

RGPV (DIPLOMA WING) BHOPAL		OBE CURRICULUM FOR THE COURSE		FORMAT-3	Sheet No. 1/5
Branch	CONSTRUCTION TECHNOLOGY AND MANAGEMENT		Semester	6th	
Course Code	C05	Course Name	WORK ORGANIZATION AND MANAGEMENT		
Course Outcome 1	Illustrate Construction Management Fundamentals, Organization Structures and Resources required for Construction Industry.			Teach Hrs	Marks
Learning Outcome 1	List the Principle, objectives, function and classification of construction management.			06	06
Contents	<p>Definition of management. Necessity and Principle of management (Harry Foyal) and their application to civil engineering works, functions of construction management - planning, organizing, staffing, directing, controlling and coordinating, meaning of each of these with respect to construction job.</p> <p>Classification of construction into light, heavy and industrial construction, stages in construction from conception to completion</p> <p>construction team: owner, engineer, architect and contractors, their functions and inter-relationship.</p>				
Method of Assessment	External Theory Exam – Pen Paper Test				
Learning Outcome 2	Explain the Organization of Construction Industry, its objectives, principles and classification.			05	06
Contents	<p>Organization of construction Industry. Necessity for an organization. Principles of organization. Types of organization -Line organization, line and staff organization, functional organization, their merits and demerits, simple organization and chart for each. Types of construction / contracting firms like sole proprietorship, partnership, private limited company and co-operative societies, corporations salient features of each. Definition, Importance, and necessity method of coordinating, controlling and decisions making. Role of various personnel in construction organization, agencies associated with construction work- owner, promoter, builder, designer, architects.</p>				
Method of Assessment	Internal Theory Exam – Mid Semester Test I				
Learning Outcome 3	Enlist the Resources required in Construction Industry, role of Consultation and different methods of carrying out works.			03	04
Contents	<p>Resources of construction industry, Material, Manpower, Money, Machinery, Space. Role of consultant for various activities: Preparation of Detailed Project Report (DPR), monitoring of progress and quality, settlement of disputes, method used for carrying out works contract method and departmental method, rate list method, piece work method, day's work method.</p>				
Method of Assessment	Internal Theory Exam – Mid Semester Test I				

Course Outcome 2	Describe contract, contractor, types of contract and projects, its objectives and procedure of payment to contractor.	Teach Hrs	Marks
Learning Outcome 1	Describe various types of Contract and its objective.	05	05
Contents	Definition of contract, objects of contract, requirements of valid contract. Types of engineering contract- Lump sum contract, item rate contract, percentage rate contract, cost plus percentage, cost plus fixed fee, cost plus variable percentage and cost plus variable fee contract, labor contract, demolition contract, fee contract, target contract, negotiated contract, class of contractor, registration of contractor.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 2	Explain different types of contractors and projects.	05	05
Contents	Classification of contractor on basis of financial limits, Requirement of documents for registration of contractor. Build Operate Transfer (BOT) Project, BOT Toll contract, BOT (Annuity) contract, Design, Build, Finance, Operate and Transfer (DBFOT) contract, Hybrid Annuity contract, Operate Maintain and Transfer (OMT) contract, Operation & Maintenance contract (Introduction only).		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 3	Explain procedure of payment to Contractors	04	04
Contents	Mode of payment to the contractor : Interim payment and its necessity, Advance payment, secured advance, on account payment, Final payment, first and final payment, retention money, reduced rate payment, petty advance, mobilization advance.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Course Outcome 3	Explain tendering system and its various aspects.	Teach Hrs	Marks
Learning Outcome 1	Describe tender, its classification and various terminology related to tendering process.	06	05
Contents	Definition of Tender, necessity of tender, Types of local & global, tender notice, points to be included while drafting tender notice, Drafting of Tender Notice. Meaning of terms: earnest money, security deposit, validity period, right to reject one or all tenders, corrigendum to tender notice and its necessary.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 2	Describe tender document and its procedure.	06	05

