Relationship, Recognition of feelings in relationship, Established Values and Expressed Values in Relationship, interrelatedness of feelings and their fulfilment, Expression of feelings, Types of relationship and their purpose, mutual evaluation in relationship, Meaning of justice in relationship, Justice leading to culture, civilization and Human Conduct.	8
III	Justice from family to world family order: Undivided Society as continuity and expanse of Justice in behaviour – family to world family order, continuity of culture and civilization, Universal Order on the basis of Undivided Society, Conceptual Framework for Universal human order, Universal Human Order as continuity and expanse of order in living: from family order to world family order, a conceptual framework for universal human order.	8



## HSMC & OPEN ELECTIVES II LIST 2021-22

IV	Program for Ensuring Undivided Society and Universal Human Order: Education –Sanskar, Health –Sanyam, Production-work, Exchange – storage, Justice-preservation.	8
V	Human Tradition: Scope and Steps of Universal Human Order, Human Tradition ( Ex. Family order to world family order), Steps for transition from the current state, Possibilities of participation of students in this direction, Present efforts in this direction, Sum up.	8

### Text books:

1. A Foundation Course in Human Values and Profession Ethics (Text Book and Teachers' Manual), R. R. Gaur, R. Asthana, G. P. Bagaria (2010), Excel Books, New Delhi.
2. Avartansheel Arthshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
3. An Appeal by the Dalai Lama to the World: Ethics Are More Important Than Religion, Dalai Lama XIV, 2015.
4. Economy of Permanence – (a quest for social order based on non-violence), J. C. Kumarappa (2010), Sarva-Seva-Sangh-Prakashan, Varansi, India.
1. Energy and Equity, Ivan Illich (1974), The Trinity Press, Worcester & Harper Collins, USA.
2. Human Society, Kingsley Davis, 1949.
3. Hind Swaraj or, Indian home rule Mohandas K. Gandhi, 1909.
4. Integral Humanism, Deendayal Upadhyaya, 1965.
5. Lohiya Ke Vichar, Lok Bharti , Rammanohar Lohiya, 2008.
6. Manav Vyavahar Darshan, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
7. Manaviya Sanvidhan, A. Nagraj, Divya Path Sansthan, Amarkantak, India
8. Samadhanatmak Bhautikvad, A. Nagraj, Divya Path Sansthan, Amarkantak, India
9. Small Is Beautiful: A Study of Economics as if People Mattered, E. F. Schumacher, 1973, Blond & Briggs, UK.
10. Slow is Beautiful, Cecile Andrews (<http://www.newsociety.com/Books/S/Slow-is-Beautiful>)
11. Sociology Themes and Perspectives, Harper Collins; EIGHT edition (2014), Martin Holborn and Peter Langley, 1980.
12. Samagra kranti: Jaya Prakash Narayan's philosophy of social change, Siddharth Publications Renu Sinha, 1996.
13. Science & Humanism – towards a unified worldview, P. L. Dhar & R. R. Gaur (1990), Commonwealth Publishers, New Delhi
14. Vyavaharvadi Samajshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
15. Vyavahatmak Janvad, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
16. The Communist Manifesto, Karl Marx, 1848.
17. Toward a True Kinship of Faiths: How the World's Religions Can Come Together Dalai Lama XIV, 2011

### Reference Videos.

1. Kin school (30 minutes)
2. Technology (Solar City etc.).
3. Natural Farming.
4. Economics of Happiness (1h 8m).



<b>KOE089: HUMAN VALUES IN MADHYASTH DARSHAN</b>		
<b>DETAILED SYLLABUS</b>		<b>3-1-0</b>
<b>Unit</b>	<b>Topic</b>	<b>Proposed Lecture</b>
	<p><b>Catalogue Description:</b> Madhyasth Darshan is a new emerging philosophy that describes the existential realities along with its implication in behaviour and work at the level of individual as well as society. This philosophy has been propounded by Shri A. Nagraj in seventies.</p> <p>It is to be kept in mind that Darshan means realisation which calls for developing the capacity to see the reality in oneself directly. So, any study of Darshan shall help develop this capacity in the students through proper steps of practices and shall not just provide the information.</p>	08
<b>I</b>	<p><b>Module I: Introduction to Madhyasth Darshan and its Basics</b> Need to study Madhyasth Darshan; introduction, basic formulations of the darshan; the complete expanse of study and the natural outcome of living according to the darshan.</p>	08
<b>II</b>	<p><b>Module II: Submergence of Nature in Space</b> The ever-present existence in the form of nature submerged in space; nature classified into two categories – material and consciousness, and four orders; the form, property, natural characteristic and self-organization of the four orders, General direction and process of evolution in the nature/ existence.</p>	08
<b>III</b>	<p><b>Module III: Human Being as an indivisible part of Nature</b> Human being as an indivisible part of nature; various types (five classes) of human beings; human being in the combination of self and body; purpose of self as realization, prosperity for the body; need of behavior and work for attaining the goals of realization and prosperity</p>	08
<b>IV</b>	<p><b>Module IV: Fulfillment of human goal of realization and prosperity</b> Following natural, social and psychological principles for actualizing the human goal; form of conducive society and order for such practices, study process- achieving realization through self-study and practice while living in such a society (social order).</p>	08
<b>V</b>	<p><b>Module V: Human Conduct based on Madhyasth Darshan</b> Description of such a realized self, continuity of happiness, peace, satisfaction and bliss through realization, conduct of a realized human being. Possibility of finding solutions to present day problems (such as inequality of rich and poor, man and woman etc.) in the light of it.</p>	

