



HYPEX Technology Pvt. Ltd.

Why Training with HYPEX Technology :

Expansion of technical institutions has certain disadvantages and one of them is besides having good academic knowledge students lack in practical and professional skills. We HYPEX Technology Private Limited help students to be practically and professionally sound and also motivate them to be frank and used to towards solving real life problems. We are trying to bridge the gap between academic and professional career growth. Our expert, experienced professionals are well versed in their respective domain. We are a team dedicated to give our best to shape the future of students.

Email us at : info@hypextechnology.com

Address : Plot No 2, Grill gali, Boring Rd, Sri Krishna Puri, Patna, Bihar 800013

Head Office : Lucknow

Contact No: 9958767177, : +91-5227118148
8862929772

* T&C Application

STATE BOARD OF TECHNICAL EDUCATION, BIHAR

Scheme of Teaching and Examinations for

V SEMESTER DIPLOMA IN CIVIL ENGINEERING / CIVIL (RURAL) ENGINEERING

(Effective from Session 2016-17 Batch)

THEORY

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME							
				Periods per Week	Hours of Exam.	Teacher's Assessment (TA) Marks A	Class Test (CT) Marks B	End Semester Exam.(ESE) Marks C	Total Marks (A+B+C)	Pass Marks ESE	Pass Marks in the Subject
1.	Theory of Structure	1615501	03	03	10	20	70	100	28	40	03
2.	Design of Steel Structure	1615502	03	03	10	20	70	100	28	40	03
3.	Estimating and Costing	1615503	03	04	10	20	70	100	28	40	03
4.	Highway Engineering	1615504	04	03	10	20	70	100	28	40	04
5.	Irrigation Engineering	1615505	03	03	10	20	70	100	28	40	03
Total :-			16				350	500			

PRACTICAL

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME						
				Periods per Week	Hours of Exam.	Practical (ESE)		Total Marks (A+B)	Pass Marks in the Subject	Credits
						Internal(A)	External(B)			
6.	Theory of Structure Lab	1615506	02	03	15	35	50	20	01	
7.	Design of Steel Structure Lab	1615507	02	03	15	35	50	20	01	
8.	Irrigation Engineering Lab	1615508	02	03	15	35	50	20	01	
Total :-			06				150			

TERM WORK

Sr. No.	SUBJECT	SUBJECT CODE	TEACHING SCHEME	EXAMINATION-SCHEME				
				Periods per Week	Marks of Internal Examiner (X)	Marks of External Examiner (Y)	Total Marks (X+Y)	Pass Marks in the Subject
9.	Professional Practice V (TW)	1625509	04	07	18	25	10	02
10.	Estimating and Costing (TW)	1615510	02	07	18	25	10	01
11.	Building Services and Entrepreneurship Development (TW)	1615511	05	15	35	50	20	02
Total :-			11			100		
Total Periods per week Each of duration One Hour				33	Total Marks = 750			24

PROFESSIONAL PRACTICES V-TW
(MECH.+CIVIL ENGINEERING GROUP)

Subject Code 1625509	Term Work						Credits 02	
	No. of Periods Per Week			Full Marks				
	L	T	P/S	Internal	:	07		
	—	—	04	External	:	18		

CONTENTS : TERM WORK

	Name of the Topic	Hrs/week
Unit -1	Structured industrial visits shall be arranged and report of the same should be submitted by the individual student, to form a part of the term work. Following are the suggested type of Industries/ Fields –(Any three visits) vi)Irrigation project for observing components of dam and canal. vii)Steel structure for study of its details. viii)Residential apartment /public building to study plumbing system. ix)Hot mix plant	18
Unit -2	The Guest Lecture/s from field/industry experts, professionals to be arranged (2 Hrs duration), minimum 2 nos. from the following or alike topics. The brief report to be submitted on the guest lecture by each student as a part of Term work. a)Construction of highway, material of construction,machinery usedand manpower requirement . b)To set up a small scale industry. c)Planning and design of irrigationproject.	10
Unit – 3	Information Search ,data collection and writing a report on the topic a)Collecting an estimate from P.W.D. b)International Plumbing code and material specifications frommarket. c)Collecting market rates for material and labour for building items . d)Collecting D.S.R. /C.S.R. from PWD and its use for preparing revise estimate.	14
Unit – 4	The students should discuss in group of six to eight students and write a brief report on the same as a part of term work. The topic of group discussions may be selected by the faculty members. Some of the suggested topics are - i)Recent trends in civil engineering as a service industry. j)Waterproofing and leakage prevention. k)Troubleshooting in plumbing system. l)Causes of failure ofroad.	18
Unit – 5	Seminar : Seminar topic should be related to the subjects of fifth semester Each student shall submit a report of 5 to10 pages and deliver a seminar (Presentation time – 10 minutes)	10
	Total	70

