



**Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal**  
**Program Name: Three Year Diploma in Cement Technology [C01]**  
**(IV Semester)**

Name of Scheme: Jul.08

Exam Code: \*

Implemented From: 2008-09

Sub Code	Paper Code	Name of Subject	SCHEME OF STUDIES			SCHEME OF EXAMINATION												
			Hours per Week			Sess. Marks		Prog. Assm		Sess + Prog	UNIV. EXAMINATION							TH+P R.
			TH.	PR.	TOTAL	Term Work	Lab work	I	II	Total Internal Assessment	Th. Paper	Durati on	Mar ks	PR	Dur atio n in Hrs	Mks .	Total Extern al assess ment	Total Marks
401	6063	Basic Elect. And Electronics	03	02	05	15	15	10	10	50	01	3 Hrs	100	01	03	50	150	200
402	6304	Fluid Mechanics	06	04	10	15	15	10	10	50	01	3 Hrs	100	01	03	50	150	200
403	6305	Cement Concrete Technology	06	02	08	15	15	10	10	50	01	3 Hrs	100	01	03	50	150	200
404	6306	Unit Operation-I	07	-	07	30	-	10	10	50	01	3 Hrs	100	-	-	-	100	150
411/412	6046 /5181	Entrepreneurship / Marketing Management	04	-	04	30	-	10	10	50	01	3 Hrs	100	-	-	-	100	150
406		Professional activities	-	02	02	-	-	-	-	-	-	-	-	-	-	-	-	-
			26	10	36	105	45	50	50	250	05	-	500	03	-	150	650	900

1. Number of Theory Papers : 05
2. Total theory Marks : 500
3. Number of Practicals : 03
4. Total Practical Marks : 150
5. Total marks of Sessional + Prog. Asst. + Pract. : 250
6. Grand Total : 900

Passing marks for (a) Theory : 33% (b) Practical : 40%  
(c) Sessional : 60%

**CURRICULUM**  
**FOR**  
**DIPLOMA IN CEMENT TECHNOLOGY**  
**(FOURTH SEMESTER)**

**Scheme: JULY2008**  
**Implemented from session 2008-09**

**Under semester system**

**JULY 2008**

**CURRICULUM DEVELOPMENT CENTRE**  
**CEMENT TECHNOLOGY DEPARTMENT**



# **RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL**

## **DIPLOMA IN CEMENT TECHNOLOGY**

**SEMESTER: FOURTH**

**SCHEME: Dip.CT\_JULY 2008**

**COURSE CODE: 402**

**COMMON WITH PROGRAMME (S):**

**NAME OF COURSE: FLUID MECHANICS**

**PAPER CODE: 6304**

### **RATIONALE**

This course is intended to introduce basic principles of fluid mechanics. It is further extended to cover the application of fluid mechanics by the inclusion of fluid machinery especially water turbine and water pumps. Today the principles of fluid mechanics find wide applications in many situations directly or indirectly.

The use of fluid machinery, turbines, and pumps in general and in power stations is getting an accelerated fill up. Thus there is a great relevance for this course for mechanical technicians.

The mechanical technicians have to deal with large variety of fluids like water, air, steam, ammonia and even plastics. The major emphasis is given for the study of water. However the principles dealt with in this course will be applicable to all incompressible fluids.



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## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY 2008**

COURSE CODE: **402**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **FLUID MECHANICS**

PAPER CODE: 6304

### SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: 6Hrs. per week

Practical: 2Hrs. per week

S. NO.	TOPIC	SCHEME OF STUDIES			SUGGESTED DISTRIBUTION OF MARKS FOR THEORY PAPER
		Hrs. of Study			
		Theor y	Practi cal	Total	
1.	Properties of fluids	8	4	12	15
2.	Fluids Statics	8	4	12	10
3.	Kinematics and dynamics of Fluid flow	8	4	12	15
4.	Pipe flow	8	4	12	15
5.	Pumps	8	4	12	15
6.	Hydraulic Transmission	10	4	14	15
7.	Fluid Measurement	10	6	16	15
TOTAL		60	30	90	100



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**DIPLOMA IN CEMENT TECHNOLOGY**

