			SCHEME F	OR LEAR	NING	Brand	h Cod	le C	ourse Code	CO Code	LO Cod	e
RGPV	(Diploma V	Ving ) Bhopal	OU	TCOME		С	0	3		1	1	Format No.
COURS	E NAME REINF	ORCED CEMENT CON	CRETE STRUCTUF	RES								I
CO Des	cription Explai	n the design philosop	nies of reinforce	d concrete st	ructures inclu	uding l	mit	state and	l working	stress.		
LO Des	cription Descri	be the different types	of steel and grad	de of concret	te as per IS 45	56-200	C					
				SCHEME OF	STUDY							
S. No.	Lear	ning Content	Method o teaching		ption of T-L Process	Tea Hrs		Pract. /Tut Hrs	LRs I	Require	ed	Remarks
1	suitability of stee steel, HYSD steel concrete and ste steel in beams ar on structures IS 8	ete and steel in R.C.C, el, types of steel like mild and TMT bars, Grades of el, Location of tension nd slabs, Types of loadin 375-1987, Various and their purpose like IS 3 etc.	of teaching, assignments, g quiz, presentation.	the cont provide the stud will cond		4		0		book, lecture board.		NIL
			SC	CHEME OF AS	SESSMENT							
S. No.	Method of Assessment	Description of A	Assessment	Maximum Marks	Passing	Criteri	а	R	esources	Requir	ed	External Internal
1	Theory exam	Student will be asked the different types of grades of concrete.		06	Test Paper +	Rating	sca		louts, chal t book, ch film	harts, vio		, External
		ADD	DITIONAL INSTRU	JCTIONS FOR	THE HOD/ F	ACULT	Y (II	F ANY)				
			Part of	end semeste	er theory exa	am						

			<b>\</b>	SCHEME	FOR LEAR	NING	Bran	h Cod	le	Cours	e Code	CO Code	LO Code	
RGPV	(Diplo	ma Wing	g ) Bhopal	οι	JTCOME		С	0	3			1	2	Format No. <b>4</b>
COURS	E NAME	REINFORCE	ED CEMENT CON	CRETE STRUCTU	RES									
CO Des	cription	Explain the	e design philosop	hies of reinforce	ed concrete st	tructures inclu	ıding l	mit	stat	e and w	orking	stress	•	
LO Deso	cription	Explain cor	ncepts of working	g stress method	•									
					SCHEME O	F STUDY								
S. No.		Learning	Content	Method teachin		iption of T-L Process	Tea Hrs			ract. ut Hrs.	LRs I	Requir	ed	Remarks
1	area of s singly re stresses in of section over rein Moment problems resistance	ection, stres einforced s n concrete an n, Concept o nforced and of resistanc on calcu e and area c	mptions, equival s-strain behavior ection, permissi nd steel, Neutral A of under reinforc balanced secti e, Simple numer lating moment of steel of singly a rectangular section	for classroom ble teaching, xis assignments ed, quiz, on, presentation cal of and	the c provide the stu will co n. and giv	r will explain ontents and handouts to dents; teacher nduct a quiz re assignments ractice their dge.			0			oook, lecture board.		NIL
				S	CHEME OF AS	SSESSMENT								
S. No.	Metho Assess		Description of	Assessment	Maximum Marks	Passing	Criter	а		Resc	ources	Requir	ed	External / Internal
1	Theory	r exam N ai	tudent will be aske oncepts of working eutral Axis, Mome nd simple numeric ne same.	stress method, nt of resistance	12	Test Paper +	Rating	sca	le	Handou text b	ts, chal book, ch film	arts, vi		External
			ADI	DITIONAL INSTR	UCTIONS FOR	R THE HOD/ F	ACULT	Y (I		Y)				
				Part o	of end semest	er theory exa	m							