Contents	Tender documents – List, scheduled A, Schedule B, Schedule C. Terms related to tender documents –Contract conditions, time limit, time extension, penalty, defective material and workmanship, termination of contract, suspension of work, subletting of contract, extra item, escalation, arbitration, price variation clause, defect liability period, liquidated and un liquidated damages.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 3	Explain different steps for tender process	08	10
Contents	Filling the tender by contractor and points to be observed by him, procedure of submitting filled in, tender document, procedure of opening tender, comparative statement, scrutiny of tenders, award of contract, acceptance letter and work order, unbalanced tender, ring formation.		
Method of Assessment	Internal Theory Exam – Mid Semester Test II		
Course Outcome 4	Explain details of specification and accounting system of organizations, site organization and system approach to planning.	Teach Hrs	Marks
Learning Outcome 1	Classify specifications and describe its various aspects.	05	05
Contents	Necessity and importance of specifications of items, points to be observed in framing specifications of an item, types of specification, brief and detailed, standard and manufacturers specifications, preparing detailed specifications of items in civil engineering works, standards specification book, legal aspects of specification.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 2	Explain the terminology related to accounts of organization and procedure of cash, bills and auction and various account forms.	06	08
Contents	Procedure to settle account of money received, various account forms and their uses – Measurement Books, E- Measurement book (E-MB), Nominal Muster Roll(NMR), imprest cash, indent, invoice, bill, vouchers, hand receipt cash book, temporary advance, heads of accounts, permanent and temporary advance, comparison, checking of bills and vouchers, auction procedure etc.		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 3	Illustrate site organization and system approach to planning.	05	05
Contents	Accommodation of site staff, contractor’s staff, various organization charts and manuals, personnel in construction, welfare facilities, labour laws and human relations, safety engineering. Problem of equipment management, assignment model, transportation model and waiting line models with their applications, shovel truck performance with waiting line method		

Method of Assessment	External Theory Exam – Pen Paper Test		
Course Outcome 5	Explain the procedure for scheduling in construction project using CPM and PERT and safety measures in construction.	Teach Hrs	Marks
Learning Outcome 1	Describe planning and scheduling by network analysis using CPM.	09	12
Contents	Introduction to terminology related to scheduling, methods of scheduling, advantages of scheduling, bar chart, preparing construction schedule, advantages and limitations of bar chart, development of bar chart, CPM network, planning and scheduling by Network Analysis, activity of arrow, activity on node, elements of network: event, activity, dummy activities, precautions in drawing Network, numbering the events, identifying broad activities in construction work & allotting time to it, activity time estimate, event times by forward & backward pass calculation, start and finish time of activity, project duration, determination of various timings: EST, EFT, LST, LFT, types of floats - free, independent, interfering and total floats, critical activities and critical path, preparation of activity table, example on developing critical path. (Simple problems on Bar Chart and CPM)		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 2	Explain PERT, scheduling of work and resource management.	09	10
Contents	Introduction to PERT, terms used, comparison between CPM and PERT, optimistic time, pessimistic time, most likely time, expected time, standard deviation, preparing construction schedule comprising of items of work and duration, earliest expected event time, latest allowable occurrence time, slack, critical path, simple numerical problems on PERT, resource allocation, resource smoothing, resource leveling for Human Resource, Project Cost Analysis - project cost, Cost vs Time, optimization of cost through network contraction (No mathematical problems on Project cost analysis and resource levelling in examination) Purpose of crashing a network, normal time and cost, crash time and cost, cost slope, optimization of cost and duration. Material Management- ordering cost, inventory carrying cost, economic order quantity (no numerical problem on resource leveling).		
Method of Assessment	External Theory Exam – Pen Paper Test		
Learning Outcome 3	Describe various safety measures in construction and labour laws.	08	10
Contents	Necessity of maintaining daily diary, need for presence of sub engineer, A/R & S/R, charge to be handled to be cash transferred inspection of rest houses, measures to improve the efficiency of labour, trade unions, aims of labour legislation, labour courts, attitudes of sectional officers towards labour, safety in construction industry—causes of accidents, remedial and preventive measures, Labour Laws and Acts pertaining to Civil construction activities (Introduction only)		

Method of Assessment	Internal Theory Exam – Assignments/Quizzes/Seminars/Presentation
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List of Suggested Books: -