S.N.	Topic	Hours
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1.	<b>PROPERTIES OF FLUID :</b> Definition of fluid, Units of measurements, properties of fluids, Density, specific weight, specific volume specific gravity, viscosity, vapour pressure, ideal fluids, Newtonian fluids, non Newtonian fluids.	12
2.	<b>FLUID STATICS :</b> Introduction, static pressure, atmospheric absolute and gauge pressure, floating bodies, Buoyant forces. Immersed surfaces, equilibrium of floating bodies metacentric and its height, Pascal's law, hydrostatic pressure on surfaces and areas. Hoop Tension, applicants and fluid states and related problems.	12
3.	<b>KINEMATICS AND DYNAMICS OF FLUID FLOW :</b> Fluid flow concepts, Reynolds No., Laminar and turbulent flow, Streamline path Lines, equation of continuity, Euler's equation, Bernoulli's equation and its application, Assumption in Bernoulli's equation, simple problems. Momentum equation and its application, Hydraulic and energy gradient line, examples and problem.	10
4.	<b>PIPE FLOW :</b> Introduction, Fundamental equation for flow and head loss, Universal chart for pipe friction factors, friction factor. Approximate equation for pipe friction and Head loss, chezy's formula, Meanings formula, minor losses, sudden enlargement gradual enlargement, sudden and gradual contractions bends, losses in pipe fittings, pipe line, problems pipes in series and parallel siphon. Heterogeneous flow.	14
5.	<b>PUMPS</b> Types of pumps, centrifugal pumps construction and working, work done by a pump, efficiencies, Manometric Head. Axial flow pumps construction working and efficiency. Multistage pumps, Comparison between centrifugal and axial pumps pump, submersible pump example and applications in cement industry, N.P.S.H., cavitation.	14
6.	<b>HYDRAULIC TRANSMISSION SYSTEMS AND DEVICES</b> : Hydraulic Transmission Fluid coupling, Torque converter, Hydraulic accumulators, application of accumulator to cranes, Hydraulic Intensifier, Application of Intensifier to Hydraulic press air lift pump and jet pump and Hydraulic raw.	14
7.	<b>FLUID MEASUREMENT :</b> Introduction, measurements of fluid properties, venturi meter orifice plate, flow nozzles, pitot tube, comparison between the above devices, pressure measurement, measurement of	

		90
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## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY 2008**

COURSE CODE: **402**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **FLUID MECHANICS**

PAPER CODE: 6304

### COURSE CONTENT

Practical:- **2 Hrs.** per week

S. NO.	LIST OF EXPERIMENTS.	Hours of Study
1.	Measurement of pressure using differential manometer and	
2.	oiezometer.	
3.	Verication of Bernoulil's theorem.	
4.	Determination of discharge using orifice meter.	
5.	Determination of discharge using venturimeter.	
6.	Determination of Cc, Cv and Cd for a given (a) Circular	
	orifice (b) Triangular orifice (c) Rectangular orifice	
7.	Determination of loss of head due to (a) Friction (b) Sudden	
	contraction (c) Sudden expantion (d) Change in direction.	
8.	Study ofreciprocating pump.	
9.	Study of centrifugal pump.	
10.	Determination of flow velocity using pitot tube.	
11.	Study of various types of pipes and pipe fittings.	
	Dissemble and assembly of Centrifugal / Reciprocating	



	pump..	
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**SEMESTER: FOURTH**

**COURSE CODE: 402**

**NAME OF COURSE: FLUID MECHANICS**

**SCHEME: Dip.CT\_JULY 2008**

**COMMON WITH PROGRAMME (S):**

**PAPER CODE: 6304**

### **REFERENCES**

1. A text book of Fluid Mechanics.  
By R.K. Bansal
2. Hydraulics  
By Prof. Jagdish Lal
3. The Mechanics of Fluid  
By W. J. Duncan, A. S. Thom, A. D. Young  
Published E. L. B. S.
4. A text book of Hydraulics and Fluid Mechanics  
By V. G. Garde, & R.M. Advaur.
5. A text book of Fluid Mechanics.  
By R.S. Khurmi



# **RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL**

## **DIPLOMA IN CEMENT TECHNOLOGY**

**SEMESTER: FOURTH**

**COURSE CODE: 403**

**NAME OF COURSE: CEMENT CONCRETE TECHNOLOGY**

**PAPER CODE: 6305**

**SCHEME: Dip.CT\_JULY2008**

**COMMON WITH PROGRAMME (S):**

### **RATIONALE**

Concrete is so far the most widely used construction material today. The versatility and mould ability of this material, its high compressive strength and the discovery of reinforcing and pre stressing techniques which helped to make up for its low tensile strength have contributed largely to its wide spread use. We can rightly say that we are in the concrete age.

