Deenbandhu Chhotu Ram University of Science & Technology, Murthal (Sonepat)
SCHEME OF STUDIES & EXAMINATIONS
B.Tech. 3rd YEAR (SEMESTER – VI: CIVIL ENGINEERING)
Credit Based Scheme w.e.f. 2014-15

S. No.	Course No.	Course Title	Teaching Schedule L	T	P	Marks of Class work	Examination Marks Theory	Practical	Total	Credit	Duration of Exam
1	CE 302B	REINFORCED CONCRETE DESIGN – II	3	2		25	75	-	100	5	4
2	CE 304B	DESIGN OF STEEL STRUCTURES – I	3	2		25	75	-	100	5	3
3	CE 306B	FOUNDATION ENGINEERING	3	1		25	75	-	100	4	3
4	CE 308B	STRUCTURAL ANALYSIS - III	3	2		25	75	-	100	5	3
5	CE 310B	TRANSPORTATION ENGINEERING - II	3	1		25	75	-	100	4	3
6	CE 312B	ENVIRONMENTAL ENGINEERING - II	3	1		25	75	-	100	4	3
7	CE 314B	REINFORCED CONCRETE DESIGN – II LAB	-	-	2	20		30	50	1	3
8	CE 316B	FOUNDATION ENGINEERING LAB	-	-	2	20		30	50	1	3
9	CE 318B	ENVIRONMENTAL ENGINEERING – II LAB	-	-	2	20		30	50	1	3
10	HUM 302B	REPORT WRITING SKILLS	1	-	-	25	50	-	75	2	3
11.	HUM 304B	ORAL PRESENTATION SKILLS	-	-	2	20		30	50	1	2
12	GPCE 302B	GENERAL PROFICIENCY & ETHICS	1	-	-	75	-	-	75	2	-
		Total	**19**	**9**	**8**	**330**	**500**	**120**	**950**	**35**	

Note:
1. The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
2. Electronics gadgets including Cellular phones are not allowed in the examination.
3. Each students has to undergo Professional Training of at least 4 weeks from the industry, institute, research lab, training center etc during summer vacation and its evaluation shall be carries out in the VII semester.

CE – 302 B: REINFORCED CONCRETE DESIGN II

B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits				
				Class Work	:	25 Marks	
3	2	--	5	Examination	:	75 Marks	
				Total	:	100 Marks	
				Duration of Examination	:	4 Hours	

USE OF RELEVANT INDIAN STANDARD IS ALLOWED IN THE EXAMINATIONS. ONLY

LIMIT STATE DEISGN METHOD IS TO BE USED IN THIS COURSE.

UNIT I

Continuous Beams and slabs: Basic assumptions, Moment of inertia, settlements, Modification of moments, maximum moments and shear, redistribution of moments for single and multi-span beams, design examples.

Flat slabs: Advantages of flat slabs, general design considerations, approximate direct design method, design of flat slabs, design examples.

UNIT II

Foundations: Isolated footings, Combined footings, rectangular, trapezoidal, strip, strap, raft footings

UNIT III

Design of curved beams in plan: Analysis and Design of curved beams fixed at both ends, ring beams

Design of Domes: Meridional and hoop stress in spherical and conical domes, Design

UNIT IV

Retaining walls: Design of cantilever and counter fort type retaining walls.

Water Tanks: Estimation of Wind and earthquake forces, design requirements, rectangular and cylindrical underground ,Intze tanks, design considerations, design examples..

Text Books

1. Reinforced Concrete Structures, P. C. Varghese, Tata McGraw Hill
2. Advanced Reinforced Concrete Structures, P. C. Varghese, Tata McGraw Hill
3. Reinforced Concrete Design, M.L. Gambhir, Macmillan India Ltd., New Delhi
4. Limit State Design of Reinforced Concrete, A.K. Jain, Nem Chand and Bros., Roorkee
5. Behaviour, Analysis and Design of R.C.C. Structural Elements, I.C. Syal and Ummat, A.H. Wheelers, New Delhi

Reference Books

1. IS:456 2000
2. IS 3370 2009
3. Plain and Reinforced concrete, Vol. 2, O P Jain and J. Krishna, Nem Chand and Bros., Roorkee

4. Reinforced Concrete Design, S U Pillai and D Menon, Tata McGraw Hill

Note:

1. In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.
2. The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.

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CE – 304 B: DESIGN OF STEEL STRUCTURES I
B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	25 Marks
3	2	--	5	Examination	:	75Marks
				Total	:	100 Marks
				Duration of Examination	:	3 Hours

UNIT I

Introduction: Loads, structural steels and their specifications, structural elements, steel vs. concrete and timber, design approaches—elastic and limit state methods, design specifications as per IS: 800, structural layout, strength and stiffness considerations, efficiency of cross-section, safety and serviceability considerations.

