RGPV (DIPLOMA WING) BHOPAL

OBE CURRICULUM FOR THE COURSE

FORMAT - 3

Sheet No.

Branch CHEMICAL Semester 4

Course Code Course Name MECHANICAL OPERATION

Cour	Student will be able to understand the properties and handling of particulates		
se		ac	rks
Outc	114-	h	
ome 1	solids	Hr s	
Lear	Student will be able to explain the shape and size of particulate solids.	9	7
ning	student will be usic to explain the shape and size of particulate solids.		,
Outc			
ome 1			
Conte			
nts	Characterization of solid particles- Characterization of Shape		
	Characterization of size		
	Particle size analysis- Differential and Cumulative analysis, Specific surface		
	of mixture, Average particle size, Volume surface mean diameter, Arithmetic mean diameter, Mass mean diameter, Volume mean diameter, No. of particle		
	in mixture.		
Meth	Lab internal test		
od of			
Asses			
sment			
LO2	Student will able to learn and explain the different standard test screens.	8	10
Conte	Screen Analysis-Standard screen series, simple problem on screen analysis		
nts	Industrial screening equipments -stationary screens & grizzels,gyratory & vibratory screens,comparison of ideal & actual screens		
Meth	pen paper test		
od of			
Asses			
sment			
LO	student will be able to explain different technique of storage of solids.	6	6
3			
Conte	Properties particulate masses-Storage of solids ,Bulk & bin storage,		
nts			
Meth	pen paper test		

od of			
Asses			
sment			
LO 4	Student will be able to explain the screen capacity & determine screen effectiveness of given screening equipment.	8	10
Conte nts	Material balance over screen- Screen effectiveness,capacity & effectiveness of screen,Effect of mesh size on capacity of screen,sim[ple problem on screen effectiveness.		
Meth od of Asses	Practical exam		
sment			
Cour se Outc ome 2	Students will be able to understand the size reduction of solids.		
Lear ning Outc ome 1	Students will be able to explain the theory of size reduction.	7	10
Conte nts	Size Reduction-Criteria of size reduction, Energy and Power requirement Crushing efficiency		
Meth od of Asses sment	Paper Pen Test		
Lear ning Outc ome 2	Students will able to explain the laws of crushing & to determine the Rittingers constant using jaw crusher.	6	10
Conte nts	Law's of crushing-Rittinger's law ,Kick's law ,Bond's law ,Work index, Simple problem		
Meth od of Asses sment	Practical Exam		
LO3	Students will be able to operate and control the size reduction equipments	10	10
Conte nts	Size reduction equipment- Principle, construction and working of crusher Principle, construction and working of grinders Principle, construction and working of ultra fine grinders, Principle, construction and working of cutting machines, Open circuit and closed circuit operation, Dry and wet operation		
Meth	Theory Exam		

1.0			
od of			
Asses			
sment			
Cour	Students will be able to understand agitation and mixing operations.		
se			
Outc			
ome 3			
Lear	The student will be able to explain the agitation of fluids.	10	07
ning			
Outc			
ome 1			
Conte nts	Agitation of liquids- Purpose of agitation, Agitation equipments ,Impellers ,Flow pattern in agitated vessels ,Prevention of swirling, Draft tube, Standard turbine design		
Meth	Lab internal test		
od of			
Asses			
sment			
Lear	The student will able to explain the mixing technique of pastes.	9	10
ning	g 1		10
Outc			
ome 2			
	Mixing of pastes-Representative types of mixers for paste ,Representative types of		
Conte nts	mixers for plastic masses ,Criteria of mixer effectiveness and mixing index ,Mixing of dry powders ,Representative types of mixers for dry powders ,Mixing index for granular solids ,mixing index at zero time ,Rate of mixing ,Simple problems on mixing index.		
Meth	Theory Exam		
od of			
Asses			
sment			
Cour	Students will able to understand the mechanical separation of solids.		
se	<u>-</u>		
Outc			
ome 4			
Lear	Students will able to explain drag, motion of the particles through fluids.	8	10
ning	1		10
Outc			
ome 1			
	Mechanical Separation - Drag, drag coefficient and stoke's law ,Relation between		
Conte nts	drag coefficient and Reynolds number., Motion of particles through fluid, Equation for one dimensional motion of particles through fluids, Terminal velocity, Motion of spherical particles, Free and Hindered settling, Separation of size by free settling and difference in density,		