It is easy to make concrete. There is an old saying that broken stone, sand and cement make good concrete. But the same proportion of broken stone, sand and cement also make bad concrete. This is mainly because the quality of the end product depends as much, and perhaps more, on the man on the job as on the constituent materials. The difference between good concrete and bad concrete lies in quality control. Still, not many men on the jobs seem to make use of the known techniques for making good concrete which is necessary for achieving strong, durable and economical construction.

At all the construction projects, it is mainly the diploma holder who supervises the various construction activities. Particularly, during the concreting process, diploma holder has the responsibility for concreting the qualities of the fresh and the hardened concrete.

Therefore, students doing diploma in cement technology must understand the importance of the subject "construction technology" and should study it properly.



# RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip.C.T.\_JULY2008**

COURSE CODE: **403**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **CEMENT CONCRETE TECHNAOLOGY**

PAPER CODE: 6305

### SCHEME OF STUDIES AND SPECIFICATION TABLE

Lectures: **6Hrs.** per week

Practical: **2 Hrs.** per week

S. N O.	TOPIC	SCHEME OF STUDIES		
		Hrs. of Study		
		Theory	Practical	Total
1.	CONCRETE MAKING MATERIALS	04	-	04
2.	PROPERTIES OF CONCRETE	04	-	04
3.	TESTING OF CEMENT	04	-	04
4.	AGGREGATES AND THEIR TESTING	08	06	14
5.	FRESH CONCRETE :	10	10	20
6.	STRENGTH OF CONCRETE:	10	04	14
7.	CONCRETE MIX DESIGN :	10	04	14
8.	PROBLEMS IN CONCRETE	10	06	16
<b>Total</b>		60	30	90



# RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY2008**

COURSE CODE: **403**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **CEMENT CONCRETE TECHNOLOGY**

PAPER CODE: **6305**

### COURSE CONTENT

Lectures: **4 Hrs.** per week

S. NO.	Course Content	Hours of Study
1.	CONCRETE MAKING MATERIAL:  Cements, characteristics of coarse and fine aggregates, Chemical and mineral admixture, grading, maximum size, strength and bond characteristics. Deleterious constituents water, chemical analysis specifications, method of testing.	
2.	PROPERTIES OF CONCRETE  Properties in fresh and hardened states, workability, strength compressive and tensile strength durability testing.	
3.	TESTING OF CEMENT  Field testing and laboratory testing.  Fineness test Setting time test Strength test Soundness test Heat of hydration test	



	<p>segregation and bleeding. Process of manufacture of concrete (i) Batching (ii) Mixing (iii) Transporting (iv) Placing (v) Compacting (vi) Curing (viii) Finishing and detailed description. From work and its removal safety precautions observed.</p>	
6.	<p><b>STRENGTH OF CONCRETE:</b></p> <p>Strength of concrete, water/cement ratio, Gel/space ratio, Gain of strength with age, Maturity concept of concrete effect of maximum size of aggregates on strength, Relation between compressive and Tensile strength, Bond strength, Aggregate cement bond strength, High strength concrete Joints in concrete work their position and types Testing of concrete Destructive &amp; Non destructive. Related Indian standard numbers and its contents for all ingredients of concrete.</p>	
7.	<p><b>CONCRETE MIX DESIGN :</b></p> <p>Concrete mix design, variables in proportioning, methods of proportioning, statistical quality control of, concrete common terminologies (a) Mean strength (b) variance (c) standard deviation (d) coefficient of variation, Methods of Mix design (i) ACT Method (ii) Indian standard method.</p> <p>Special types of concrete.</p>	
8.	<p><b>PROBLEMS IN CONCRETE</b></p> <p>Problems in concrete due to cement related problems e.g. Alkali Silica reaction, durability, periclase, heat of hydration etc.</p>	

SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY2008**



# RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

## DIPLOMA IN CEMENT TECHNOLOGY

COURSE CODE: **403** COMMON WITH PROGRAMME (S):  
NAME OF COURSE: **CEMENT CONCRETE TECHNOLOGY**  
PAPER CODE: **6305**

### LIST OF EXPERIMENTS

Lectures: **2 Hrs.** per week

S. NO.	LIST OF EXPERIMENTS.	Hours of Study
1.	Fineness test on cement by sieving.	
2.	Determination of initial setting time of cement.	
3.	Determination of final setting time of cement.	
4.	Soundness test on cement.	
5.	Test for determination of flakiness index.	
6.	Test for determination of specific gravity.	
7.	Test for determination of bulk density and voids.	
8.	Test for determination of aggregates crushing value.	
9.	Test for determination of aggregate impact value.	
10.	Determination of workability by slum test.	
11.	Determination of compressive strength of concrete cubes.	
12.	Mix. Design of concrete by Indian standard Method.	





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SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY2008**

COURSE CODE: **403**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **CEMENT CONCRETE TECHNOLOGY**

PAPER CODE: 6305

### LIST OF REFERENCES BOOKS

1. Concrete Technology M.S. Shetty
2. Concrete Technology R.S. Varshney
3. Properties of Concrete A.M. Neville
4. Concrete Technology B.L. Gupta (Hindi)
5. Concrete Manual Gambhir.
6. Principal of concrete 4th Ed. Longman (Indian Edition) By A.m. N
7. Concrete Microstructure, Properties and Materials, By P.K. Mehta and P.J.M. Monteiro.  
Indian Edition, Indian Concrete Institute, Chennai.
8. Handbook of concrete Mixes, SP-23 (ST) Bureau of Indian Standards, New Delhi, BIS Standards.
9. IS: 456-2000 Code of Practice for plain and reinforced concrete.
10. IS: 383-Specification for Aggregates from Natural sources.
11. IS: 9103-Specification for Chemical Admixture.
12. IS: 516 and IS: 1199-Methods of testing concrete.
13. IS: 3812-Methods of testing of Aggregates.



# **RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL**

## **DIPLOMA IN CEMENT TECHNOLOGY**

**SEMESTER: FOURTH**

**COURSE CODE: 404**

**NAME OF COURSE: UNIT OPERATION - I**

**SCHEME: Dip.CT\_JULY 2008**

**COMMON WITH PROGRAMME (S):**

**PAPER CODE: 6306**

### **RATIONALE**

The aim of the course is to provide the abreast knowledge of cement processing. The students are made acquainted with the process and machinery on which they have to work in future. The students are also expected to possess the knowledge of machines like different types of mining equipments, crushers, grinding mills, raw mills and storage silos etc.



# RAJIV GANDHI PROUDYOGIKI VISWAVIDYALAYA, BHOPAL

## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip.CT\_JULY 2008**

COURSE CODE: **404**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **UNIT OPERATION - I**

PAPER CODE: 6306

### SCHEME OF STUDIES

Lectures: **6 Hr.** per week

S. No.	TOPIC	CONTACT HOURS PER WEEK		
		THEOR Y	PRACTIC AL	TOTAL
1.	Mining	14	-	14
2.	Crushing of raw material	16	-	16
3.	Transportation	10	-	10
4.	Mixing of raw material	10	-	10
5.	Grinding of raw material	16	-	16
6.	Homogenization of raw meal	14	-	14
7.	Process equipments	10	-	10
<b>Total</b>		90		90



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## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Dip. CT\_JULY 2008**

COURSE CODE: **404**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **UNIT OPERATION - I**

