STRUCTURE OF THE SYLLABUS FOR 4 YEAR UG PROGRAMME

ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

B.Tech Civil Engineering

		SEMESTER 1
S. No.	**Subject Code**	**Names of subjects**
1	CHY022C101	Chemistry
2	CHY022C111	Chemistry Lab
3	MAT022C102	Mathematics - I
4	CEE022C103	Biology for Engineers
5	CSE022C104	Programming for Problem Solving
6	CSE022C114	Programming for Problem Solving Lab
7	MEE022C115	Manufacturing Workshop Practice
8	BHS022A101	Universal Human Values
9	CEE022S117	Sports and Yoga Lab/NSS
		TOTAL
		SEMESTER 2
S. No.	**Subject Code**	**Names of subjects**
1	PHY022C201	Physics
2	PHY022C211	Physics Lab
3	MAT022C202	Mathematics - II
4	CSE022C205	Basic Electrical Eng.
5	CSE022C215	Basic Electrical Eng. Lab
6	CEE022C204	Eng. Graphics & Design
7	CEE022C214	Eng. Graphics & Design Lab
8	CEN982A203	English for Technical Writing
9	COD022S216	Design Thinking
10	CEE022S217	Ideation Lab
		TOTAL
11	**Honours (Optional) [To be obtained through MOOCS]**	
		SEMESTER 3
S. No.	**Subject Code**	**Names of subjects**
1	CEE022C301	Engineering & Solid Mechanics
2	CEE022C311	Engineering & Solid Mechanics Lab
3	CEE022C303	Building Planning & CAD
4	CEE022CC313	Building Planning & CAD Lab
5	CEE022C304	Fluid Mechanics
6	CEE022C314	Fluid Mechanics Lab
7	CEE022C305	Concrete Technology

8	CEE022C315	Concrete Technology Lab
9	MAT022C306	Mathematics for Civil Engineering
10	IKS022C305	IKS-I
		TOTAL
11		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**

SEMESTER 4

S. No.	Subject Code	Names of subjects
1	CEE022C401	Structural Analysis
2	CEE022C402	Hydraulic Engineering
3	CEE022C412	Hydraulic Engineering Lab
4	CEE022C403	Transportation Engineering
5	CEE022C413	Transportation Engineering Lab
6	CEE022C404	Surveying and Geomatics
7	CEE022C414	Surveying and Geomatics Lab
8	CEE022C405	Construction Engineering & Management
9	CEE022C406	Geotechnical Engineering
10	CEE022C416	Geotechnical Engineering Lab
		TOTAL
11		**Honors/Minor (Optional) [To be obtained through MOOCS/ S**

SEMESTER 5

S. No.	Subject Code	Names of subjects
1	CEE022C501	Design of RCC Structures
2	CEE022C502	Environmental Engineering
3	CEE022C512	Environmental Engineering Lab
4	CEE022C503	Engineering Economics, Estimation & Costing
5	CEE022C513	Engineering Economics, Estimation & Costing Lab
6	CEE022C504	Hydrology & Water Resource Engineering
7	CEE022C505	Program elective I
8	CEE022M505	Open Elective
		TOTAL
9		**Honors/Minor (Optional) [To be obtained through MOOCS/ S**

SEMESTER 6

S. No.	Subject Code	Names of subjects
1	CEE022C601	Design of Steel Structures
2	CEE022C602	Intelligent Transportation Systems
3	CEE022C603	Sustainable & Green Construction
4	CEE022D60X	Program Elective- 2(Basket)
5	CEE022D60X	Program Elective- 3(Basket)
6	XX(OEC)	Open Elective (Basket Course)
		TOTAL
7		**Honors/Minor (Optional) [To be obtained through MOOCS/ S**

SEMESTER 7

S. No.	Subject Code	Names of subjects
1	CEE022C70X	Robotics and Automation
2	CEE022D60X	Program Elective- 4(Basket)
3	CEE022D60X	Program Elective- 5(Basket)
4	CEE022D60X	Program Elective- 6(Basket)
5	CEE022D60X	Program Elective- 7(Basket)
6	CEE022070X	MD Open elective
7	CEE022C721	Minor Project
		TOTAL

8		**Honors/Minor (Optional) [To be obtained through MOOCS/ S**
		SEMESTER 8
S. No.	**Subject Code**	**Names of subjects**
1	CEE022C801	INTERNSHIP
2	CEE022C802	Major Project
		TOTAL
3		**Honors/Minor (Optional) [To be obtained through MOOCS/ S**