**Text Books:**

1. Nagraj, A., “*Manav Vyavahar Darshan*”, Jeevan Vidya Prakashan, 3rd edition, 2003

**References:**

1. Nagraj, A., “*Vyavaharvadi Samajshastra*”, Jeevan Vidya Prakashan, 2nd edition, 2009.
2. Nagraj, A., “*Avartanasheel Arthashastra*”, Jeevan Vidya Prakashan, 1st edition, 1998.
3. Class notes on “Human Values in Madhyasth Darshan” available on [www.uhv.org.in](http://www.uhv.org.in)
4. PPTs for “Human Values in Madhyasth Darshan” available on [www.uhv.org.in](http://www.uhv.org.in)
5. Video lectures on “Human Values in Madhyasth Darshan” on AKTU Digital Education (<https://www.youtube.com/watch?v=14x26FPFJYs&t=1558s>)

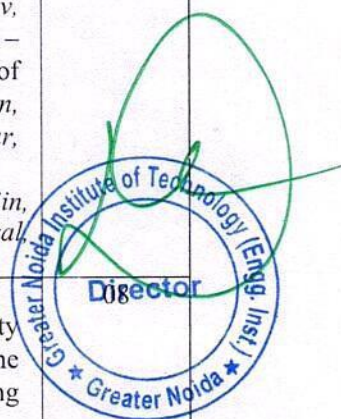


**KOE098 HUMAN VALUES IN BAUDDHA AND JAIN DARSHAN**

**Catalogue Description:** Bauddha and Jain Darshan form a part of the philosophy of Indian tradition. This course outlines the basic concepts and principles of these two philosophies and provides scope for further reading of the philosophies, so as to gain clarity about the human being, the existence and human participation i.e. human values expressing itself in human conduct.

It is to be kept in mind that Darshan means realization which calls for developing the capacity to see the reality in oneself directly. So, any study of Darshan shall help develop this capacity in the students through proper steps of practices and shall not just provide the information.

DETAILED SYLLABUS		3-1-0
Unit	Topic	Proposed Lecture
I	<b>Introduction to Bauddha and Jain Darshan and their Basics</b> Need to study Bauddha and Jain Darshan; the origin of the these philosophies, their basic principles and scope for further reading.	08
II	<b>Basic Principles of Bauddha Darshan</b> law of impermanence (changability); four noble truths; eightfold path; law of cause- action ( <i>pratitya-samutpaad</i> ) Definition of some salient words of Buddha Darshan – <i>nirvana</i> , <i>dharmma</i> , <i>tri- ratna</i> ( <i>Buddha</i> , <i>Dharma</i> and <i>Sangh</i> ), <i>pragya</i> , <i>karma</i> , <i>parmi</i> , <i>ashta-kalap</i> , <i>trishna</i> , <i>shad-ayatan</i> , <i>samvedana</i> , <i>vipassana</i> , <i>anitya</i> , <i>maitri</i> , <i>brham-vihaar</i> , <i>tathagata</i> , <i>arahant</i> ..	08
III	<b>Purpose and Program for a Human Being based on Bauddha Darshan</b> The purpose and program of a human being living on the basis of it, clarity and practice of human values and human conduct, the natural outcome of such a program on society, nature and tradition. Purpose-freedom from suffering, <i>nirvana</i> ; root of suffering- <i>vikaar – raga</i> , <i>dvesha</i> and <i>moha</i> , Program – various steps of meditation for attaining knowledge; <i>shamath and vipassana</i> ; <i>sheel- samadhi-pragya</i> ; <i>practice of equanimity (samatva)</i> , eightfold path( <i>Ashtang Marg</i> ); combination of understanding and practice..	08
IV	<b>Basic Principles of Jain Darshan</b> Basic realities – description of nine elements in existence ( <i>jeev</i> , <i>ajeev</i> , <i>bandh</i> , <i>punya</i> , <i>paap</i> , <i>aashrav</i> , <i>samvar</i> , <i>nirjara</i> , <i>moksha</i> ), 6 dravya of lok – <i>dharma</i> , <i>adhrma</i> , <i>akash</i> , <i>kaal</i> , <i>pudgal</i> , <i>jeev</i> ; tri-lakshan, various types of <i>pragya</i> , various stages of realisation; <i>samyak-gyan</i> , <i>samyak- darshan</i> , <i>samyak-charitra</i> , <i>syadvaad</i> , <i>anekantavaad</i> , <i>naya- nishchaya</i> and <i>vyavahar</i> , <i>karma- phal siddhanta</i> Definition of some salient words of Jain Darshan – <i>arhant</i> , <i>jin</i> , <i>tirthankara</i> , <i>panch- parameshthi</i> , <i>atma</i> , <i>pramaan</i> , <i>kaal</i> , <i>pudgal</i> , <i>paramanu</i> , <i>kashay</i> , <i>leshya</i> ..	08
V	<b>Purpose and Program for a Human Being based on Jain Darshan</b> The purpose and program of a human being living on the basis of it, clarity and practice of human values and human conduct, the natural outcome of such a program on society, nature and tradition, possibility of finding solutions to present day problems in the light of it. Purpose (goal) - <i>moksha</i> , Program- following <i>mahavrat</i> , <i>anuvrat</i> , 10 <i>lakshan dharma</i> ; <i>samyak darshan-gyan-charitra</i> . Commonality with Bauddha Darshan	