PAPER CODE: 6306

S. NO.	Course Content	Hours of Study
1.	<b>MINING :</b> Selection of Mines, overburden removal, bore holes/drill holes samples, assessment of life, span of mines, determination of quality parameter of quarry, blasting - methods of blasting kinds types of explosives materials, storage of explosive materials safety methods during the blazing operation. Transportation of limestone up to the crusher, equipments needed for transportation and filling purposes (excavators, dozers, dumpers).	14
2.	<b>CRUSHING OF RAW MATERIALS :-</b> Theory of crushing, types of crushers, Jaw crushers, gyratory crushers, hammer crushers, roll crushers, principles of operation , dust collecting equipment sieve analysis of limestone, checking crusher efficiency, Determination of CC/MC.	16
3.	<b>TRANSPORTATION :-</b> Different types of conveyors used to transport the material to factory, screw conveyors, air slides, drag chain conveyors, apron conveyors, belt conveyors, rope way conveyors, pneumatic conveyors, bucket elevators, cable conveyors, and selection of conveying equipments.	10
4.	<b>MIXING OF RAW MATERIALS:-</b> Preparation of stock piles, different types of stock piles, efficiency of stock piles, linear type of reclaimer , circular type of reclaimer, open gantry system , hoppers and their types , Apron feeders, way feeders, application of their blasters.	10
5.		

	<p><b>GRINDING OF RAW MATERIALS :</b></p> <p>Theory of grinding, three laws (Rittingers, Kick's &amp; Bonds) Application of Bonds law in grinding mills, Types of grinding mills, Ball mills, tube mills, vertical mills, theory of operations of mills, selection of grinding media, critical velocity of mill, wet grinding separators &amp; their functions, circulating coal &amp; separator efficiency, methods of separator of raw mills from the gare, cyclones, dust collectors, ESPs Principles of their operation, Determination of residue of raw mill. Determination of CC/MC. Transportation of raw meal to the silos. Fluxo pump, FK pumps. Wirlift pumps, elevators &amp; screw conveyors, air slides, Methods of their selection.</p>	16
6.	<p><b>HOMOGENISATION OF RAW MEAL :</b></p> <p>Types of storage silos, different methods used for the homogenization storage cum blending, efficiency of homogenization.</p>	14
7.	<p><b>PROCESES EQUIPMENTS :</b></p> <p>Makes and equipment types used in cement industries. Historical evolution of process equipments, manufacturing process and recent trends.</p>	10



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COURSE CODE: **404**

COMMON WITH PROGRAMME (S):

NAME OF COURSE: **UNIT OPERATION - I**

PAPER CODE: 6306

### LIST OF REFERENCE BOOKS

1. Cement Data Book, International process Engineering in the cement industry, IInd Completely revised and enlarged new edition.  
Macdonald and Evans, London.
2. Unit operations of chemical engineering, 4th Edition, Warren L.McCabe, Julian C. Smith, Peter Harriott,  
Mc Graw Hill International Editions (Chemical Engineering Series)
3. Rotary Kiln Technology, World Cement.
4. Materials handling in the cement industry, World cement.
5. Cement Data Book, Vol. I, II & III, by walter H. Duda .  
Bauverrlag GMBH – Wiesbaden and Berlin
6. Cement Engineers Hand book by Lahahn/Kohlaas, Bauverlag GMBH.
7. Process technology of cement manufacturing  
By Zementwerke



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## **DIPLOMA IN CEMENT TECHNOLOGY**

**SEMESTER: FOURTH**

**COURSE CODE: 405**

**NAME OF COURSE: ENTREPRENEURSHIP**

**SCHEME: Jul.08**

**PAPER CODE: 6046**

### **RATIONALE**

Since long entrepreneurship has been recognized as an essential ingredient of economic development. Concept of entrepreneurship has varied from time to time to suit the changing ethos of socio-economic reality. It was applied to business for the first time in 18<sup>th</sup> century, to designate a dealer who buys and sells goods at uncertain prices. Later on an entrepreneur was considered a dynamic agent of change, or the catalyst who transformed increasingly physical, natural and human resources, into corresponding production possibilities. In recent years, managerial aspects of entrepreneurship are being emphasized. It employs innovativeness, an urge to take risk in the face of uncertainties, and intuition, i.e. a capacity of seeing things in a way which afterwards proves to be true.

The course is kept in soft core under DCS, DME and DEE/ Videography/ Arch/CDDM/ Garment/ MOM/ Prod/ RAC/ CTM/ Auto/ Comp/ ETE/ IT/ Opto/ Print/ Textile technology.

To bring to surface certain common characteristics such as perception of economic opportunity, technical and organizational skills, managerial competence, and motivation to achieve result.



