2018 scheme highlighting the employability courses with DS

Department of Civil Engineering

Details of 2018 Scheme

V Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration in Hrs.
18UHUC500	HU	Management, Entrepreneurship and IPR	4 - 0 - 0	4	50	100	3	-	-
18UCVC500	PC	Structural Analysis-II	4 - 0 - 0	4	50	100	3	-	-
18UCVC501	PC	Design of RC Structural Elements	4 - 0 - 0	4	50	100	3	-	-
18UCVC502	PC	Geotechnical Engineering – I	3 - 0 - 0	3	50	100	3	-	-
18UCVC503	PC	Hydrology	3 - 0 - 0	3	50	100	3	--	--
18UCVE5XX	PE	Program Elective-1	3 - 0 - 0	3	50	100	3	--	--
18UCVL504	PC	Computer Aided Design Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UCVL505	PC	Concrete and highway Laboratory	0 - 0 -3	1.5	50	--	--	50	3
18UCVL506	PC	Minor Project-1	0 - 0 -2	1	50	--	--	--	--
18UHUL507	HU	Soft skills/Aptitude	0 - 0 -2	1	50	--	--	--	--
Total			**21- 0 -10**	**26**	**500**	**600**		**100**	

List of Program Elective 1

Course Code	Course Title
18UCVE515	Design of Masonry Structures
18UCVE516	Harbour, Dock & Tunnel Engineering
18UCVE517	Railway and Airport Engineering
18UCVE518	Watershed Management
18UCVE519	Alternative Building Materials
18UCVE520	Advanced Concrete Technology
18UCVE521	Photogrammetry and Remote Sensing

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VI Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UCVC600	PC	Quantity Surveying and Estimation	4 - 0 - 0	4	50	100	3	-	-
18UCVC601	PC	Geotechnical Engineering - II	4 - 0 - 0	4	50	100	3	-	-
18UCVE6XX	PE	Program elective 1	3 - 0 - 0	3	50	100	3	-	-
18UCVE6XX	PE	Program elective 2	3 - 0 - 0	3	50	100	3	-	-
18UCVO6XX	OE	Open Elective 1	3 - 0 - 0	3	50	100	3	--	--
18UCVL602	PC	Geotechnical Engineering Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UCVL603	PC	Software Laboratory	0 - 0 - 3	1.5	50	--	--	50	3
18UCVL604	PC	Minor Project 2 (Extensive Survey project)	0 - 0 - 4	2	50	--	--	50	3
18UHUL605	HU	Soft skills/Aptitude	0 - 0 -2	1	50	--	--	--	--
Total			**17 - 0 -12**	**23**	**450**	**500**		**150**	

PC- Program Core, PE-Program Elective, HU- Humanities

List of Program Electives

Course Code	Course Title
18UCVE615	Matrix Method of Structural Analysis
18UCVE616	Design of Special RC Structures
18UCVE617	Advanced Structural Analysis
18UCVE619	Open channel Hydraulics

List of Open Elective

Course Code	**Course Title**
18UCVO601	Traffic Engineering

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VII Semester B. E.

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UCVC700	PC	Wastewater Engineering	4 - 0 - 0	4	50	100	3	-	-
18UCVC701	PC	Design of Steel Structures	4 - 0 - 0	4	50	100	3	-	-
18UCVE7XX	PE	Program Elective-4	3 - 0 - 0	3	50	100	3	-	-
18UCVO7XX	OE	Open Elective 2	3 - 0 - 0	3	50	100	3	--	--
18UCVL702	PC	Major Project Phase-1	0- 0 -4	2	50	--	--	50	3
18UCVL703	PC	Internship	4 w e e k s	2	50	--	--	50	3
18UCVL704	PC	Environmental Engineering Laboratory	0 - 0 - 2	1	50	--	--	50	3
		Total	**14 - 0 - 6**	**19**	**350**	**400**		**150**	

PC- Program Core, PE-Program Elective, OE- Open Elective and HU- Humanities,

List of Elective Courses

Course Code	Course Title
18UCVE714	Advanced design of RC Structures
18UCVE715	Introduction to Bridge Engineering
18UCVE716	Structural Dynamics
18UCVE718	Advanced Foundation Design
18UCVE724	Construction Contract Management
18UCVE725	Earthquake resistant structures
18UCVE726	Construction Equipment and Management
18UCVE727	Design of Prestressed Concrete Structures
18UCVE728	Urban Transport Planning

List of Open Elective Course

Course Code	Course Title
18UCVO701	Introduction to law for Engineers

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VIII Semester B. E.