			SCHEME F	OR LEAR	NING	Bra	inch Co	de	Cours	se Code	CO Code	LO Code	
RGPV	(Diploi	na Wing ) Bhopal	OU	TCOME		С	0	3			1	3	Format No. Z
COURS	E NAME	REINFORCED CEMENT C	ONCRETE STRUCTUR	RES								1	
CO Des	cription	Explain the design philo	sophies of reinforce	d concrete st	tructures inclu	uding	limi	t stat	te and w	orking	stress.		
LO Dese	cription	Explain concepts of limi	t state method.										
				SCHEME O	F STUDY								
S. No.		Learning Content	Method o teaching		iption of T-L Process		ach rs.		Pract. ut Hrs.	LRs F	Require	ed	Remarks
1	characteri strength a for mate compariso Loading o effective cover,	ncept, types of limit stic and design valu nd load, partial factor of rials and loads, assum n between WSM and on structure as per IS depth, effective span, n minimum and ma nent, control of deflection	es of classroom safety teaching, ptions, assignments, LSM, quiz, 5 875, presentation.	the con provide the stud will con and give	r will explain tents and handouts to dents; teacher duct a quiz e assignments tice their dge.	10		0		Text b video chalk	lecture		NIL
			SC	HEME OF AS	SSESSMENT								
S. No.	Metho Assessi	Description	of Assessment	Maximum Marks	Passing	Crite	ria		Reso	ources l	Require	ed	External / Internal
1	Theory exa	concept of lir	e asked to explain nit state method, safety and effective	10	Test Paper +	Ratir	ig sca	ale	Handou text b	its, chall book, ch film	arts, vic		External
			ADDITIONAL INSTRU	ICTIONS FOR	R THE HOD/ F	ACUL	TY (I	F AN	Y)				
			Part of	end semest	er theory exa	am							

RGPV	/ (Diplo	ma Wing	) Bhopal	SCHEME OL	FOR LEAR JTCOME	NING	Bra	nch Co <b>O</b>	<sup>de</sup> 3	Cou	rse Code	CO Code <b>2</b>	LO Code 1	Format No. <b>4</b>
COURS	E NAME	REINFORCE	D CEMENT CONCR	ETE STRUCTU	IRES							1	1	
CO Des	cription	Analyse and	l design reinforce	l concrete be	ams for flexu	re, shear and	bond	арр	lying	princip	oles of LS	SM.		
LO Deso	cription	Analyse and	l design singly rein	forced beam	for flexure ap	oplying princip	les o	f LSN	И.					
					SCHEME O	F STUDY								
S. No.		Learning C	Content	Method teaching		iption of T-L Process	_	ach rs.		Pract. ut Hrs.	LRs R	equire	d	Remarks
1	section, s (No deriv Axis, Actur reinforce under re balanced reinforce and actur numerica moment	stress block di vation), Limitin ual depth of Ne d rectangular einforced, ove section, and d rectangular al moment of l problems of resistance a	or singly reinforced iagram parameters og depth of Neutra eutral Axis for singly section, concept of er reinforced and nalysis of singly r section, limiting f resistance, simple on determining and area of steel of gular sections only.	classroom teaching, assignments quiz, presentation	the con provide the stud will con and giv to pract knowle		12		0		Text bo video la chalk b	ectures		NIL
				S	CHEME OF AS	SSESSMENT								
S. No.	Meth Assess		Description of As	sessment	Maximum Marks	Passing	Crite	ria		Res	ources R	equire	ed	External / Internal
1	Theory ex		Ident will be asked t 1. Draw stress st for singly reinfo stress block pa	rain diagram orced section,	12	Test Paper +	Ratin	g sca	lle		uts, chalk book, cha film.	irts, vid		External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of end semester theory exam

2. Determine MR and area of steel of singly reinforced

rectangular section.