Meth	theory exam		
od of			
Asses			
sment			
Lear	Students will be able to learn sedimentation and perform batch settling test.	11	10
ning			
Outc			
ome 2			
Conte	Sedimentation, Application of batch settling test to design thickner		
nts			
Meth	Practical Exam		
od of			
Asses			
sment			
Lear	Students will able to explain the floatation, Electrostatic separator, cyclone	9	10
ning	separator and bag dust collector		
Outc			
ome 3			
Conte	Electrostatic separator , Cyclone separator , Bag dust Collector		
nts			
Meth	Theory Exam		
od of			
Asses			
sment			
Cour	Students will able to understand theory of filtration operations.		
se			
Outc			
ome 5			1.0
Lear	Students will able to learn and explain types of filtration, filter media and filter aids.	9	10
ning	Titlet alds.		
Outc			
ome 1	Filtration-Theory of filtration ,Relation between thickness of cake and volume of		
Conte nts	filtrate ,Constant rate and constant pressure filtration ,Filter media and filter aid		
Meth	Theory Exam		
od of			
Asses			
sment			
Lear	Students will able to operate & control various filtration equipments.	9	10
ning			

Outc			
ome 2			
Conte	Construction and working of plate and frame non washing and washing type		
nts	,Construction and working of chamber press ,Construction and working of leaf filter Construction and working of continuous rotary drum filter ,Simple problems		
Meth	Theory Exam		
od of			
Asses			
sment			
CO 6	Students will able to understand the transportation and handling of solids.		
Lear	Students will able to explain the transport of solids.	8	10
ning			
Outc			
ome 1			
Conte	Construction and working of Belt conveyor, belt drive arrangement, belt tensioning		
nts	devices, driving sources, feeding and discharge arrangements		
Meth	Theory Exam		
od of			
Asses			
sment			
Lear	Students will able to operate & control the various conveying & elevating	8	10
ning	equipments		
Outc			
ome 2			
Conte	Construction and working of Screw conveyor and bucket elevator ,Construction and		
nts	working of Pneumatic conveying system, positive and negative pressure system Packaging.		
Meth	Theory Exam		
od of			
Asses			
sment			

RG	RGPV (Diploma Wing) Bhopal			OR LEARNING COME		Branc	ch C	Code	Cour	se Code	CO Code	LO Code	Format No. 4
						C	0	2			1	1	
	URSE ME	MECHANICAL OPERAT	ION		'	'				'	'		
CO Des	scription	Student will be able t	o understand the properti	es and handling of	particul	ate solid	S.						
LO Des	cription	Student will be able t	o explain the shape and s	ize of particulate so	olids.								
				SCHEME O	FSTUI	DY							
S. No.	Lear	rning Content	Teaching –Learning Method	Description of Process	T-L	Teach Hrs.		Pract. /Tut Hrs		LRs Re	quired		Remarks
	Properties and handling of particulate solids- Characterization of solid particles, Characterization of Shape, Characterization of size Particle size analysis, Differential and Cumulative analysis, Specific surface of mixture, Average particle size Volume surface mean diameter, Arithmetic mean diameter, Mass mean diameter, Volume mean diameter, No. of particle in mixture		Interactive classroom teaching, demonstration, quiz, assignments, tutorial.lab demonstration	Teacher will exp the contents and provide handout students. Teacher conduct assignmentary quiz/tutorial to restudents practice knowledge. Teacher will conduct lab assignments to restudents practice knowledge	es to er will nents/ make e their cher	05	0)4	PP'	ndouts, c T, text nual		·	
		·		SCHEME OFAS	SSESSI	MENT			·			·	
S. No.	Metho	od of Assessment	Description of A	Assessment		imum arks			Resou	irces Rec	quired		External / Internal
1	Laboratory	y Test by observation	Examiner will ask take reading and the in front of him and correctness of	nen calculate nd will asses	(07	Ra	ating Sca	le				Internal
			ADDITIONAL INST	RUCTIONS FOI	R THE	HOD/	FA(CULTY	(IF Al	NY)			
				Nil									