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## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

COURSE CODE: **405**

NAME OF COURSE: **ENTREPRENEURSHIP**

SCHEME: **Jul.08**

PAPER CODE: **6046**

Lectures: **6 Hrs.** per week

### SCHEME OF STUDIES

S. No.	Topic	SCHEME OF STUDIES		
		Hrs. of Study		
		Theory	Practical	Total
1.	INTRODUCTION TO ENTERPRENEURSHIP	11	-	11
2.	INDUSTRIES AND BUSINESS ORGANIZATIONA	11	-	11
3.	INSTITUTIONAL ASSISTANCE	11	-	11
4.	INCENTIVS/ CONCESSION/ FACILITIES AVAILABLE TO SSI ENTERPRENEUR	11	-	11
5.	PLANNING OF INDUSTRIAL UNIT	26	-	26
6.	ACHIVEMENT MOTIVATION	8	-	8
7.	FINANCIAL MANAGEMENT OF AN INDUSTRIAL UNIT (SSI)	12	-	12
	<b>TOTAL</b>	<b>90</b>	<b>-</b>	<b>90</b>





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## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

COURSE CODE: **405**

NAME OF COURSE: **ENTREPRENEURSHIP**

SCHEME: **Jul.08**

PAPER CODE: **6046**

Lectures: **6 Hrs.** per week

S.NO.	TOPIC	CONTENTS	HRS OF STUDY
1.	<b>INTRODUCTION TO ENTREPRENEURSHIP</b>	<ul style="list-style-type: none"><li>• Definition of Entrepreneur / Entrepreneur</li><li>• Difference between Entrepreneurship / Entrepreneurship</li><li>• Need for Entrepreneurship</li><li>• qualities of successful entrepreneur</li><li>• Myths about Entrepreneurship</li><li>• Classification of entrepreneurs on the basis of different criteria</li><li>• Reasons for the failure of entrepreneurs</li></ul>	
2.	<b>INDUSTRIES AND BUSINESS ORGANIZATIONS</b>	<ul style="list-style-type: none"><li>• Concept of Industry or Enterprise</li><li>• Classification of Industries</li><li>(a) On the basis of capital investment<ul style="list-style-type: none"><li>- Tiny (Micro) Industry</li><li>- Small Scale</li><li>- Medium Scale</li><li>- Large Scale</li></ul></li><li>(b) Others<ul style="list-style-type: none"><li>- Rural Industry</li><li>- Cottage Industry</li></ul></li><li>(c) Forms of Business Organization<ul style="list-style-type: none"><li>- Proprietorship</li><li>- Board &amp; Co-operative</li><li>- Partnership</li><li>- public Ltd.</li><li>- Private Ltd.</li><li>- Jt. Sector</li></ul></li></ul>	

S.NO.	TOPIC	CONTENTS	HRS OF STUDY
3.	INSTITUTIONAL ASSISTANCE	<ul style="list-style-type: none"> <li>- Government Co-operative / Undertakings</li> <li>(d) Tiny small scale Industry <ul style="list-style-type: none"> <li>- Definition</li> <li>- Its significance in National Development.</li> <li>- Govt. policies for SSI promotions</li> <li>- Sector / Product for SSI.</li> </ul> </li> <li>(a) Types of Institutional assistance <ul style="list-style-type: none"> <li>- Infra - structural assistance</li> <li>- Technical Assistance</li> <li>- Financial assistance</li> <li>- Marketing Assistance</li> </ul> </li> <li>(b) Information / guidance &amp; Training <ul style="list-style-type: none"> <li>- SISI -</li> <li>ASK</li> <li>- MPCON -</li> <li>CSIR</li> <li>- CED- MA -</li> <li>NRDC</li> </ul> </li> <li>(c) Infrastructure <ul style="list-style-type: none"> <li>- D/C</li> <li>AVN/AKVN</li> </ul> </li> <li>(e) Finance <ul style="list-style-type: none"> <li>- SIDBI - KVIB</li> <li>MPFC</li> <li>- NABARD - MPWDC</li> <li>NSIC</li> <li>M.P.A.V.V.N.</li> </ul> </li> <li>(d) Marketing <ul style="list-style-type: none"> <li>- MP- AGRO</li> <li>- NSIC</li> <li>- PM.LUN</li> <li>- EXPORT COPPORATION</li> <li>- KVIP</li> <li>- MPHSVN</li> <li>MPLDC</li> </ul> </li> <li>(e) Quality Control <ul style="list-style-type: none"> <li>- BIS - FPO - MPLUN</li> <li>F.D.A.</li> <li>- AG. MKT. Boerd.</li> </ul> </li> </ul>	