Structural Fasteners and Connections: Riveting and bolting, their types, failure of riveted joint, efficiency of a joint, design of riveted joint, concentric riveted joints, advantages and disadvantages of bolted connections, stresses in bolts, types of welded joints, design of welded joint subjected to axial loads, welded joints subjected to eccentric loads, simple, semi-rigid and rigid connections.

UNIT II

Tension Members: Types of sections, net area, net effective area for angles, tees, design of tension members, tension splice, high strength steel cables.

Compression Members: Axially loaded columns, effective length, slenderness ratio, allowable stresses, general specifications, design of axially loaded members, laced and battened columns and their design, built up compression members, eccentrically loaded columns and their design, column splice and its design, encased columns.

UNIT III

Flexural Members: Design criteria, permissible stresses, laterally supported beams and their design laterally unsupported beams and their design, web buckling, web crippling, built up beams, encased beams, members subjected to bending and compression, Plate Girders: Introduction, weight and economic depth, design of flanges, design of web, curtailment of flange plates, intermediate and bearing stiffeners, design of a riveted and welded plate girders, web and flange splice.

Column Bases: Introduction, slab base, gusseted base, column base subjected to moment, grillage foundation.

UNIT IV

Tubular Structures: Permissible stresses, tube columns and compression members, tube tension members, tubular roof trusses, joints in tubular trusses, tubular beams and purlins

Aluminium Structures: Permissible stresses, tension members, compression members, local buckling of compression members, design of beams and connections

Text Books

1. Design of Steel Structures, Vol. 1 and Vol. II, Ram Chandara, Standard Book House.
2. Design of Steel Structures, by A.S. Arya and J.L. Ajmani. , Nem Chand Brothers, Roorkee.

Reference Books

1. Design of Steel Structures, P. Dayaratnam, Wheeler Publishing, New Delhi.
2. Design of Steel Structures, M. Raghupathi, Tata McGraw Hill, New Delhi.

Note:

1. In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will

be required to attempt only 5 questions selecting at least one question from each unit.

2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**

CE – 306 B: FOUNDATION ENGINEERING
B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	25 Marks
3	1	--	4	Examination	:	75 Marks
				Total	:	100 Marks
				Duration of Examination	:	3 Hours

UNIT I

Introduction to soil exploration: scope, soil exploration for different structures, spacing, significant depth, boring and sampling techniques, types of samples, penetration test (SCP and SPT), sample disturbances and Geophysical methods.

Earth Pressure: Earth Pressures at rest condition, states of plastic equilibrium, Rankine and Coulomb's theories for active and passive conditions, Influence of surcharge, water table, wall friction, Rehbann's and Culmann's graphical methods, open cuts, Retaining Walls.

UNIT II

Stability of Slopes: Infinite slope, types of failure, total and effective stress analysis, Taylor's stability numbers, concept of factors of safety, method of slices, Swedish's circle method, friction circle method, effect of sudden draw down and submergence.

Design of Shallow Foundation: Bearing Capacity, Definitions, depth of foundation, Terzaghi's general bearing capacity equation, IS code equation, factors affecting bearing capacity. Settlements for clays and sands, permissible settlements, bearing capacity by penetration tests, plate load test. Types of Shallow Foundations, Design Criteria, Stability, Shear, and Settlement Failures, Influence of eccentric and inclined loads.

UNIT III

Pile Foundations: Types, function, selection of piles, pile driving formulae, equipment, point, bearing and friction piles. Load carrying capacity of single pile, group action, spacing of piles, Negative skin friction, Piles subjected to lateral loads, settlement of pile groups, under reamed piles. Caissons and Wells: Introduction, components, shapes, stability of well foundation, Terzaghi's method of analysis, sinking of well, tilts and shifts.