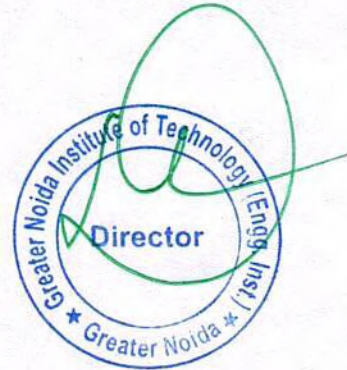


**Text Books:**

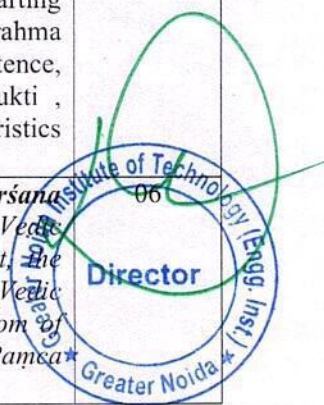
1. Chattejee, S.G. and Datta, D.M., "*An Introduction to Indian Philosophy*", University of Calcutta Press, 1960..

**Reference Books:**

1. "*Dhammapad*", Vipassana Research Institute, 2001.
2. Drukpa, G., "*Musings from the Heart*", Drukpa Publications Private Ltd, 2018.
3. Jyot, "*Ek cheez milegi Wonderful*", A Film Directed by Jyot Foundation, 2013.
4. Goenka, S.N., "*The Discourse Summaries*", Vipassana Research Institute, 1987.
5. Madhavacharya, "*Sarva-darshan Samgraha*", Chaukhambha Vidya Bhavan, Varanasi, 1984.
6. Varni, J., "*Samansuttam*", Sarva Seva Sangh Prakashan, Varanasi, 7th Edition, 2010.
7. <https://www.youtube.com/watch?v=cz7QHNvNFfA&list=PLPJVIVRVmhc4Z01fD57jbzycm9I6W054x> (English)
6. <https://www.youtube.com/watch?v=r5bud1ybBDc&list=PLY9hraHvoLQLCck17Z2DWKMgRAWU77bKFy> (Hindi).