יחסם	//_:		ng \ Dhanal	S	CHEME F	OR LEAR	NING	Bra	anch Co	de	Cours	se Code	CO Code	LO Code	
KGPV		ma wi	ng ) Bhopal		OU	TCOME		С	0	3			2	2	Format No.
COURS	E NAME	REINFOR	RCED CEMENT CO	VCRET	E STRUCTUI	RES									
CO Des	cription	Analyse	and design reinfo	rced c	oncrete bea	ms for flexu	re, shear and	bond	l app	lying	g princip	les of L	SM.		
O Des	cription	Calculate	e the moment of r	esista	nce of doub	ly reinforced	section appl	ying	orinc	iples	of LSM.				
						SCHEME O	F STUDY								
S. No.		Learnii	ng Content		Method of teaching		iption of T-L Process		ach rs.		Pract. ut Hrs.	LRs R	equired		Remarks
L	stress-str section, section, o resistance problems resistance	ain diagra analysis depth of n e of sect s on det	oly reinforced sect m of doubly reinfor of doubly reinfor neutral axis, momen cion, simple nume cermining moment doubly reinfor s only.	rced rced it of rical of	Interactive classroom teaching, assignments, quiz, presentation	the con provide the stud will con and giv	r will explain tents and handouts to dents; teacher duct a quiz e assignments tice their dge.	8		0		Text b video l chalk b	ectures,	N	IL
					SC	CHEME OF AS	SSESSMENT								
S. No.	Meth Assess		Description of	Asse	ssment	Maximum Marks	Passing	Crite	eria		Reso	ources F	Required		External / Internal
1	Theory ex	kam	Student will be ask 1. Draw stress for dour section, parameters 2. Determine steel of d rectangular	s stra bly stres c. MR a oubly	reinforced s block nd area of reinforced	10	Test Paper +	- Ratir	ng sca	ile			t board, P arts, vide	•	Internal
			AD	DITIC	ONAL INSTRU	JCTIONS FO	R THE HOD/ F	ACUI	.TY (I	F AN	Y)				
					Dawt of lusts		Mid Semeste	-							

			SCHEME F	OR LEAR	NING	Brand	h Cod	le	Cou	urse Code	CO Code	LO Code	e
KGPV	/ (Diploma W	ing ) Bhopai	OU	TCOME		С	0	3			2	3	Format No.
COURS	E NAME REINFO	DRCED CEMENT CON	RETE STRUCTU	RES									
CO Des	cription Analyse	e and design reinforc	ed concrete bea	ms for flexur	e, shear and	bond a	appl	lying	princi	ples of L	SM.		
LO Deso	cription Analyse	e and design T beam	section for neut	ral axis with i	n the flange a	applyir	ıg p	rinci	ples of	f LSM.			
				SCHEME OF	· STUDY								
S. No.	Learn	ing Content	Method c teaching		iption of T-L Process	Tea Hrs			ract. ut Hrs.	LRs I	Require	ed	Remarks
1	diagram of singly re of neutral axis, mo section with neutr Analysis of T-bean	of flange, stress-stra reinforced T beam, dep oment of resistance of ral axis within the flang m, Simple numerical an of T section with neution nge only.	th classroom f T teaching, ge, assignments, nd quiz,	the cont provide the stud will cond	will explain tents and handouts to dents; teacher duct a quiz e assignments tice their dge.	8		0			book, lecture board.		NIL
			SC	CHEME OF AS	SESSMENT								
S. No.	Method of Assessment	Description of A	Assessment	Maximum Marks	Passing	Criter	а		Re	sources	Requir	ed	External Internal
1	Theory exam	Students will be ask neutral axis positio resistance of T Beam	on, moment of	10	Test Paper +	rating	scal	e		outs, chal book, ch film	arts, vio		, Internal
		ADC	DITIONAL INSTRU	JCTIONS FOR	THE HOD/ F	ACULT	Y (IF	ר F <b>AN</b>	Y)				
			Part of Inte	rnal Exam – I	Mid Semester	r Test-	1						