UNIT IV

Foundation in Difficult Grounds: Ground Improvement techniques, drainage and dewatering, Foundation in Swelling Soils, use of Soil reinforcement. Machine Foundation: Definition, types, problem of machine foundation, spring mass analogy, coefficient of elastic uniform compression, free and damped vibration, block foundation test, Cyclic plate load test, mathematical models, design criteria.

Text Books

1. Basic and Applied Soil Mechanics, by Gopal Ranjan Rao, ASR Rao, New Age Int. (P) Ltd. Pub., New Delhi,
2. Soils and Foundations, by Cheng Liu & Jack B Evett, Prentice-Hall Inc., USA.
3. A Text Book of Soil Mechanics Foundation Engg. by VNS Murthy – U.B.S, New Delhi.

References Books
1. Foundation Analysis and Design, by J.E. Bowles McGraw Hill Book Company, NewYork.
2. Foundation Engineering by Peck, Wiley Eastern India Limited, New Delhi.

3. **Soil Mechanics & Foundation Engineering, by K.R. Arora, Standard Publishers, New Delhi.**
4. **Soil Dynamics and Machine Foundations by Swami Saran, Galgotia Publishers, New Delhi.**

Note: 1. In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.

2. The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.

CE – 308B: STRUCTURAL ANALYSIS - III
B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	25 Marks
3	2	--	5	Examination	:	75Marks
				Total	:	100 Marks
				Duration of Examination	:	3Hours

UNIT I

Introduction: Introduction to matrix algebra, systems approach: force and displacement methods and their comparison. Matrix Force Method: Introduction to flexibility approach, Choice of redundant, static equilibrium matrix, deformation compatibility matrix, member flexibility matrix, static equilibrium and deformation compatibility checks. Application for trusses, continuous beams and rigid frames.

UNIT II

The matrix displacement or Stiffness Method: Conditions of stress-strain relationships, equilibrium and compatibility, Application for trusses, continuous beams and rigid frames. Formulation of various matrices: Static equilibrium matrix - deformation compatibility matrix, member stiffness matrix, global stiffness matrix, external load matrix, static equilibrium and deformation, compatibility checks and effects of support settlement and lack of fit. Conversion of member loads into joint loads. Partitioning of global stiffness matrix.

UNIT III

Direct Stiffness Method: Derivation of global matrix from energy considerations, transformation matrices, member stiffness matrix with respect to member coordinate system, member stiffness matrix for global coordinates and global stiffness matrix. Displacement boundary conditions, computer generation of global stiffness matrix, effect of temperature and lack of fit.

UNIT IV

Finite Element Method: Introduction and basic concepts. Energy approach and variation principles in Finite-Element Method, Various element shapes, 1-D bar element

Text Books:

2. Matrix Analysis of Framed Structures, Gere and Weaver, CBS Publishers & Distributors.

3. Basic Structural Analysis, C.S. Reddy, Tata McGraw Hill Publication.

Reference Books:

1. Matrix method of Analysis, Martin, McGraw Hill Book Company, New York.

Structural Analysis – A Unified Approach, D.S. Prakash Rao, Tata McGraw Hill Publishing Co., New
Delhi.

Note:

1. In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.
2. The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed

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CE- 310B: TRANSPORTATION ENGINEERING - II

B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	25 Marks
3	1	--	4	Examination	:	75 Marks
				Total	:	100 Marks
				Duration of Examination	:	3 Hours

UNIT – I

Introduction: Role of railways in transportation, historical development of railways.

Permanent way and components: gauges in railway tracks, typical railway track cross-section, coning of wheels, Function of rails, requirement of rails, types of rail sections – comparison of rail types, length of rail, rail wear, rail failures, creep of rails, rail fixtures and fastenings – Fish plates, spikes, bolts, chairs, keys, bearing plates. Sleepers: Functions and requirements of sleepers, classification of sleepers, timber, metal and concrete sleeper, comparison of different types of sleepers, spacing of sleepers and sleeper density. Ballast: Function and requirements of ballast, types, comparison of ballast materials.

UNIT – II

Geometric design: Vertical and horizontal alignment, horizontal curves, super elevation, equilibrium, cant and cant deficiency, length of transition curve, gradients and grade compensation. Stations and yards, and their classification, Points and crossings: introduction, necessity of points and crossings, turnouts, points and crossings, design of a simple turnout.