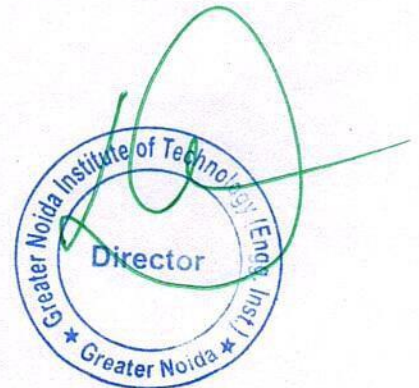


KOE099: HUMAN VALUES IN VEDIC DARŚANA		
DETAILED SYLLABUS		3-1-0
Unit	Topic	Proposed Lecture
I	<p><b>Introduction to Vedic Darśana and Nyāya Darśana (Philosophy of Indian Logic and Reasoning)</b></p> <p>Introduction to Vedic literature, need to study Vedic Darśana; its origin and subject matter. Introduction to Nyāya Darśana, 16 padārthas (pramāṇa, prameya, saṃśaya, prayojana, dṛṣṭānta, siddhānta, avayava, tarka, nirṇaya, vāda, jalpa, vitaṇḍā, hetuābhāsa, chala, jāti, nigrasthāna) pañcāvayava prakriyā (pratijñā, hetu, udāharaṇa, upanaya, nigamana).</p>	09
II	<p><b>Vaiśeṣika Darśana (Philosophy of Matter)</b></p> <p>Introduction to Vaiśeṣika Darśana, definition of Dharma, abhyudaya, niḥśreyasa; 6 padārthas (dravya, guṇa, karma, sāmānya, viśeṣa, samavāya) – their definition, characteristics and relationship; nitya-anitya; cause-effect relationships; dṛṣṭa-adṛṣṭa karma phala; mindful dāna; śucitā-aśucitā; reasons of rāga-dveṣa, avidyā, sukha-duḥkha, etc. and how to get rid of them.</p>	07
III	<p><b>Sāṃkhya-Yoga Darśana (Philosophy of Spirituality)</b></p> <p>Sāṃkhya Darśana- Puruṣārtha, the nature of Puruṣa and Prakṛti, 24 elements of Prakṛti, bondage and salvation (liberation), the principle of satkāryavāda, triguṇātmaka prakṛti. Yoga Darśana- the steps of Aṣṭāṅga yoga (yama, niyama, āsana, prāṇāyāma, pratyāhāra, dhāraṇā, dhyāna and samādhi) and the challenges in following them, afflictions (kleṣa)- avidyā, asmitā, rāga, dveṣa, abhiniveśa, different types of vṛttis (pramāṇa, viparyaya, vikalpa, nidrā, smṛti), the process of nirodha of vṛttis; maitri, karuṇā, muditā, upekṣā; description of yama, niyama, āsana and prāṇāyāma; kriyāyoga- tapa, svādhyāya and īśvara-praṇidhāna; different steps of samādhi, different types of saṃyama, vivekakhyāti, prajñā.</p> <p><b>Vedanta Darshan</b></p> <p>Vedanta Darshan- <i>Nature of Brahma and Prakriti, Methods of Upasana; adhyasaand sanskar; nature of Atma, description of existence, principle of karma-phala, description o pancha kosha, different nature of paramatma/brahma, Ishwar, Four qualifications (Sadhan chatushtay).</i></p>	12
IV	<p><b>Upaniṣad and Vedanta Darśana (Philosophy of God)</b></p> <p>Introduction to Upaniṣads and Vedanta Darśana; Īsopaniṣad – Idea of renouncement, Karma Yoga, balance of Vidyā-Avidyā and Prakṛti-Vikṛti; Tattirīyopaniṣad – Different names of the God and their meaning, parting message of Guru to the graduating student (Śikṣāvallī), Nature of Brahma and Prakṛti, Methods of Upāsana; Nature of Ātmā, Description of existence, principle of karma-phala, description of pañca kośa, nature of mukti, process and way to achieve it, antaḥkaraṇa-śuddhi, different characteristics of paramātmā/brahma, Īśvara, Four qualifications (Sādhana-catuṣṭaya)</p>	08
V	<p><b>Purpose and Program for a Human Being based on the Vedic Darśana</b></p> <p><i>The purpose and program of a human being living on the basis of the Vedic Darśana, clarity and practice of human values and human conduct, the natural outcome of such a program on society, nature and tradition. Vedic system of living in a society - the idea of vratas and varaṇa (freedom of choice with commitment), Varṇa System, Āśrama System, Pañca Mahāyajña, 16 Saṃskāras, etc.</i></p>	06



### Refertence Books:

1. Acharya Udayveer Shastri, Sankhya Darshanam (vidyodayaBhashyam), Govindram Hasanand.
2. Acharya Rajveer Shastri, Patanjali Yog Daršana Bhashyam, Arsha Sahitya Prachar Trust.
3. Acharya Udayveer Shastri, Brahma Sutra (Vedanta Darshanam), Govindram Hasanand.
4. Krishna, I. (2010) The SāṃkhyaKarika, Bharatiya VidyaPrakashan, 4th edition
5. Madhavacharya, Sarva-DarshanaSamgrah ChaukhambhaVidyabhavan, Varanasi.
6. Muller, F.M. (1928) The Six Systems of Indian Philosophy, London: Longmans Green and Co. Publication.
7. Maharaj O. () PatanjaliYogpradeep, Geeta press Gorakhpur
8. Vachaspati M. Sankhyatatvakaumudi, Motilal Banarasi Das Publication.
9. Shreemad Bhagwat geeta
10. Shankaracharya, VivekChoodamani
11. Rajyoga, Swami Shivananda
12. The Nyāya Sutras of Gotama, Sinha, N. (Ed.). Motilal Banarsidass Publ. (1990).
13. Pandit Madanmohan Vidyasagar. Sanskar Samuchaya, Vijaykumar Govindram Hasanand. 1998
14. Vedic Vision: Ancient Insights Into Modern Life, Satyavrata Siddhantalankar, Vijay Krishn Lakhnupal, 1999
15. Sanskar Chandrika (Hindi), Dayananda Saraswati, and Satyavrata Siddhantalankar. Vijay Krishn Lakhnupal, (1990).
16. THE TAITTIRIYA Upanishad, Achari, Sri Rama Ramanuja. (2013).
17. Vedic religion: The Taittiriya-Upanishad with the commentaries of Sankaracharya Suresvaracharya and Sayana (Vidyarana). Sastri, A. Mahadeva.(2016).
18. Taittiriyanpanishad Sankara Bhashya With Hindi Translation Gita Press 1936.
19. Gautama's Nyāyasūtras: With Vātsyāyana-Bhāṣya. Jha, Ganganatha, ed. Oriental Book Agency, 1939.
20. NyayaDarshnam, Acharya Udayveer Shastri, Vijaykumar Govindram Hasanand (2018)
21. VaisheeshikaDarshanam, Acharya Udayveer Shastri, Vijaykumar Govindram Hasanand (2017)
22. Chattejee, S.G. and Datta, D.M. (1960) An Introduction to Indian Philosophy, Calcutta: University of Calcutta Press.
23. A Foundation Course in Human Values and Profession Ethics (Text Book and Teachers' Manual), R. R. Gaur, R. Asthana, G. P. Bagaria (2019 Second Revised Edition), Excel Books, New Delhi [ISBN 978-93-87034-47-1].
24. Class notes on "Human Values in Vedic Daršana" available on [www.uhv.org.in](http://www.uhv.org.in)
25. PPTs for "Human Values in Vedic Daršana" available on [www.uhv.org.in](http://www.uhv.org.in)