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UCVC800	PC	Water resources Engineering	4 - 0 - 0	4	50	100	3	-	-
18UCVE8XX	PE	Program Elective-5	3 - 0 - 0	3	50	100	3	-	-
18UCVO8XX	OE	Open Elective 3	3 - 0 - 0	3	50	100	3	--	--
18UCVL801	PC	Technical Seminar	0 - 0 - 2	1	50	--	--	--	--
18UCVL802	PC	Major Project Phase-2	0 - 0 -12	7	50	--	--	50	3
	Total		**10 – 0 - 14**	**18**	**250**	**300**	**--**	**50**	**--**

PC- Program Core, PE-Program Elective and OE- Open Elective

List of Elective Courses

Course Code	Course Title
18UCVE818	Principles and Practice of Construction Project Management
18UCVE819	Ground Improvement Techniques
18UCVE825	Design of Reinforced Concrete Bridges
18UCVE826	Solid Waste Management
18UCVE827	Air Pollution Control
18UCVE828	Advanced Design of Steel Structure

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List of New Courses (2018 Scheme)

Course Code	Course Title	Semester
18UCVO701	Introduction to law for Engineers	VII
18UCVO601	Traffic Engineering	VI

18UCVO701 Introduction to Law for Engineers (3-0-0)3

Contact Hours: 39

Course Learning Objective (CLOs): Law for Engineers is taught as one of open elective courses for Engineering Program. In this course, Law of Tort, and important laws pertaining to Business Law, Corporate Law, Banking law and Workplace Law with reference to definition, provisions, applicability, enforcement and remedy are dealt. The delivering of topics will be made through lecture classes. The evaluation will be carried out through IAs & Semester End Examination.

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		**Mapping to PO (1-12)/ PSO (13-15)**		
		Substantial Level (3)	**Moderate Level (2)**	**Slight Level (1)**
CO-1	Understand definition, elements, nature, general principles, liability of state, and remedy of Law of Torts including specific torts and its application to consumer protection.		6	8
CO-2	Comprehend Indian Contract Act of 1872 with reference to general principles, essentials of a valid contract, performance of contract, breach of contract, contingent and quasi contract. Understand The sale of Goods Act of 1930 with reference to formation of contract of sale, conditions and warrantees, transfer of ownership and delivery of goods, unpaid seller and his rights. Understand the Competition Act of 2002 with reference to definition	6		8

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	and meaning, anti-competitive agreements, abuse of dominant position, breach, enforcement of law and formation of Competition Commission of India and the Competition Appellate Tribunal.			
CO-3	Comprehend The Companies Act of 2013 with reference to corporate personality, promoters, registration and incorporation, MOA, AOA, prospectus, directors, meetings, dividends, shares and debentures, types, procedure for allotment, rights and privileges of shareholders, preventions of oppression and mismanagement, different modes of winding up of companies. Understand the Information Technology act of 2000 – need, objectives and important provisions.	6		8
CO-4	Understand definitions, various provisions, applicability and enforcement of The Negotiable Instruments Act of 1881, Banking Regulation Act of 1949, The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act of 2002, Prevention of Money Laundering Act of 2002.		6	8
CO-5	Understand definitions, various provisions, applicability and enforcement of Law of Industrial Disputes Act of 1947, The Minimum Wages Act of 1948, The Employees Provident Fund Act of 1952, The Shops and Establishment Act of 1953, The Maternity Benefit Act of 1961, Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013 and, Introduction to Labour Codes			6,8,9

POs/PSOs	PO-6	PO-8	PO-9
Mapping Level	2.2	1	1

Prerequisites:

Students taking this course shall have the knowledge of following:

1. Constitution of India and Professional Ethics
2. Management, Entrepreneurship and Protection of Intellectual Property

Contents:

Unit I

Law of Tort: Definition, Elements and nature of torts, General Principles of Law of Torts, Liability of State in Tort, Damages as remedy in Tort, Specific torts and its application to consumer protection. **8 Hrs**

Unit II

Business Law: Indian Contract Act of 1872: General principles the Act (section 1 to 75), essentials of a valid contract, performance of contract, breach of contract, contingent and quasi contract.

The sale of Goods Act of 1930: Formation of contract of sale, conditions and warrantees, transfer of ownership and delivery of goods, unpaid seller and his rights.

The Competition Act of 2002: Definition and meaning, anti-competitive agreements and abuse of dominant position, breach, enforcement of law, Competition Commission of India and the Competition Appellate Tribunal. **8 Hrs**

Unit III

Corporate Law- The Companies Act of 2013: Corporate personality and its kinds, promoters, Registration and Incorporation - MOA, AOA, Prospectus, Directors, Meetings, Role of Company Secretary, Dividends, Issue of Shares, types of shares, debentures, procedure for allotment of shares and debentures, share capital, rights and privileges of shareholders, preventions of oppression and mismanagement, different modes of winding up of companies.