UNIT – III

Track safety, Signaling and Interlocking: objects of signaling, engineering principle of signaling, classification, control of train movements, absolute, automatic block system, centralized control system, ATS. Interlocking: definition, necessity and function, methods of interlocking, mechanical devices for interlocking. Traction and tractive resistance, stresses in track, Equipments, Mechanized Maintenance, Track Recording & track Tolerances, Mass Rapid Transport Systems, High Speed Trains, Present & Future, modernization of railway tracks, railway systems in modern era.

Tunnels: sections of tunnels—advantages, limitations and suitability, shafts, pilot tunnels, methods of driving tunnels in rocks and soft grounds. Stress around the tunnels.

UNIT – IV

Airport Engineering: Brief history of air transport: Aircraft characteristics. Airport site selection, various surveys for site selection. Classifications of obstructions, Imaginary surfaces, Approach zone and turning zone. Runway orientation, basic runway length, corrections for elevation, temperature & gradient, airport classifications.

Airport Design: runway geometric design, airport capacity, factors controlling taxiway layout, geometric design standards for taxiway holding aprons. Terminal area, building area, parking area, apron, hanger typical airport layouts. LCN/PCN method of rigid pavement design. Trend growth of Domestic Air Traffic in India, Air Cargo.

Air traffic control aids: visual aids, marking and lighting of runway and apron area, wind and landing direction indicator

Text Books
1.Railway Engineering by Arora and Saxena, Dhanpat Rai & Sons, New Delhi
2.Airport Planning and Design by Khanna, Arora & Jain, Nem Chand & Brothres, Roorkee

Reference Books
1.Railway Engineering by Rangawala, Charotar
Publishing House, Anand 2.Railway Engineering by M.M.
Aggarwal
3.Airport Engineering by Harnjeff, McGraw Hill Inter. Publisher

Note:

1. In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.
2. The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.

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CE- 312B: ENVIRONMENTAL ENGINEERING - II

B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	25 Marks
3	1	--	4	Examination	:	75Marks
				Total	:	100 Marks
				Duration of Examination	:	3 Hours

UNIT -I

Sewerage system: Generation and Estimation of Community Sewage; Flow variations; Storm Water flow; Alternate systems for sewage collection and conveyance; Design of sewers;

Characterization of sewage: Parameters for characterization; Sampling, testing and analysis of sewage; Relative stability and population equivalent; BOD and BOD kinetics.

UNIT -II

Treatment of sewage: Effluents standards; Basic principles of sewage treatment; Introduction to unit operations and processes - primary treatment units such as screening, grit chamber, and Sedimentation tanks. Secondary treatment units such as different types of aerobic suspended and attached growth systems, and tertiary treatment Sludge Handling and disposal – thickening, stabilization, dewatering, drying and disposal.

UNIT

-III Sewage treatment units design: ASP, TF,

stabilization ponds.

Treated effluent disposal: Disposal into surface water bodies; Reuse for irrigation and aqua-culturing; Land disposal; Disposal through injection into groundwater. Indian standards for disposal of effluent.

UNIT -IV

Low cost sanitation systems – Imhoff tanks, septic tank, stabilization ponds;; oxidation ponds; and constructed wetland systems.

Plumbing: Sewage pumping and pumping stations, Sewer connections for houses and buildings, Sewer appurtenances; Construction and Maintenance of sewers;

Text Books

1. Introduction to Environmental Engg. by M.L Davis and Corn Well , McGraw Hil
2. Introduction to Environmental Engg. & Science , G.M Masters, Prentice Hall of India
3. Environmental Engineering Vol. II S.K. Garg, Khanna Publishers New-Delhi.
4. Environmental Impact Assessment, R K Jain, John Wiley Publication
5. Introduction to Environmental Engg. by M.L Davis and Corn Well , McGraw Hill

References Books

1. Wastewater Engineering, Met Calf & Eddy, McGraw Hill.
2. Manual on sewerage and sewage treatment, Ministry of Urban Development, New Delhi
3. Water Supply and Sewerage, McGhee, McGraw Hill.
4. Environmental chemistry, Sawyer & McCarty and Parkins, McGraw Hill.
5. Standard Methods for the Examination of Water and Waste Water, American Public Health Association.
6. Risk Assessment, a Text Book of Case Studies, D A Paustenbach, John Wiley Publication.