ESTIMATING AND COSTING -TW
(CIVIL ENGGING GROUP)

Subject Code 1615510	Term Work						Credits
	No. of Periods Per Week			Full Marks	:	25	01
	L	T	P/S	Internal	:	07	
	—	—	02	External	:	18	

CONTENTS : TERM WORK

Term Work / Assignments: Skills to be developed: Intellectual Skills:

a. List various items of work with their units in a Civil Engineering Structure.

b. Calculate quantities of various items of work.

c. Prepare rate analysis. List of Term Work/ Assignments:

1) Prepare Check list of items of following type of Civil Engineering works.

- a) Load Bearing type Building
- b) Framed structure type building
- c) W.B.M. Road
- d) Septic Tank
- e) Community well

2) Writing the rules of deduction's for below mentioned items of work as per IS 1200.

- a) Brick / Stone masonry.
- b) Plastering / Pointing

3) Taking out quantities of various items of work for load bearing building.

i) Earth work in excavation for foundation

ii) Base Concrete of foundation

iii) U.C.R./BB Masonry work in foundation and plinth.

iv) D.P.C.

v) Plinth Filling.

vi) Brick work in masonry.

vii) Flooring

viii) Plastering.

ix) Wood work in doors & windows

4) Taking out quantities of following items for small R.C.C. Hall

- i) Concreting for footing, Column, Beam, slab.
- ii) Reinforcement for above items by preparing Schedule of bars.
- iii) Form work for all above items.

5) Preparing detailed estimate of a RCC single & two storied residential building for all items of work. (The quantity of reinforcement shall be calculated by percentage.)

6) Preparing Rate analysis of following items:

Building work – Brick work, P.C.C., R.C.C., Plastering, Flooring, Doors, Windows.

7) Taking out quantities of earth work for a Road profile prepared in surveying subject. Prepare the lead statement.

8) Taking out quantities of work for a Community well or Jack well or Septic Tank.

9) Taking out quantities of work for pipe culvert.

(Drawings shall be provided for the above exercises by subject teacher.)

2. Video Cassettes /CDS

MSBTE CAI Package.

Q. E. PRO software

3. IS/INTERNATIONAL CODES:

IS 1200- Method of Measurement of building and Civil engineering works

BUILDING SERVICES AND ENTREPRENEURSHIP DEVELOPMENT -TW
(CIVIL ENGINEERING GROUP)

Subject Code 1615511	Term Work			Credits		
	No. of Periods Per Week			Full Marks	:	25
	L	T	P/S	Internal	:	07
	—	—	05	External	:	18

CONTENTS : TERM WORK

A: Building Services:		Hrs/week
Unit -1	<p>Plumbing</p> <p>1. Elements of plumbing Objectives of plumbing, purpose of plumbing, role of plumber, licensing of plumbers their functions, sewer Air, supply pipes, drainage & vent pipes application for obtaining supply connection.</p> <p>2. Pipes joints & fittings Introduction. Types of Pipe — G.I. Pipes, PVC Pipes, Copper pipes, C.I. Pipes, A.C. Pipes, prestressed concrete pipes, joints in pipes, method of fixing pipes such as G.I. fitting C.I. fitting.</p> <p>3. Valves & Terminal Fittings Types of valves & its purpose, sluice valve, reflux valve, scour valve, Air relief valve, pressure relief valve, gate valves, Bio-taps & stop valve self closing valve. Flush valve, mixing valve.</p> <p>4. Sanitary fixture & Building drainage system Building sanitary fittings – water closet, flushing appliances, urinals, washbasins, flushing cisterns, principles of building drainage siphonic action, traps & its types. Capacity & sizing of pipe, soil pipe, waste pipe, rain water pipe, system of plumbing. Installation of pipes, testing of pipes.</p>	08
Unit -2	<p>Water Proofing Treatment Introduction, material required for water proofing and its specification. Water proofing of water closet and bath room procedure & Cross section. Terrace and basement water proofing, Precautions to be taken while water proofing.</p>	04
Unit – 3	<p>Termite Proofing Introduction, general principles of termite proofing. Methods of termite proofing. Material used in termite proofing treatment.</p>	02
Unit – 4	<p>Damp Proofing Sources of dampness & its effects. Material used for damp proofing, Methods of damp – proofing. Damp proofing treatment in building such as basement, floors, walls.</p>	02
Total		16