		see ) Dheeal	SCHEME FOF	R LEARNING	Branch Co	ode Cour	rse Code Co		
KGP	/ (Diploma Wi	ng ) Bhopai	Ουτα	OME	C 0	3	2	4	Format No.
COURS	E NAME REINFO	RCED CEMENT CONCRI	ETE STRUCTURES						
CO Des	cription Analyse	and design reinforced	concrete beams	for flexure, shear a	nd bond app	olying princip	oles of LSM.		
.O Des	cription Analyse	and design beam for s	hear and bond cr	iteria applying prin	iples of LSN	1.			
			sc	CHEME OF STUDY					
S. No.	Learni	ng Content	Method of teaching	Description of T Process	L Teach Hrs.	Pract. /Tut Hrs.	LRs Requ	ired	Remarks
1	shear stress, shea maximum shear s reinforcement, reinforcement, n stirrups, design o simple numerical p section for shear, stress, types of stress, Developmen compression, che length, lapping of k hooks for 90° ben of simply supp	reinforcement, nominal r strength of concrete, stress, minimum shear forms of shear naximum spacing of f shear reinforcement, roblems on adequacy of Concept of bond, bond bond, check for bond nt length in tension and eck for development bars, Anchorage value of d and 45° bend, Design orted and cantilever for flexure including	classroom teaching, assignments, quiz, presentation.	Teacher will explain the contents and provide handouts t the students; teach will conduct a quiz and give assignmen to practice their knowledge.	o er ts	0	Text book, video lectu chalk board	res,	NIL
	Mathed of			ME OF ASSESSMEN					
S. No.	Method of Assessment	Description of Ass	essment	aximum Pass Varks	ng Criteria	Re	sources Requ	ired	External / Internal
1	Theory exam	Student will be aske shear reinforcement fo check development len	or given data,	10 Test Pape	er + rating sca		uts, chalk boa book, charts, v		External

Part of end semester theory exam

	ome Ming \ Dhenel	SCH	EME F(	OR LEARNI	NG	Branch	Code	Co	urse Code	CO LO Code Co	de
KGPV (DIPIC	oma Wing ) Bhopal		OUT	ΓΟΜΕ		с о	3	3		3 1	Format No.
COURSE NAME	REINFORCED CEMENT CO	NCRETE ST	RUCTUR	ES							
CO Description	Apply the principles, analy slab.	/sis and de	esign of r	einforced conc	rete one w	ay and	two	way sla	b and pi	repare draw	vings of beam a
LO Description	Design one way and two v	vay slab ar	pplying p	rinciples of LSN	1.						
				SCHEME OF ST	UDY						
S. No.	Learning Content		lethod of teaching	f Descripti Proc		Teach Hrs.		Pract. 'Tut Hrs	LRs	Required	Remarks
way, che and dist slab, des and can for flexu and she supporte flexure i shear. D Dog legg	ation of slabs as one way and eck for deflection and shear, r tribution steel, codal provision sign of one way simply suppo- tilever slab with corners free to ure including check for deflect ear, design of two way sir ed slab with corners free to lif including check for deflection Design procedure of waist sla ged staircase (No problem on staircase in external exam)	main class ns of teach orted assign o lift quiz, ction present mply t for and b of	sentation.	to practice knowledge.	ts and ndouts to s; teacher t a quiz signments their	10	0		video	book, o lectures, < board.	NIL
			SCI	HEME OF ASSES	SSMENT						
S. No.	hod of ssment Description o	fAssessme	ent	Maximum Marks	Passing	Criteria		Re	sources	Required	External Interna
1 Theory e	exam Student will be as way and two way data.	•	•	10 T	est Paper +	rating so	ale		•	ilk board, PP harts, video	T, External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Part of end semester theory exam

BCDV (Diplome Wing) Bhonel	SCHEME FOR LEARNING
RGPV (Diploma Wing ) Bhopal	OUTCOME

В	ranch Coc	le	Co	urse Co	de	CO Code	LO Code	Л
С	0	3				3	2	Format No. <b>4</b>

## COURSE NAME REINFORCED CEMENT CONCRETE STRUCTURES

CO Description	Apply the principles, analysis and design of reinforced concrete one way and two way slab and prepare drawings of beam and
CO Description	slab.

LO Description Prepare a detailed plan and section of simply supported beam and slab.