S.No	Title	Author	Publisher
1.	Construction Engineering and Management	Sharma S C and Deodhar S V	Khanna Book Publishing, New Delhi
2.	Construction planning and management	Gahlot,P.S. and Dhir,	New Age International (P) Ltd. Publishers, New Delhi.
3.	Project Planning and Controlling with PERT And CPM	Punmia, B.C. and Khandelwal, K.K	Laxmi Publications (P)Ltd.
4.	The A To Z of Practical Building Construction and its Management	Mantri, S	Satya Prakashan New Delhi
5.	Industrial Engineering and Management,	Sharma, S.C.	Khanna Publications, New Delhi
6.	Construction Management and Planning,	Sengupta, B., Guha H	Tata-McGraw Hill.

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	O	5				
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Illustrate Construction Management Fundamentals, Organization Structures and Resources required for Construction Industry.										
LO Description	List the Principle, objectives, function and classification of construction management.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Definition of management. Necessity and Principle of management (Harry Foyal) and their application to civil engineering works, functions of construction management - planning, organizing, staffing, directing, controlling and coordinating, meaning of each of these with respect to construction job. Classification of construction into light, heavy and industrial construction, stages in construction from conception to completion construction team: owner, engineer, architect and contractors, their functions and inter-relationship.	Interactive classroom teaching, assignments, quiz, presentation.	06	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to explain objective and function of construction management, classify and stages of construction and types of construction team and their function.	06	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	O	5				1	2	
COURSE NAME		WORK ORGANIZATION AND MANAGEMENT											
CO Description		Illustrate Construction Management Fundamentals, Organization Structures and Resources required for Construction Industry.											
LO Description		Explain the Organization of Construction Industry, its objectives, principles and classification											
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Organization of construction Industry. Necessity for an organization. Principles of organization. Types of organization -Line organization, line and staff organization, functional organization, their merits and demerits, simple organization and chart for each. Types of construction / contracting firms like sole proprietorship, partnership, private limited company and co-operative societies, corporations salient features of each. Definition, Importance, and necessity method of coordinating, controlling and decisions making. Role of various personnel in construction organization, agencies associated with construction work- owner, promoter, builder, designer, architects.	Interactive classroom teaching, assignments, quiz, presentation.	05	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked types of organization, principles of organization, explain objectives of organizations.	06	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	Internal							

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of internal theory exam – Mid Semester Test I