Term Work :

1. Term Work on joining P.V.C. / G.I. Pipes & fittings/Models and writing report on the process.
2. Term Work based on sanitary fitting like, traps, wash basin & water closet fittings.
3. Prepare drawing for water supply. Layout plan for campus showing following details service pipe, communication pipe. consumer pipe, water meter, rain water pipes
4. Prepare drawing for drainage line plan for campus showing following details: Inspection chambers, sewage pipes, traps, man holes.
5. Market survey for different materials available in market their trade names & rates used for water proofing, termite proofing and damp proofing treatment and writing report on the materials collected.

Part B : Entrepreneurship Development

S.No	Students will be able to:
1.	<ul style="list-style-type: none"> • Identify entrepreneurship opportunity.
2.	<ul style="list-style-type: none"> • Acquire entrepreneurial values and attitude.
3.	<ul style="list-style-type: none"> • Use the information to prepare project report for business venture.
4.	<ul style="list-style-type: none"> • Develop awareness about enterprise management.

CONTENTS

Hrs/week

	CONTENTS	Hrs/week
Unit -1	Entrepreneurship, Creativity & Opportunities 1) Concept, Classification & Characteristics of Entrepreneur 2) Creativity and Risktaking. 1) Concept of Creativity & Qualities of Creative person. 2) Risk Situation, Types of risk & risk takers. 1.3) Business Reforms. 1.3.1) Process of Liberalization. 1.3.2) Reform Policies. 1.3.3) Impact of Liberalization. 1.3.4) Emerging high growth areas. 4) Business Idea Methods and techniques to generate business idea. 5) Transforming Ideas in to opportunities transformation involves Assessment of idea & Feasibility of opportunity 6) SWOT Analysis	03
Unit -2	Information and Support Systems Information Needed and Their Sources. Information related to project, Information related to support system, Information related to procedures and formalities 2.2) Support Systems 1) Small Scale Business Planning, Requirements. 2) Govt. & Institutional Agencies, Formalities 3) Statutory Requirements and Agencies.	03
Unit -3	Market Assessment 1) Marketing – Concept and Importance 2) Market Identification, Survey Key components 3.3) Market Assessment	02

Unit -4	<p>Business Finance & Accounts Business Finance</p> <ol style="list-style-type: none"> 1) Cost of Project 1) Sources of Finance 2) Assessment of working capital 3) Product costing 4) Profitability 5) Break Even Analysis 6) Financial Ratios and Significance Business Account 2) Accounting Principles, Methodology 1) Book Keeping 2) Financial Statements 3) Concept of Audit, 	03
Unit -5	<p>Business Plan & Project Report</p> <ol style="list-style-type: none"> 1) Business plan steps involved from concept to commissioning: Activity Recourses, Time, Cost 2) Project Report <ol style="list-style-type: none"> 1) Meaning and Importance 2) Components of project report/profile (Give list) 3) Project Appraisal <ol style="list-style-type: none"> 1) Meaning and definition 2) Technical, Economic feasibility 3) Cost benefit Analysis 	03
Unit -6	<p>Enterprise Management and Modern Trends 6.1) Enterprise Management: - Essential roles of Entrepreneur in managing enterprise</p> <ol style="list-style-type: none"> 2) Product Cycle: Concept And Importance 3) Probable Causes Of Sickness 4) Quality Assurance <p>Importance of Quality, Importance of testing 6.2) E- Commerce Concept and process</p> <p>6.3) Global Entrepreneur</p>	02
	Total	16