## SEMESTER I

### MANAGEMENT CONCEPTS AND ORGANISATIONAL BEHAVIOUR

Course Credit: 3

Contact Hours: 40

#### Course Objectives:

1. To provide basic understandings of management processes
2. To help the students understand the concepts of organizational behaviour
3. To apply the concepts of management and organizational behaviors in real world situations
4. Familiarizing the students with the contemporary issues in management.
5. Developing managerial and leadership skills among students

#### UNIT I (8 Lectures)

Fundamentals of Management: Management practices from past to present, Different levels of management, Managerial skills and Managerial Functions, Case Studies

Planning- Objective of planning, Planning process, Types of planning, Types of plans, Management by Objective, Decision-making- types, process & techniques,. Case Studies

#### UNIT-II (8 Lectures)

Organising & Staffing- Types of organization, Organization structure and decentralization of authority, Meaning of staffing, Recruitment, selection & placement, Training & development..

Directing & Controlling- Principle of directing, Essence of coordination, Different control techniques, Management by exception. Case Studies

#### UNIT III(8 Lectures)

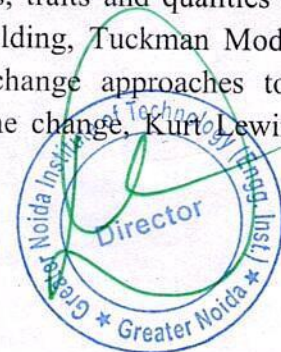
Fundamentals of individual behavior, Personality, types of personality, Personal effectiveness, meaning of Attitudes, Types, Components, attitude formation and attitude change. Meaning & Type of Group Behaviour, Interpersonal skills, Transactional Analysis, Johari Window,

#### UNIT IV (8 Lectures)

Motivation:, Theory of Motivation: Maslow's, Herzberg's, McClelland, Contemporary theories of Motivation: Self Determination Theory, Self Efficacy Theory, Vroom's Expectancy Theory, Equity Theory, Reinforcement Theory, Meaning of Perception, process, behavioral applications of perception. Case Studies

#### UNIT V: (8 Lectures)

Leadership: What is leadership, types of leaders and leadership styles, traits and qualities of effective leader, trait theory, LSM – Leadership Situational Model, Team Building, Tuckman Model of Team Development. Organizational Change: Meaning of organizational change approaches to managing organizational change, creating a culture for change, implementing the change, Kurt Lewin Model of change. Case Studies

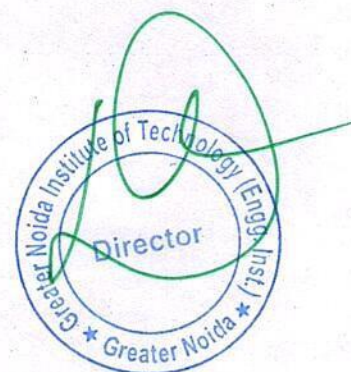


## COURSE OUTCOME

Course Outcomes	Bloom's taxonomy
CO 1: Developing understanding of managerial practices and their perspectives.	Knowledge (K 2) Remembering (K1)
CO2: Understanding and Applying the concepts of organizational behaviour	Knowledge (K 2) Applying (K 4)
CO 3: Applying the concepts of management and analyze organizational behaviors in real world situations	Applying (K 4) Analyzing (K 5)
CO 4: Comprehend and practice contemporary issues in management.	Comprehending (K 3)
CO 5: Applying managerial and leadership skills among students	Applying (K4)

### Suggested Readings

1. Koontz Harold & Wehrich Heinz – Essentials of management (Tata McGraw Hill, 5th Edition, 2008)
2. L. M. Prasad- Principles and Practices of Management, Sulatn Chand & Sons, 7th edition, 2007.
3. Stephen P. Robbins, —Organizational Behaviourl, 12th Edition, Prentice Hall
4. Dr. Premvir Kapoor, Principles and Practices of Management, Khanna Publishing House, Delhi
5. Robbins & Coulter - Management (Prentice Hall of India, 9th Edition)
6. Principles of Management, George R. Terry & S.G. Franklin, AITBS, Delhi.
7. N M Khandelwal- Indian Ethos & Values for Management- Himalyan Publishing
8. Fred Luthans, —Organizational Behaviourl, 12th Edition, McGraw Hill International Edition
9. Aswathappa K, —Organizational Behaviour (Text, Cases and Games)l, Himalaya Publication
10. UdaiPareek, —Organizational Behaviorl, Oxford University Press



# BUSINESS COMMUNICATION

Course Credits: 3

Contact Hours: 40

## Course Objectives

1. To understand business communication strategies and principles for effective communication in domestic and international business situations.
2. To understand and appropriately apply modes of expression, i.e., descriptive, expository, narrative, scientific, and self-expressive, in written, visual, and oral communication.
3. To develop the ability to research and write a documented paper and/or to give an oral presentation.
4. To develop the ability to communicate via electronic mail, Internet, and other technologies for presenting business messages.
5. To understand and apply basic principles of critical thinking, problem solving, and technical proficiency in the development of exposition and argument.