The Information Technology Act of 2000: Need, Objectives, Application, Important provisions, Offences and penalty under the Act. **8 Hrs**

Unit IV

Banking Law: The Negotiable Instruments Act of 1881, Banking Regulation Act of 1949, The Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act of 2002, Prevention of Money Laundering Act of 2002.

8Hrs

Unit V

Workplace Law - Law of Industrial Disputes Act of 1947, The Maternity Benefit Act of 1961, The Minimum Wages Act of 1948, The Employees Provident Fund Act of 1952, The Shops and Establishment Act of 1953, Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act of 2013. Labour Codes on:

Wages, Social Security, Industrial Relations, Occupational Safety, Health and Working Conditions. **7 Hrs**

Note: If new legislations are enacted in place of existing legislations, the syllabus would include corresponding provisions of such new legislations with effect from the date notified by the institute.

Reference Books:

1. Anirudh Wadhwa, 'Mulla: Indian Contract Act', LexisNexis.
2. J.N. Pandey, 'Law of Torts (With Consumer Protection Act and Motor Vehicles Act)', Central Law Publications, Allahabad.
3. Avtar Singh, 'Company Law', Eastern Book Company, Lucknow.
4. Kondaiah Jonnalagadda, 'Securities Law', LexisNexis.
5. Kandasami K.P, Natarajan S & Parameswaran, 'Banking Law and Practice', S Chand, New Delhi.

Bare Acts on all laws mentioned in the syllabus.

18UCVO601	Traffic Engineering	(3-0-0)3

Contact Hours: 39

Course Learning Objectives (CLOs): Traffic Engineering is taught as one of open elective course for Civil Engineering Program. In this course, students are given exposure to measure various traffic flow parameters, design traffic control devices, apply statistical methods for transport planning. The delivery of topics will be made through lecture classes and field visits. The evaluation will be carried out through Internal evaluation and Semester End Examination.

Course Outcomes (COs):

Description of the Course Outcome: At the end of the course the student will be able to:		**Mapping to POs(1-12)/ PSOS (13-15)**		
		Substantial Level (3)	**Moderate Level (2)**	**Slight Level (1)**
CO-1	Apply Engineering science to determine the power performance of the vehicle under various resisting forces.			1,2
CO-2	Illustrate and apply traffic flow parameters to develop an efficient transport system.	1,2,3		
CO-3	Summarize Traffic Flow theories to understand the traffic pattern.			1,2

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CO-4	Examine the transport system problems and apply statistical methods to overcome.		1,2	
CO-5	Illustrate various traffic regulation and control devices and develop suitable traffic signal system.	1,3,12		

POs/PSOs	PO-1	PO-2	PO-3	PO-12
Mapping Level	2	1.75	3	3

Prerequisites:
Students taking this course shall have the knowledge of following:
1) Highway Engineering.

Contents:

Unit-I

Introduction: Definition, Objectives, Scope of Traffic Engineering.

Road User and Vehicle Characteristics: Static and Dynamic characteristics, Power performance of vehicles, Resistances to the motion of vehicles, Reaction time of driver, Problems on above **7 Hrs.**

Unit-II

Traffic Parameter Studies and Analysis: Objectives and Method of study, Definition of study area, Sample size, Data Collection and Analysis Interpretation of following Traffic Studies, Volume, Spot Speed, Origin and Destination, Speed and Delay, Parking on Street and off Street Parking, Accidents, Causes, Analysis (right angle collision only with parked vehicle), Measures to reduce Accident, Problems. **10 Hrs.**

Unit-III

Traffic Regulation and Control: Vehicle and Road controls, Traffic Regulations, One Way, Traffic Signs, Traffic signals, Vehicle actuated and synchronized signals, Webster's method of signal Design, IRC Method, Problems. **7 Hrs.**

Unit-IV

Traffic Island: Traffic Rotary elements and traffic operation, Relevant Problems on above. Traffic markings. **7 Hrs.**

Unit-V

Probability Distribution: Poisson's Distribution and application to Traffic Engineering, Normal Distribution, Significance tests for observed Traffic Data, Chi square test, Problems on above, Sample size. **8 Hrs.**

Reference Books:

1) Khanna S.K. and Justo C E G.,“Highway Engineering”, Nemchand and Bros, Roorkee.
2) Kadiyali L.R.,“Traffic Engineering and Transport Planning”, Khanna Publishers, New Delhi.
3) Matson,Smith and Hurd., “Traffic Engineering”, McGraw Hill and Co.
4) Pignataro, “Traffic Engineering”, Prentice Hall.