		SC	CHEME OF STUDY				
S. No.	Learning Content	Method of teaching	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
	<ul> <li>1.Draw cross-section and longitudinal section of simply supported rectangular beam showing reinforcement details.</li> <li>2.Draw cross-section and longitudinal section of rectangular cantilever beam showing reinforcement details.</li> <li>3.Draw cross-section and longitudinal section of simply supported T beam showing reinforcement details.</li> <li>4.Draw plan and sections of simply supported one way slab with corners free to lift showing reinforcement details.</li> <li>5.Draw plan and sections of simply supported two way slab with corners free to lift showing reinforcement details.</li> <li>6.Draw plan and sections of dog legged staircase showing reinforcement details.</li> </ul>	Interactive classroom teaching, assignments, quiz, presentation.	Teacher will explain the contents and provide handouts to the students; teacher will conduct a quiz and give assignments to practice their knowledge.	0	18	Text book, video lectures, chalk board.	NIL

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Passing Criteria	<b>Resources Required</b>	External / Internal
1	Practical Exam	Student will be asked to design and draw for the given problem.		Rating scale/ Rubrics	Handouts, chalk board, PPT, text book, charts, videos,	Both
				THE HOD/ FACULTY (IF A Narks for Practical : 13 M	-	

RGPV (Diploma Wing ) Bhopal			SCHEME FOR LEARNING OUTCOME			Bra	nch Coo	de Cou	rse Code CO Code	LO Code		
		g ) Bhopal				С	0	3	4		Format No. <b>4</b>	
COURSE NAMEREINFORCED CEMENT CONCO DescriptionAnalyse and design the axis			ED CEMENT CONCRE	TE STRUCTU	RES							
			d design the axially	loaded shor	t column app	olying princip	les of	LSM	•			
LO Des	cription	Design axia	ally loaded short colu	umn and exp	lain procedu	re of designin	isol	ated	footing			
					SCHEME O	F STUDY						
S. No.		Learning Content		Method teaching			Teach Hrs.		Pract. /Tut Hrs.	LRs Required Text book, video lectures, chalk board.		Remarks
1	Classification of columns, effective leng minimum eccentricity, IS specifications longitudinal and lateral reinforceme Simple numerical and design problems short axially loaded square, circular a rectangular columns Design steps of square isolated footing uniform thickness (No numeric problems)		y, IS specifications of teral reinforcement, d design problems of square, circular and e isolated footing of	of classroom the nt, teaching, pro- of assignments, the nd quiz, wi presentation. an of to		Teacher will explain the contents and provide handouts to the students; teacher will conduct a quiz and give assignments to practice their knowledge.			0			NIL
				S	CHEME OF AS	SSESSMENT						
S. No.	Metho Assess		Description of Asso	essment	Maximum Marks	Passing	; Crite	eria	Res	ources Require	ed	External / Internal
1	Theory ex	kam co de	tudent will be asked olumns, recall IS sp esign a short colum ata.	pecifications,	10	Test Paper -	per + rating scale		Handouts, chalk board, PF e text book, charts, video film.			External
			ADDITI		UCTIONS FOR	R THE HOD/ F	ACUL	TY (I	F ANY)			
						er theory ex						

RGPV (Diploma Wing ) Bhopal			SCHEME FOR LEARNING			Branch (	ode	Cour	se Code Code Code			_	
KGPV				OL	C 0		3	Format No.					
COURS	E NAME	REINFOR	RCED CEMENT CONC	RETE STRUCTU	JRES						11		
CO Des	cription	Analyse	and design the axia	lly loaded shor	rt column ap	plying princip	les of LSI	И.					
LO Des	cription	Prepare	a detailed plan and	section of colu	mn and foot	ing.							
					SCHEME (	OF STUDY							
S. No.		Learnir	ng Content	Method teaching		cription of T-L Process	Teach Hrs.		Pract. /Tut Hrs.	LRs R	equire	Remarks	
1	<ol> <li>Draw plan and section of column showing reinforcement details.</li> <li>Column and joint detailing as per 13920</li> <li>Draw plan and sections of squar or rectangular footing showin reinforcement details.</li> </ol>			classroom IS teaching, assignments re quiz,	the co provic s, the st will co n. and gi	er will explain intents and le handouts to udents; teacher onduct a quiz ve assignments ctice their edge.		0	9	Text book, NII video lectures, chalk board.			NIL
				S	CHEME OF /	ASSESSMENT							
S. No.	Meth Assess	od of sment	Description of A	ssessment	Maximum Marks	Passing	; Criteria	<b>Resources Required</b>					External Internal
1	Practical	exam	Student will be asked draw for the given da	•	0	Rating sca	lle/ Rubric	Handouts, chalk board, PPT, text book, charts, video film.					Both
			ADD	ITIONAL INSTR	UCTIONS FC	OR THE HOD/ F	ACULTY	(IF A	ANY)				
			Part	of Practical Ex:	am · Interna	Marks for Pra	octical · O	7 8/	arks				