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	O	5				1	3	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT												
CO Description	Illustrate Construction Management Fundamentals, Organization Structures and Resources required for Construction Industry..												
LO Description	Enlist the Resources required in Construction Industry, role of Consultation and different methods of carrying out works.												
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Resources of construction industry, Material, Manpower, Money, Machinery, Space. Role of consultant for various activities: Preparation of Detailed Project Report (DPR), monitoring of progress and quality, settlement of disputes, method used for carrying out works contract method and departmental method, rate list method, piece work method, day's work method..	Interactive classroom teaching, assignments, quiz, presentation.	03	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to explain role of consultant, preparation of DPR, explain methods of carrying out of work.	04	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	Internal							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
Part of internal theory exam – Mid Semester Test I													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5			2	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Describe contract, contractor, types of contract and projects, its objectives and procedure of payment to contractor..										
LO Description	Describe various types of Contract and its objective.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Definition of contract, objects of contract, requirements of valid contract. Types of engineering contract- Lump sum contract, item rate contract, percentage rate contract, cost plus percentage, cost plus fixed fee, cost plus variable percentage and cost plus variable fee contract, labor contract, demolition contract, fee contract, target contract, negotiated contract, class of contractor, registration of contractor.	Interactive classroom teaching, assignments, quiz, presentation.	05	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to define contract, detail classification of different types of contracts.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	0	5				2	2	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT												
CO Description	Describe contract, contractor, types of contract and projects, its objectives and procedure of payment to contractor.												
LO Description	Explain different types of contractors and projects.												
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Classification of contractor on basis of financial limits, Requirement of documents for registration of contractor. Build Operate Transfer (BOT) Project, BOT Toll contract, BOT (Annuity) contract, Design, Build, Finance, Operate and Transfer (DBFOT) contract, Hybrid Annuity contract, Operate Maintain and Transfer (OMT) contract, Operation & Maintenance contract (Introduction only).	Interactive classroom teaching, assignments, quiz, presentation.	05	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to explain types of contractor on different basis, classify different types of projects.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
Part of end semester theory exam													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5			2	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Describe contract, contractor, types of contract and projects, its objectives and procedure of payment to contractor.										
LO Description	Explain procedure of payment to contractors.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Mode of payment to the contractor : Interim payment and its necessity, Advance payment, secured advance, on account payment, Final payment, first and final payment, retention money, reduced rate payment, petty advance, mobilization advance.	Interactive classroom teaching, assignments, quiz, presentation.	04	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to different modes of payment to contractor.	04	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5			3	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Explain tendering system and its various aspects.										
LO Description	Describe tender, its classification and various terminology related to tendering process.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Definition of Tender, necessity of tender, Types of local & global, tender notice, points to be included while drafting tender notice, Drafting of Tender Notice. Meaning of terms: earnest money, security deposit, validity period, right to reject one or all tenders, corrigendum to tender notice and its necessary.	Interactive classroom teaching, assignments, quiz, presentation.	06	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to define the tender and its necessity, explain different types of tender, explain different terminology used in tendering process.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5			3	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Explain tendering system and its various aspects.										
LO Description	Describe tender document and its procedure.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Tender documents – List, scheduled A, Schedule B, Schedule C. Terms related to tender documents – Contract conditions, time limit, time extension, penalty, defective material and workmanship, termination of contract, suspension of work, subletting of contract, extra item, escalation, arbitration, price variation clause, defect liability period, liquidated and un liquidated damages.	Interactive classroom teaching, assignments, quiz, presentation.	06	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to explain the tender documents, describe procedure of tender documents.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5				
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Explain tendering system and its various aspects.										
LO Description	Explain different steps for tender process										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Filling the tender by contractor and points to be observed by him, procedure of submitting filled in, tender document, procedure of opening tender, comparative statement, scrutiny of tenders, award of contract, acceptance letter and work order, unbalanced tender, ring formation.	Interactive classroom teaching, assignments, quiz, presentation.	08	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to explain process of tender filling and submitting, explain detail procedure of opening tender, Comparative statement, work order etc.	10	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	Internal					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of internal theory exam – Mid Semester Test II											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5				
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Explain details of specification and accounting system of organizations, site organization and system approach to planning.										
LO Description	Classify specifications and describe its various aspects.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Necessity and importance of specifications of items, points to be observed in framing specifications of an item, types of specification. Brief and detailed, standard and manufacturers specifications. Preparing detailed specifications of items in Civil engineering works, standards specification book. Legal aspects of specification.	Interactive classroom teaching, assignments, quiz, presentation.	05	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal					
01	Theory exam	Students will be asked to explain specifications of items, types of specifications, describe preparing details specifications of items in civil engineering works.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
Part of end semester theory exam											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	O	5				4	2	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT												
CO Description	Explain details of specification and accounting system of organizations, site organization and system approach to planning.												
LO Description	Explain the terminology related to accounts of organization and procedure of cash, bills and auction and various account form.												
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Procedure to settle account of money received, various account forms and their uses – Measurement Books, E-Measurement book (E-MB), Nominal Muster Roll(NMR), imprest cash, indent, invoice, bill, vouchers, hand receipt cash book, temporary advance, heads of accounts, permanent and temporary advance, comparison, checking of bills and vouchers, auction procedure etc.	Interactive classroom teaching, assignments, quiz, presentation.	06	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to procedure of settle account of money received, describe various account forms and their uses.	08	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
Part of end semester theory exam													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	O	5				4	3	
COURSE NAME		WORK ORGANIZATION AND MANAGEMENT											
CO Description		Explain details of specification and accounting system of organizations, site organization and system approach to planning.											
LO Description		Illustrate site organization and system approach to planning..											
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Accommodation of site staff, contractor's staff, various organization charts and manuals, personnel in construction, welfare facilities, labour laws and human relations, safety engineering. Problem of equipment management, assignment model, transportation model and waiting line models with their applications, shovel truck performance with waiting line method	Interactive classroom teaching, assignments, quiz, presentation.	05	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to procedure of settle account of money received, describe various account forms and their uses.	05	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
Part of end semester theory exam													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					C	0	5			5	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT										
CO Description	Explain the procedure for scheduling in construction project using CPM and PERT and safety measures in construction.										
LO Description	Describe planning and scheduling by network analysis using CPM.										
SCHEME OF STUDY											
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
01	Introduction to terminology related to scheduling, methods of scheduling, advantages of scheduling, bar chart, preparing construction schedule, advantages and limitations of bar chart, development of bar chart, CPM network, planning and scheduling by Network Analysis, activity of arrow, activity on node, elements of network: event, activity, dummy activities, precautions in drawing Network, numbering the events, identifying broad activities in construction work & allotting time to it, activity time estimate, event times by forward & backward pass calculation, start and finish time of activity, project duration, determination of various timings: EST, EFT, LST, LFT, types of floats - free, independent, interfering and total floats, critical activities and critical path, preparation of activity table, example on developing critical path. (Simple problems on Bar Chart and CPM)	Interactive classroom teaching, assignments, quiz, presentation.	09	00	Text book, video lectures, chalk board	NIL					
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria		Resources Required			External / Internal		
01	Theory exam	Students will be asked to define scheduling, its advantages, methods of scheduling, explain bar chart, development of bar chart, advantages and limitations, explain CPM network, its terminology, network analysis, its elements. Preparation of activity table, development of critical path.	12	Test Paper + Rating scale		Handouts, chalk board, PPT, text book, charts, video film.			External		
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					C	O	5				5	2	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT												
CO Description	Explain the procedure for scheduling in construction project using CPM and PERT and safety measures in construction.												
LO Description	Explain PERT, scheduling of work and resource management.												
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Introduction to PERT, terms used, comparison between CPM and PERT, optimistic time, pessimistic time, most likely time, expected time, standard deviation, preparing construction schedule comprising of items of work and duration, earliest expected event time, latest allowable occurrence time, slack, critical path, simple numerical problems on PERT, resource allocation, resource smoothing, resource leveling for Human Resource, Project Cost Analysis - project cost, Cost vs Time, optimization of cost through network contraction (No mathematical problems on Project cost analysis and resource levelling in examination) Purpose of crashing a network, normal time and cost, crash time and cost, cost slope, optimization of cost and duration. Material Management- ordering cost, inventory carrying cost, economic order quantity (no numerical problem on resource leveling).	Interactive classroom teaching, assignments, quiz, presentation.	09	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to define PERT, different terms used, Compare COM and PERT, prepare construction schedule by PERT, explain resource management, project cost management, explain purpose of crashing a network, material management.	10	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	External							