TOTAL CREDITS (1st-8th Semester):167

STRUCTURE OF THE SYLLABUS FOR 2 YEAR PG PROGRAMME

ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

M.TECH in Structural Engineering

1st Semester			
S. N	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C10S1	Advanced Structural Analysis	4
2	CEE024C10S2	Continuum Mechanics	4
3	CEE024C10S3	Structural Dynamics	4
4	CEE024C10S4	Numerical Methods	4
5	CEE024C10S5	Disaster Management	1
6	CEE024C11S6	Structural Engineering Lab	1
7	CEE024D10S1	Elective-I	3
8	CEE024D10S2	Elective-II	3
		TOTAL	**24**
2nd Semester			
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C20S1	Finite Element Method	4
2	CEE024C20S2	Computer Aided Analysis & Design of Structures	4
3	CEE024C20S3	Earthquake Engineering	4
4	CEE024C20S4	Research Methodology & IPR	2
5	CEE024D20S1	Elective-III	3
6	CEE024D20S2	Elective-IV	3
7	CEN984A201	English for Research Paper Writing	1
		TOTAL	**21**

3rd Semester			
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C32S2	Dissertation (Phase-I) & Presentation	14
4	CEE024D30S1	Elective-V	3
5	CEE024S30S1	Repair & Retrofitting of Structures	3
4th Semester			
		TOTAL	**20**
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C42S1	Dissertation (Phase-II) & Presentation	18
2	CEE024C42S2	Publication of Technical Papers	1
		TOTAL	19

SEMESTER	**CREDITS**
I	**24**
II	**21**
III	**20**
IV	**19**

Elective-I (Theory of Structural Stability)

Elective-II (Analysis & Design of Bridges)

Elective-III (Design of High-Rise Structures / Advanced Steel Design)

Elective-IV (Advanced Structural Design)

Elective-V (Design of Prestressed Concrete Structures)

STRUCTURE OF THE SYLLABUS FOR 2 YEAR PG PROGRAMME

ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

M.TECH in Water Resources Development & Management (WRDM) Engineering

1st Semester			
S. N	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C10W1	Advanced Hydrology	4
2	CEE024C10W2	Advanced Hydraulic Engineering	4
3	CEE024C10W3	Watershed Conservation and Management	4
4	CEE024C10W4	Numerical Methods	4
5	CEE024C10W5	Disaster Management	1
6	CEE024C11W6	Hydrology Lab	1
Department Specific Elective (DSE)			
7	CEE024D10W1	Elective-I (Fluvial Hydraulics)	3
8	CEE024D10W2	Elective-II (Climate Change Vulnerability assessment)	3
		TOTAL	**24**
2nd Semester			
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C20W1	Principles of Water Quality and EIA	4
2	CEE024C20W2	Ground Water Engineering	4
3	CEE024C20W3	Systems Analysis in Water Resources	4
4	CEE024C20W4	Research Methodology & IPR	2
Department Specific Elective (DSE)			
5	CEE024D20W1	Elective-III (Theory and Applications of GIS)	3
6	CEE024D20W2	Elective-IV (Environmental Impact Assessment of Water Resource Projects)	3
7	CEN984A201	English for Research Paper Writing	1
		TOTAL	**21**

3rd Semester			
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C32W2	Dissertation (Phase-I) & Presentation	14
2	CEE024D30W1	Elective-V (Urban Water Resources Management)	3
3	CEE024S30W1	Waste to Energy	3
		TOTAL	**20**
4th Semester			
SN	**Subject Code**	**Names of subjects**	**Credit**
1	CEE024C42S1	Dissertation (Phase-II) & Presentation	18
2	CEE024C42S2	Publication of Technical Papers	1
		TOTAL	**19**

STRUCTURE OF THE SYLLABUS FOR 4 YEAR UG PROGRAMME

ROYAL SCHOOL OF ENGINEERING & TECHNOLOGY

B.Tech Electronics and Communications

1st Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	PHY022C101	Physics	3	0	0	3
2	PHY022C111	Physics Lab	0	0	2	1
3	MAT022C102	Mathematics – I	3	1	0	4
4	ECE022C103	Basic Electrical Engineering	2	1	0	3
5	ECE022C103	Basic Electrical Engineering Lab	0	0	2	1
4	CEE022C104	Engineering Graphics & Design	3	0	2	4
5	ECE022C105	Design Thinking	0	0	2	1
5	ECE022S106	IDEA Lab Workshop	0	0	2	1
6	CEN022A201	English for Technical Writing	2	0	2	3
		TOTAL	**13**	**2**	**12**	**21**
7		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
2nd Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	CHY022C201	Chemistry	3	0	0	3
2	CHY022C211	Chemistry Lab	0	0	2	1
3	MAT022C202	Mathematics – II	3	1	0	4
4	ECE022C203	Biology for Engineers	3	0	0	3
5	CSE022C204	Programming for Problem Solving	2	0	0	2
6	CSE022C214	Programming for Problem Solving Lab	0	0	4	2
7	MEE022C215	Workshop/Manufacturing Practices	0	0	4	2
8	BHS022A201	Universal Human Values	2	1	0	3
9	ECE022S216	Sports and Yoga	0	0	2	1
		TOTAL	**13**	**2**	**12**	**21**
10		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
3rd Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C301	Electronic Devices	3	0	0	3