RGPV (Dinle		na Wing ) Bhopal	SCHEME FO	Branch	Code	Cour	Course Code CO LO Code Code							
		na wing / bhopai	OUTO	C 0		3		5	1	Format No.				
COURSE NAME REINFORCED CEMENT CON			INCRETE STRUCTURES											
CO Des	cription E	Explain the concept of pre-	stressed concrete, i	its losses and fundan	nentals of e	eart	thquake er	ngineer	ring.					
LO Des	cription [	Describe pre-stressed conc	crete and its methods.											
			S	CHEME OF STUDY										
S. No.		Learning Content	Method of teaching	Description of T Process	-L Teach Hrs.	)	Pract. /Tut Hrs.	LRs	Required		Remarks			
1	advantage stressing, n concrete, n tensioning	pre-stressed concrete, and disadvantage of pre- naterials used in pre-stressed nethods of pre-stressing: pre and post tensioning, losses in ng. No numerical problems	Interactive classroom teaching, assignments, quiz, presentation.	Teacher will explain the contents and provide handouts t the students; teach will conduct a quiz and give assignmen to practice their knowledge.	0 Ier		0	Text book, video lectures, chalk board.		N	NIL			
			SCHE	EME OF ASSESSMEN	Т									
S. No.	No.Method of AssessmentDescription of AssessmentMaximum MarksPass						Res	Required		External Internal				
1	Student will be asked to submit assignments giving details regarding pre stressing.O5Rating scale/ RubricsHandouts, chalk board, PPT, text book, charts, video film.								Internal					
		ADI	DITIONAL INSTRUCT	TIONS FOR THE HOD	/ FACULTY	(IF	ANY)							
		Par	of Internal Exam –	- Assignments/ Semi	nars/Prese	nta	tions							

	RGPV (Diploma Wing ) Bhopal		SCHEME	SCHEME FOR LEARNING			nch Coc	de	Cour	rse Code	CO Code	LO Code	e
KGPV	יוסוקוט) י	ha wing j bhopai	O	OUTCOME			0	3			5		Format No.
COURS		REINFORCED CEMENT C	ONCRETE STRUCTI	JRES									
CO Description Explain the concept of pre			re-stressed concre	ete, its losses a	ind fundamen	itals o	of ea	ırthqı	Jake er	ıgineerir	ng.		
LO Des	cription [	Describe the importance	e of earthquake en	gineering in R(	CC structures.								
	I			SCHEME OF	F STUDY								
S. No.		Learning Content		Method of Description of T- teaching Process					Pract. /Tut Hrs.		Rs Required		Remarks
1	zones in Inc failures of s ductile deta	on, Richter Scale, earthqua dia as per IS 1893, causes structure during earthqua ailing, principal of constru e resistant buildings	of classroom ike, teaching,	the contents and provide handouts to ts, the students; teacher will conduct a quiz		05	05 0		Text book, video lectures, chalk board.			NIL	
				SCHEME OF AS	SESSMENT								
S. No.	Methoo Assessm	Description	of Assessment	Maximum Marks	Passing	Criter	ia		Res	sources Required			External Internal
1	Theory exa		e asked to submit giving details quake.		Rating scale	e/ Rut	orics		Handouts, chalk t text book, char film.				
		i	ADDITIONAL INSTR	<b>UCTIONS FOF</b>	₹ THE HOD/ F	<b>\CUL</b> T	Г <b>Ү (</b> І	F AN'	Y)				
			Part of Internal Exa		-		•		-				

Note: 1. Use of IS 456-2000 is permitted in the examination.

- 2. Internal practical marks of practical LOs are mentioned in additional instructions.
- 3. External practical exam will be of maximum 30 marks and any of the practical mentioned in LO's can be assessed.