Note:

1. **In the semester examination, the examiner will set two questions from each unit (total 08 questions in all), covering the entire syllabus. The students will be required to attempt only 5 questions selecting at least one question from each unit.**
2. **The use of scientific calculator will be allowed in the examination. However, programmable calculator and cellular phone will not be allowed.**

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CE- 314B: REINFORCED CONCRETE DESIGN LAB - II

B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
-	-	2	1	Class Work	:	20 Marks
				Examination	:	30 Marks
				Total	:	50 Marks
				Duration of Examination	:	3 Hours

List of Experiments:

Students are required to prepare full structural drawing sheets on AUTOCAD & on the following topics

1. Isolated footings
2. Combined footings
3. Beams Curved in Plan
4. Cantilever Retaining Walls
5. Counterfort Retaining walls
6. Conical and Spherical Domes
7. Underground and Surface Water Tanks
8. Over Head Service Reserviors

Students are required to appear in the examinations with at least 10 drawing sheets with all structural details

CE- 316B FOUNDATION ENGINEERING LAB

B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
				Class Work	:	20 Marks
-	-	2	1	Examination	:	30Marks
				Total	:	50 Marks
				Duration of Examination	:	3 Hours

List of Experiments:

1. Determination of Relative density of coarse grained soils in dry and saturated conditions.

2. Determination of shear strength at different densities by Direct shear test.

3. Determination of MDD and OMC at different compactive effort by compaction test.

4. Determination of Unconfined compressive strength at different compactive effort.

5. Determination of compressibility characteristics of fine grained soils by Consolidation test.

6. Determination of bearing capacity by Standard Penetration test.

7. Determination of shear strength of dry sands by Tri-axial shear test.

8. Determination of shear strength of saturated sands by Tri-axial test.

9. Determination of bearing capacity by Plate load test.

10. Determination of bearing capacity by Cone Penetration test.

11. Determination of bearing capacity by Pressuremeter test.

Note: Ten experiments are to be performed in the Semester taking atleast seven experiments from the above list. Remaining three experiments should be performed as designed & set by the concerned Institution as per the scope of the syllabus.

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CE- 318B ENVIRONMENTAL ENGINEERING II LAB
B. Tech. 3rd Year (Semester – VI)

L	T	P	Credits			
-	-	2	1	Class Work	:	20 Marks
				Examination	:	30Marks
				Total	:	50 Marks
				Duration of Examination	:	3 Hours

List of Experiments:

1. Flow measurement in open channels using V and rectangular notches

2. Determination of DO.

3. Determination of BOD.

4. Determination of COD.

5. Determination of Sulphates.

6. Determination of Nitrite and Nitrate nitrogen.

7. Determination of Ammonical and Total Kjeldhal Nitrogen.

8. Determination of phosphorus (total and available).

9. Determination of SVI (including MLSS and MLVSS estimations).

10. Settling column test for primary settling tank design.

11. Settling column test for secondary setting tank design

Note: Ten experiments are to be performed in the Semester taking atleast seven experiments from the above list. Remaining three experiments should be performed as designed & set by the concerned Institution as per the scope of the syllabus.

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HUM- 302 B REPORT WRITING SKILLS
B. Tech. Semester – VI (Common for all branches)

L	T	P	Credit			
				Class Work	:	25 Marks
1	-	--	1	Examination	:	50 Marks
				Total	:	75 Marks
				Duration of Examination	:	2 Hours

OBJECTIVE

The course aims at developing competence for report writing with a focus on its complex writing techniques and procedures.

COURSE CONTENT
UNIT I

Report Writing

Reports: meaning, their importance and types, Structure of reports, Formats of reports, Use of illustrations

UNIT II

Writing of Business and Technical Reports:

Preliminary steps and procedure of writing report, writing various types of reports on technical, business related topics

RECOMMENDED READING

1. Borowick, Jerome. N. *Technical Communication and its Applications*. New Delhi: PHI, 2000
2. Guffey, Mary Ellen. *Business Communication: Process & Product*. USA: South western College Publishing, 2000.
3. Kumar, Sanjay and Pushp Lata. *Communication Skills*. Delhi: OUP, 2011