S.NO.	TOPIC	CONTENTS	HRS OF STUDY
4.	<b>INCENTIVES / CONCESSION / FACILITIES AVAILABLE</b>	<ul style="list-style-type: none"> <li>• Seed money</li> <li>• Incentive / subsidies</li> <li>• Others ( Phones, Lands etc)</li> </ul>	
5.	<b>PLANNING OF AN INDUSTRIAL UNIT (SSI)</b>	<ul style="list-style-type: none"> <li>• Pre- Planning Stage <ul style="list-style-type: none"> <li>- Scanning the environment</li> <li>- Market survey</li> <li>- Seeking information</li> <li>- product / project selection</li> </ul> </li> <li>• Implementation Stage <ul style="list-style-type: none"> <li>- PPR Preparation</li> <li>- DIC registration</li> <li>- Arrangement of Land</li> <li>- Arrangement of Power</li> <li>- Obtaining NOC / Licenses from various Deptt.</li> <li>- DPR Preparation</li> <li>- Seeking financial assistance</li> <li>- Commercial Production</li> </ul> </li> <li>• Post Implementation stage <ul style="list-style-type: none"> <li>- Permanent registration from D.I.C.</li> <li>- Availing Subsidies</li> <li>- Diversification / Modification</li> <li>- Setting up of marketing channel / Distribution.</li> </ul> </li> </ul>	
6.	<b>ACHIEVEMENT MOTIVATION</b>	<ul style="list-style-type: none"> <li>• Historical perspective</li> <li>• Concept of achievement motivation</li> <li>• Significance of achievement motivation</li> <li>• Development of achievement motivation</li> </ul>	
7.	<b>FINANCIAL MANAGEMENT OF AN INDUSTRIAL UNIT</b>	<ul style="list-style-type: none"> <li>• Tools of financial analysis</li> <li>• Ratio analysis</li> <li>• Fund Flow / Cash flow analysis</li> </ul>	

S.NO.	TOPIC	CONTENTS	HRS OF STUDY
	<p>(SSI)</p> <p>In Addition to above , Students are advised to:</p>	<ul style="list-style-type: none"> <li>Working capital and Concepts</li> <li>Financial accounting</li> </ul> <ol style="list-style-type: none"> <li>To prepare chart to showing various factors affecting entrepreneurship</li> <li>To collect details related to various schemes run by Govt. for self employment and entrepreneurship</li> <li>To identify and select a project and conduct market survey thereof</li> <li>To collect various formats used in industries and Deptts/Institution working in the field of entrepreneurship</li> <li>Visit few small scale industries situated in city, nearby industrial area</li> <li>Discuss the problems related to SSI (Small Scale Industries) With an entrepreneur.</li> <li>Collect information about market rates quality and quantity of goods for their choice.</li> <li>Develop logical and analytical approach to purchase raw material/ finished goods</li> <li>To prepare case study for successful entrepreneurs</li> <li>Prepare a project report for the industry/business they are willing to start</li> </ol>	



**RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL**

**DIPLOMA IN CEMENT TECHNOLOGY**

**SEMESTER: FOURTH**

**COURSE CODE: 405**

**NAME OF COURSE: ENTREPRENEURSHIP**

**SCHEME: Jul.08**

**PAPER CODE: 6046**

### **REFERENCES**

1. Entrepreneurial Development Vol. I,II,III  
- Vasant Desai Himalaya Publication
2. CEDMAP  
- (Center of Entrepreneurial development Madhya Pradesh)
3. Udyamita Vikas  
- Anand Prakashan



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**List of participants for Entrepreneurship**

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2. Shri S.C. Bansal (Sr.Lect. Textile Engg) Shri Vaishnav Polytechnic College Indore
3. Shri Manish Gupta (Lect. Production Engg) Shri Vaishnav Polytechnic College Indore
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# RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL

## DIPLOMA IN CEMENT TECHNOLOGY

SEMESTER: **FOURTH**

SCHEME: **Jul.08**

COURSE CODE: **406**

NAME OF COURSE: **PROFESSIONAL ACTIVITIES**

Practical: **2 Hrs.** per week

### RATIONALE

**Professional Activities** is not a descriptive course, as per conventional norms; therefore specific content for this course cannot be prescribed. It is a group of open-ended activities; where in variety of tasks are to be performed, to achieve objectives. However general guidelines for achieving the target and procedure for its assessment are given under the course content.