### UNIT I : ( 8 Hours)

Introduction: Role of communication – defining and classifying communication – purpose of communication – process of communication – characteristics of successful communication – importance of communication in management – communication structure in organization – communication in crisis barriers to communication. Case Studies

### UNITII: (8 Hours)

Oral communication: What is oral Communication – principles of successful oral communication – what is conversation control – reflection and empathy: two sides of effective oral communication – effective listening – non – verbal communication. Written communication: Purpose of writing – clarity in writing – principles of effective writing – approaching the writing process systematically: The 3X3 writing process for business communication: Pre writing – Writing – Revising – Specific writing features – coherence – electronic writing process.

### UNITIII: (8 Hours)

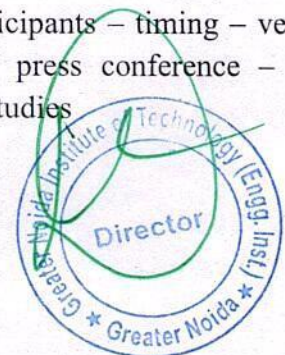
Business letters and reports: Introduction to business letters – writing routine and persuasive letters – positive and negative messages- writing memos – what is a report purpose, kinds and objectives of report writing. Presentation skills: What is a presentation – elements of presentation – designing a presentation. Advanced visual support for business presentation types of visual aid

### UNITIV: (8 Hours)

Employment communication: Introduction – writing CVs – Group discussions – interview skills Impact of Technological Advancement on Business Communication networks – Intranet – Internet – e mails – SMS – teleconferencing – video conferencing. Case Studies

### UNITV : (8 Hours)

Group communication: Meetings – Planning meetings – objectives – participants – timing – venue of meetings – leading meetings. Media management – the press release press conference – media interviews Seminars – workshop – conferences. Business etiquettes. Case Studies



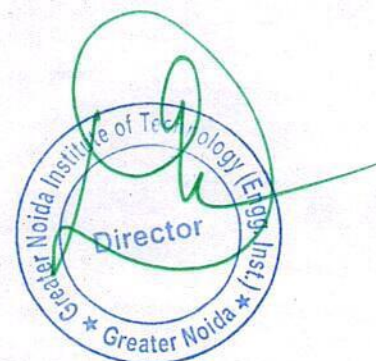
## Course Outcomes

Upon successful completion of this course, the student should be able to:

S. No.	Course Outcome	Bloom's Taxonomy
1	CO1. Apply business communication strategies and principles to prepare effective communication for domestic and international business situations.	Applying (K4)
2	CO2. Analyse ethical, legal, cultural, and global issues affecting business Communication.	Analyse (K5)
3	CO3. Develop an understanding of appropriate organizational formats and channels used in business communications	Knowledge (K2)
4	CO4. Gaining an understanding of emerging electronic modes of communication.	Comprehending(K3)
5.	CO5. Developing effective verbal and non verbal communication skills.	Remembering(K1)/ Applying (K4)

### Suggested Readings:

1. Bovee&Thill – Business Communication Essentials A Skill – Based Approach to Vital Business English. Pearson.
2. Kulbhushan Kumar & R.S. Salaria, Effective Communication Skills, Khanna Publishing House, Delhi
3. Bisen&Priya – Business Communication (New Age International Publication)
4. Kalkar, Suryavanshi, Sengupta-Business Communication(Orient Blackswan)
5. Varinder Bhatia, Business Communications, Khanna Publishing House
6. Business Communication: Skill, Concepts And Applications – P D Chaturvedi, MukeshChaturvedi Pearson Education.
7. AshaKaul, Business Communication, Prentice Hall of India.



**Technical Communication**  
**(KAS301/401)**  
**(Effective from the session 2019-20)**

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**2 1 0**

**Unit -I Fundamentals of Technical Communication:**

Technical Communication: Features; Distinction between General and Technical Communication; Language as a tool of Communication; Dimensions of Communication: Reading & comprehension; Technical writing: sentences; Paragraph; Technical style: Definition, types & Methods; The flow of Communication: Downward; upward, Lateral or Horizontal; Barriers to Communication.

**Unit - II Forms of Technical Communication:**

Technical Report: Definition & importance; Thesis/Project writing: structure & importance; synopsis writing: Methods; Technical research Paper writing: Methods & style; Seminar & Conference paper writing; Expert Technical Lecture: Theme clarity; Analysis & Findings; 7 Cs of effective business writing: concreteness, completeness, clarity, conciseness, courtesy, correctness, consideration, C.V./Resume writing; Technical Proposal: Types, Structure & Draft.

**Unit - III Technical Presentation: Strategies & Techniques**

Presentation: Forms; interpersonal Communication; Class room presentation; style; method; Individual conferencing: essentials: Public Speaking: method; Techniques: Clarity of substance; emotion; Humour; Modes of Presentation; Overcoming Stage Fear; Audience Analysis & retention of audience interest; Methods of Presentation: Interpersonal; Impersonal; Audience Participation: Quizzes & Interjections.