SCHEME OF END SEMESTER EXAMINATION (MAJOR TEST) AND INSTRUCTIONS FOR THE EXAMINER

1. The duration of the exam will be 2 hours.
2. The Question Paper for this theory course shall have three questions in all covering both the units. All will be compulsory with internal choice.
3. Question no. 1 will be of 10 marks. The question may have two/three parts with enough internal choice, covering various components of both the Units.
4. Question no 2 with internal choice will be of 10 marks covering contents of the Unit I. It will be theoretical in nature.
5. Question no 3 will have two parts of 15 marks each. The student will be asked to write reports on business and technical subject/ issue covering contents of Unit II. The emphasis would be on testing the actual report writing on a given business and technical situation/ subject in letter format.

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HUM- 304 B ORAL PRESENTATION SKILLS
B. Tech. Semester – VI (Common for all branches)

L	T	P	Credits		
--	--	2	1	Class Work	: 20 Marks
				Examination	: 30 Marks
				Total	: 50 Marks
				Duration of Examination	: 2 Hours

OBJECTIVE

To enable students to develop their speaking skills with professional proficiency

COURSE CONTENT

Oral Presentations:

    Group Discussion; Mock interviews

    Note for the Teacher:

The teacher concerned, by devising her/his method, must preview and review the student's spoken proficiency at the beginning and end of the semester respectively to find the efficacy of the course and degree of improvement in the student.

RECOMMENDED READING

1. Konar, Nira. *English Language Laboratories: A Comprehensive Manual*. Delhi: PHI, 2011
2. Kumar, Sanjay and Pushp Lata. *Communication Skills*. Delhi: OUP, 2011

SCHEME OF END SEMESTER EXAMINATION (Practical)

    An external Practical exam of 30 marks of 2 hour duration for the course will be conducted by an external examiner appointed by the competent authority of the University's.

NOTE: Students will be tested for their oral communication competence making them

    participate in Group discussion, mock situations for interview.

Students may also be evaluated through a viva conducted by an external examiner.

GPCE 302B   GENERAL PROFICIENCY & ETHICS

B. Tech. Semester – VI (Civil Engineering)

L	T	P	Credits		Examination	:	75Marks
1	--	--	2		Total	:	75 Marks

The purpose of this course is to inculcate a sense of professionalism in a student along with personality development in terms of quality such as receiving, responding, temperament, attitude and outlook. The student efforts will be evaluated on the basis of his/ her performance / achievements in different walks of life.

A Faculty Counselor will be attached to a group of students which will remain associated with him /her during the entire period of the degree program in the University. Each faculty member will serve as a faculty counselor. They will act like a local guardian for the students associated with him / her and will help them in terms of career guidance, personal difficulties.

B. The student will present a written report before the committee with following in view:

The student will present before the committee his/her achievements during the current academic session in the form of a written report highlighting followings:

I.	Academic Performance	--------
II.	Extra Curricular Activities / Community Service, Hostel Activities	(8 Marks)
	Technical Activities / Industrial,	(8 Marks)
III	Educational tour	(14 Marks)
IV	Sports/games	(15 Marks)
V	Moral values & Ethics	

NOTE: Report submitted by the students should be typed on both sides of the paper.

D.   A student will support his/her achievement and verbal & communicative skill through
presentation before the committee.   (30 Marks)

C.   Moral values & Ethics

Syllabus - A few topics from the below mentioned books

1. R.R.Gaur, R. Sangal and G.P. Bagaria, " Bagaria, " A foundation course in Human Values and Professional Ethics", Pub: Excel Books, New Delhi-110028.
2. M. Govindrajan, S Natrajan & V.S. Senthil Kumar, " Engineering Ethics (including Human Values)" Eastern Economy Edition, Prentics Hall of India Ltd.

A minor test/Quiz will be conducted during the semester end. It will be the duty of the
concerned teacher assigned to teach Moral values & Ethics to submit the
awards to respective chairman of the department / Director/Principal.
The evaluation of this course will be made by the following Committee.

University Departments:

1	Chairperson of the Department	Chairman
2	Senior Most Faculty Counselor	Member

3	Vice- Chancellor's Nominee	Member

<u>Affiliated Colleges:</u>

1	Director/Principal	Chairman
2	Head of the Department/Sr. Faculty	Member
3	External Examiner to be appointed by the University	Member