2	ECE022C311	Electronic Devices Lab	0	0	2	1
3	ECE022C302	Digital System Design	3	0	0	3
4	ECE022C312	Digital System Design Lab	0	0	2	1
5	ECE022C303	Signals and Systems	3	0	0	3
6	ECE022C304	Network Theory	3	0	0	3
7	ECE022C305	Probability Theory and Stochastic Processes	2	1	0	3
8	IKS992K301	Indian Knowledge System-I	2	0	0	2
9	ECE022C306	Measurement and Instrumentation	3	0	0	3
		TOTAL	**19**	**1**	**4**	**22**
10		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
4th Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C401	Analog Circuits	3	0	0	3
2	ECE022C411	Analog Circuits Lab	0	0	2	1
3	ECE022C402	Microcontrollers	3	0	0	3
4	ECE022C412	Microcontrollers Lab	0	0	2	1
5	ECE022C403	Analog and Digital Communication	3	0	0	3
6	ECE022C413	Analog and Digital Communication Lab	0	0	2	1
7	ECE022C424	Micro Project	0	0	4	2
8	MAT022C405	Numerical Techniques	2	0	2	3
9	BSA022C406	Organizational Behaviour	3	0	0	3
		TOTAL	**14**	**0**	**12**	**20**
10		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
5th Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C501	Digital Signal Processing	3	1	0	4
2	ECE022C511	Digital Signal Processing Lab	0	0	2	1
3	ECE022C502	Electromagnetic Waves	3	1	0	4
4	ECE022C503	Computer Architecture	3	0	0	3
5	ECE022C504	Control Systems	3	0	0	3
6	ECE022C514	Control Systems Lab	0	0	2	1
6	ECE022C505	Embedded Systems	3	0	0	3
7	ECE022C515	Embedded Systems Lab	0	0	2	1
		TOTAL	**15**	**2**	**6**	**20**
8		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
6th Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C601	Computer Networks	3	0	0	3
2	ECE022C611	Computer Networks Lab	0	0	2	1
3	ECE022C602	VLSI Design	3	0	0	3
4	ECE022C612	VLSI Design Lab	0	0	2	1
5	ECE022C603	Mobile Communication and Networks	3	0	0	3
6	ECE022D60X	Program Elective- I	3	0	0	3
7	ECE022G606	Open Elective-I	3	0	0	3

8	ECE022C627	Mini Project	0	0	6	3
		TOTAL	**15**	**0**	**10**	**20**
9		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
7th Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C701	Intellectual Property Rights	3	0	0	3
2	ECE022D701	Program Elective-2	3	0	0	3
3	ECE022D601	Program Elective-3	3	0	0	3
4	ECE022G702	Open Elective-2	3	0	0	3
5	ECE022G703	Open Elective-3	3	0	0	3
6	CSE022C725	Internship	0	0	4	2
7	CSE022C726	Seminar	0	0	2	1
		TOTAL	**15**	**0**	**6**	**18**
8		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
8th Semester						
S. No.	**Subject Code**	**Names of subjects**	**L**	**T**	**P**	**C**
1	ECE022C801	Program Elective-4	3	0	0	4
2	ECE022G802	Open Elective-4	3	0	0	4
4	ECE022C823	Project	0	0	24	12
		TOTAL	**6**	**0**	**24**	**18**
5		**Honors/Minor (Optional) [To be obtained through MOOCS/ SWAYAM]**	**0**	**0**	**0**	**3**
TOTAL CREDITS (I, II, III, IV, V, VI, VII, VIII):						**160**

Annexure I

Semester-wise Credit Distribution

Semester	Credit
I	21
II	21
III	22
IV	20
V	20
VI	20
VII	18
VII	18

Annexure II

Program Elective	Course Codes	Subjects
Program Elective-I	ECE022D60A1	Microwave Theory and Techniques
	ECE022D60B1	Fiber Optic Communications
	ECE022D60C1	Information Theory and Coding
	ECE022D60D1	Digital Audio Processing
	ECE022D60E1	Introduction to MEMS
Program Elective-II	ECE022D70A1	Adaptive Signal Processing
	ECE022D70B1	Antennas and Propagation
	ECE022D70C1	Bio-Medical Electronics
	ECE022D70D1	Advanced Mobile Communications
	ECE022D70E1	Digital Image Processing
Program Elective-III	ECE022D70A2	Mixed Signal Design
	ECE022D70B2	Wireless Sensor Networks
	ECE022D70C2	Power Electronics
	ECE022D70D2	Satellite Communication
	ECE022D70E1	High Speed Electronics
Program Elective-IV	ECE022D80A1	Nanoelectronics
	ECE022D80B1	Data Structures
	ECE022D80C1	Internet of Things
	ECE022D80D1	Cyber Security
	ECE022D80E1	Machine Learning