As the student has to practice this course in all the six semesters, the guidelines given therein are common and applicable to each semester.

### OBJECTIVES:

- To allow for professional development of students as per the demand of engineering profession.
- To provide time for organization of student chapter activities of professional bodies) i.e. Institute of engineers, ISTE or Computer Society of India etc.)
- TO allow for development of abilities in students for leadership and public speaking through organization of student's seminar etc.
- To provide time for organization of guest lectures by expert engineers/eminant professionals of industry.
- To provide time for organization of technical quiz or group discussion or any other group activity.
- To provide time for visiting library or using Internet.
- To provide time for group discussion or solving case studies.
- To provide time for personality development of students.
- To provide time for working for social cause like awareness for environmental and ecology etc.

DETAILED INSTRUCTIONS TO CONDUCT PROFESSIONAL ACTIVITIES:

BB. Study hours, if possible should be given greater time slot with a minimum of two hrs/week to a maximum of four hrs/week.

CC. This course should be evaluated on the basis of grades and mark sheet of students, should have a separate mention of the grade awarded. There will be no pass/fail in professional activities (PA).

DD. Following grade scale of evaluation of performance in PA has been established.

<u>Grades</u>	<u>Level of performance</u>
A	Excellent
B	Good
C	Fair
D	Average
E	Below Expectations

EE. Grades once obtained in a particular examination shall become final and no chance of improvement in grades will be given to the students.

FF. Assessment of performance in PA is to be done internally by the Institution, twice in a Semester/Term through a simultaneous evaluation of the candidate by a group of three teachers, of the deptt. Concerned. Group of teachers will jointly award the grade to candidate in the assessment. Best of the grades obtained by the student in these two assessments shall be finally taken on the mark sheet of the respective Semester/Term.

Candidate abstaining from the prescribed course work and/or assessment planned at the Institute shall be marked ABSENT in the mark sheet, instead of any grade.

GG. While awarding the grades for performance in PA, examining teacher should reach the final consensus based on the attendance, punctuality, interest, presentation skills in seminar on the topic assigned (collection of relevant data, observations, analysis, findings/conclusion) and its written report, awareness of latest developments in the chosen programme of study.

HH. Institution shall maintain the record of grades awarded to all the students in PA for a period of 1 year.

II. It shall be mandatory for students to submit a compendium for his PA in the form of a Journal.

JJ. Compendium shall contain following:



- XXII. Record of written quiz.
- XXIII. Report/write up of seminar presented
- XXIV. Abstract of the guest lectures arranged in the Institution.
- XXV. Topic and outcome of the group discussion held.
- XXVI. Report on the problems solved through case studies.
- XXVII. Report on social awareness camps( organized for social and environmental prevention).
- XXVIII. Report on student chapter activities of professional bodies like ISTE, IE (India), CSI etc.

M. PA is not a descriptive course to be taught in the classroom by a particular teacher. Various activities involved in the achievement of objectives of this course should be distributed to a number of teachers so that the talent and creativity of group of teacher's benefit the treatment of the course content. These activities should preferably be conducted in English language to maintain continuity and provide reinforcement to skill development.

Small groups shall be formed like in tutorials, group discussion, case studies, seminar, project methods, roll play and simulation to make the development of personality affective.

Treatment of PA demands special efforts, attention, close co-operation and creative instinct on the part of teachers of department concerned. Since this course is totally learner centered, many of the activities planned under this course shall come out from the useful interaction of student, among themselves and with the teachers. The guide teacher/s shall best act as a facilitator of these creative hunts/ exercises, which unfold many of the hidden talents of the students or bring out greater amount of confidence in them, to execute certain activity.