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of end semester theory exam

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					<i>C</i>	<i>0</i>	<i>5</i>				5	3	
COURSE NAME	WORK ORGANIZATION AND MANAGEMENT												
CO Description	Explain the procedure for scheduling in construction project using CPM and PERT and safety measures in construction.												
LO Description	Describe various safety measures in construction and labour laws.												
SCHEME OF STUDY													
S. No.	Learning Content	Method of teaching	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks							
01	Necessity of maintaining daily diary, need for presence of sub engineer, A/R & S/R, charge to be handled to be cash transferred inspection of rest houses, measures to improve the efficiency of labour, trade unions, aims of labour legislation, labour courts, attitudes of sectional officers towards labour, safety in construction industry—causes of accidents, remedial and preventive measures, Labour Laws and Acts pertaining to Civil construction activities (Introduction only)	Interactive classroom teaching, assignments, quiz, presentation.	08	00	Text book, video lectures, chalk board	NIL							
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	Resources Required	External / Internal							
01	Theory exam	Students will be asked to Explain supervisor, sub engineer work. Explain labour efficiency, trade union, labour laws and labour Court etc., describe safety procedure in construction industry and its terminology.	10	Test Paper + Rating scale	Handouts, chalk board, PPT, text book, charts, video film.	Internal							
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													