**Unit - IV Technical Communication Skills:**

Interview skills; Group Discussion: Objective & Method; Seminar/Conferences Presentation skills: Focus; Content; Style; Argumentation skills: Devices: Analysis; Cohesion & Emphasis; Critical thinking; Nuances: Exposition narration & Description; effective business communication competence: Grammatical; Discourse competence: combination of expression & conclusion; Socio-linguistic competence: Strategic competence: Solution of communication problems with verbal and non verbal means.

**Unit - V Dimensions of Oral Communication & Voice Dynamics:**

Code and Content; Stimulus & Response; Encoding process; Decoding process; Pronunciation Etiquette; Syllables; Vowel sounds; Consonant sounds; Tone: Rising tone; Falling Tone; Flow in Speaking; Speaking with a purpose; Speech & personality; Professional Personality Attributes: Empathy; Considerateness; Leadership; Competence.

**Reference Books**

1. Technical Communication – Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press, 2007, New Delhi.
2. Personality Development and Soft Skills by Barun K. Mitra, OUP, 2012, New Delhi.
3. Spoken English- A Manual of Speech and Phonetics by R.K.Bansal & J.B.Harrison, Orient Blackswan, 2013, New Delhi.
4. Business Correspondence and Report Writing by Prof. R.C. Sharma & Krishna Mohan, Tata McGraw Hill & Co. Ltd., 2001, New Delhi.
5. Practical Communication: Process and Practice by L.U.B. Pandey; A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2014, Delhi.



6. Modern Technical Writing by Sherman, Theodore A (et.al); Apprenctice Hall; New Jersey; U.S.
7. A Text Book of Scientific and Technical Writing by S.D. Sharma; Vikas Publication, Delhi.
8. Skills for Effective Business Communication by Michael Murphy, Harward University, U.S.
9. Business Communication for Managers by Payal Mehra, Pearson Publication, Delhi.

### Course Outcomes

1. Students will be enabled to **understand** the nature and objective of Technical Communication relevant for the work place as Engineers.
2. Students will **utilize** the technical writing for the purposes of Technical Communication and its exposure in various dimensions.
3. Students would imbibe inputs by presentation skills to **enhance** confidence in face of diverse audience.
4. Technical communication skills will **create** a vast know-how of the application of the learning to promote their technical competence.
5. It would enable them to **evaluate** their efficacy as fluent & efficient communicators by learning the voice-dynamics.



## REVISED FIRST YEAR SYLLABUS 2020-21

KNC-101

SOFT SKILLS-I

2L:0T:0P

### SOFT SKILLS-I

#### UNIT I- Basics of Applied Grammar and usage

Tenses: Part of Speech, Active & Passive Voice, Articles, Subject-verb agreement, Antonyms, Synonyms, Prefix and Suffix, Narration, Conditional sentences, Concord, Tag questions, punctuation marks.

#### UNIT II- Presentation and Interaction Skills

Speech Delivery, Interjecting: Objectives & Methodology; Group Discussion: Objectives & Methods; Theme Presentation: Methods; Argumentative skills: Pattern and Ingredients; Debate & Discussion: Unity, Coherence & Emphasis. Public Speaking: Audience Analysis: Approach and Style. Interviews: Types; Focus & Objectives.

#### UNIT III- Interpersonal Communication Skills

Features: Methods; Principles; Requisites; Team- work; Skills: Empathy, Emotional Intelligence, empathy and listening skills. Time Management; Attitude; Responsibility. Leadership qualities: Integrity; Values; Trust; Self-Confidence & Courage; Communication and Networking; Speed reading; Problem Solving & Trouble- Shooting

#### UNIT IV- Persuasion and Negotiation Skills

Definition; Understanding Attitude, Beliefs, Values and Behavior; The process of Persuasion: Analysis of Audience; Classification of Audience; Egoistic and Non-Egoistic; Specific Techniques for Specific Audience; Skills of Persuasion, Steps to Persuasion/Influence, Negotiation: Definition; Process of Negotiation: Characteristics; Qualities of good negotiator; Approaches to Negotiation.

#### UNIT V- Communication Skills

Introduction to oral communication, Nuances & Modes of Speech Delivery, Public speaking: confidence, clarity, and fluency, Non verbal Communication: Kinesics, Paralinguistic features of Voice-Dynamics, Proxemics, Chronemics, and Presentation Strategies: planning, preparation, organization, delivery.

#### Course Outcome:

**Unit 1-** Students will be enabled to **understand** the correct usage of grammar.

**Unit 2-** Students will **apply** the fundamental inputs of communication skills in making speech delivery, individual conference, and group communication.

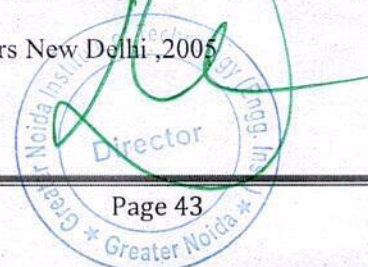
**Unit 3-** Students will **evaluate** the impact of interpersonal communication on their performance as a professional and in obtaining professional excellence at the workplace.

**Unit 4-** Skills and techniques of persuasion and negotiation would **enhance** the level of students at multifarious administrative and managerial platforms.

**Unit 5-** Student will be able to **equip** with basics of communication skills and will **apply** it for practical and oral purposes by being honed up in presentation skills and voice-dynamics.

#### Prescribed Books:

1. **Technical Communication, (Second Ed.); O.U.P.,** Meenakshi Raman & S.Sharma New Delhi, 2011
2. **Business Communication for Managers,** Payal Mehra, Pearson, Delhi, 2012.
3. **Personality Development,** Harold R. Wallace et. al, Cengage Learning India Pvt. Ltd; New Delhi 2006
4. **Practical Communication** by L.U.B. Pandey; A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2013, Delhi.
5. **Personality Development & Soft Skills,** Barun K.Mitra, Oxford University Press, New Delhi, 2012.
6. **Public Speaking,** William S. Pfeiffer, Pearson, Delhi, 2012.
7. **Human Values,** A.N. Tripathi, New Age International Pvt. Ltd. Publishers New Delhi, 2005



## REVISED FIRST YEAR SYLLABUS 2020-21

KNC-201

SOFT SKILLS-II

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### SOFT SKILLS-II

#### UNIT I- LSRW Skills

Active Listening: Meaning and Art of Listening, Pronunciation, Tongue-Twisters, Stress in English Language, Reading style: Skimming; Scanning; Churning & Assimilation, Effective writing tools, Writing: Methods: Inductive; Deductive; Exposition; Linear; Interrupted; Spatial & Chronological etc

#### UNIT II- Conversational& Social Skills

Definition of Conversation; Speech and Conversation: Distinction; Listening and Conversation; Sustaining Interest; Rules of Conversation; Conversation and Personality; Importance of Conversation: Competence Relationships; Social Skills: Role of Communication; Purposeful Socializing; Attributes: Effective Communication; Conflict Resolution;; Relationship Management; Respect; Improvement Techniques: Feedback; Goal Setting; Affording Resources; Adopting Interpersonal Skills; Importance.

#### UNIT III- Motivation Skills

Motivation: Definition; Sources of Motivation: Initiative; Willingness To Work; Eagerness to take on Work; Initiative; Learning Ability; Going Extra Miles; Learning And Analysis; Motivating Others: Techniques; One To One Correspondence; Understanding; Individual Motivation; Mobilizing Optimal Performance; Praise and Compliment; Goal Setting for Individual Employee; Individual Cultivation of Skills; Facilitating Active Involvement; Trust in the Working Hands.

#### UNIT IV- Work-Place Skills

Managing Stress; Techniques: Application of 4 A's; Avoid; Alter; Access; Adapt; Resilience: Flexibility in Thought and Behavior; Tolerance and Self-Belief; Team-Work and Communication; Compassion in Leadership; Communication Skills; Listening and Responding; Speaking Skills; Positive Thinking: Controlling Mind.

#### UNIT V- Creativity and Critical Thinking

Creativity: Definition; Characteristics of Creative Person: Fluency; Originality; Curiosity; Critical Thinking: Definition; Abilities: Discerning Facts and Claims; Credibility Analysis; Identifying Valid Reasons; Distinguishing Relevant from Irrelevant Fact/Claims; Detecting Bias; Knowing the Hidden Motives; Creative Methods; Features.

#### Course Outcome:

**Unit 1-** Students will be able to **converse** well with effective LSRW skills in English.

**Unit 2-** Students will **evaluate** the importance of conversation in their personal and professional domain and **apply** it for extending their professional frontiers.

**Unit 3-** Students will learn to **apply** motivation skills for their individual and professional excellence.

**Unit 4-** Students will **utilize** their teamwork and their interpersonal communication skills to survive and excel at their work-place.

**Unit 5-** Students will learn to **evaluate** creativity for their professional innovation and critical thinking for their competence.

#### Prescribed Books:

1. **Technical Communication, (Second Ed.); O.U.P.,** Meenakshi Raman &S.Sharma New Delhi, 2011
2. **Personality Development,** Harold R. Wallace et. al, Cengage Learning India Pvt. Ltd; New Delhi 2006
3. **Personality Development & Soft Skills,** Barun K. Mitra, Oxford University Press, New Delhi, 2012.
4. **Practical Communication** by L.U.B. Pandey; A.I.T.B.S. Publications India Ltd.; Krishan Nagar, 2013, Delhi.
5. **Developing Communication Skills:** by Krishna Mohan, Meera Banerji; McMillan India Ltd, Delhi,1990.
6. **Communication Skills for Engineers and Scientists:** Sangeeta Sharma et. al., THI Learning Pvt Ltd, New Delhi, 2011.
7. **Public Speaking,** William S. Pfeiffer, Pearson, Delhi, 2012.
8. **Human Values,** A.N. Tripathi, New Age International Pvt. Ltd. Publishers New Delhi, 2005.