RGP	PV (Diplor	na Wing) Bhopa	SCHEME FOR LEA OUTCOME		Bran	ch Co	de	Co	urse Co	ode	CO Code	LO Code	Format No.
					C	0	2				1	2	
N_{L}	AME	MECHANICAL OPER											
CO De	escription	Student will be able	e to understand the properties an	d handling of parti	culate s	olids.							
LO De	scription	Student will able to	learn and explain the different st	tandard test screen	S.								
				SCHEME OF		DY							
S. No.	.Lea	rning Content	Teaching –Learning Method	Description of T-L Process	•				Teach Hrs.	Pract. /Tut Hrs.		Rs equired	Remarks
	series,simpoblems o Industrial Equipmen & grizzels	n screen analysis. I screening nts-Stantionary scr ,Gyrating & vibrat mparison of ideal	teaching, demonstration, quiz, assignments, tutorial, presentation, demonstration, hands or	Teacher will ex provide handou will conduct ass quiz/tutorial to their knowledge	ts to stu signme: make s	udents. nts/	. Teach	ier	05	03	Hande chalk charts	board,	
				SCHEME OFAS	SESSN	MENT	1	·			·		
S. No.	Meth Asses	od of ssment	Description of Assessm	ent		Iaximu Mark				Resourc	es Requ	ired	External / Internal
1	Paper Per	n Test	Theory question (including sinumerical problem) related to content will be asked in the te	the learned		10		Test	Paper +	Rating So	cale		Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Nil

R	GPV (Di _]	ploma Wing) Bhop	pal		FOR LEARNING TCOME	Bran C	ch Cod	e 2	Course Coo	ďΔ	CO Code	LO Code	Format No. 4
	URSE ME	MECHANICAL (OPERAT	ION			<u> </u>	<i>L</i>			1	<u> </u>	
CO Des	cription	Student will be able	to underst	and the propertie	es and handling of pa	rticulate soli	ds.						
		student will be able											
			<u> </u>		SCHEME OF								
S. No.	Lea	rning Content		ing –Learning Method	Description of ' Process	Γ-L	Tea Hr		Pract. /Tut Hrs.		LRs R	equired	Remarks
	Properties of particulate masses-Storage of solids, Bulk & Bin storage		teaching demons	ive classroom g, tration, quiz, nents, tutorial.	Teacher will explain the contents and provide handouts to students. Teacher will conduct assignments/ quiz/tutorial to make students practice their knowledge.				01	Handouts, chalk board, PPT, text book,			
				5	SCHEME OF ASS	ESSMENT	Γ		<u> </u>				1
S. No.	Meth	od of Assessment	Г	Description of A	ssessment	Maxir Mar			F	Resoui	rces R	equired	External / Internal
1	Paper Per	n Test		Internal									
			ADDIT	TIONAL INSTR	RUCTIONS FOR	гне нор	FACU	LT	Y (IF ANY)				
					Nil								

R(RGPV (Diploma Wing) Bhopal		SCHEME FOR		B 1	ranch (Code	Course Code			LO Code	Format No. 4
		9 · I	OUTC	OME	C	0	2			1	4	_
	URSE AME	MECHANICAL OPERA	TION		'							-
CO Des	scription	Student will be able t	to understand the properties a	and handling of I	particulate	solids.						
			to the screen capacity & deter				screening	equipm	ent.			
				SCHEME O	F STUDY	7						
S. No.	Lea	rning Content	Teaching –Learning Method	Description Proce		Teach Hrs.	Pract /Tut Hrs.		LRs F	Required		Remarks
1	Screen eff Capacity a screen, Ef		Interactive classroom teaching, demonstration, quiz, assignments, tutorial.	Teacher will the contents provide hand students. Tea will conduct assignments/quiz/tutorial students practice their knowled Teacher will lab assignments make student practice their knowledge	and louts to make to make etice dge. conduct ents to ts	03	05			, chalk Γ, text bo	ook,	
			SC	HEME OF AS	SSESSMI	ENT						
S. No.	Meth	od of Assessment	Description of Asse		Maxim Mark	um]	Resourc	es Re	quired		External / Internal
1	Laboratory Test by observation	Examiner will ask to stude reading and then calculate him and will asses correct	in front of	10	R	ating Scal	e				External	
			ADDITIONAL INSTRU	CTIONS FOR	R THE HO	OD/ FA	CULTY	(IF AN	Y)			
				Nil								

F	RGPV (Di	ploma Wing) Bhopal	SCHEME FOR		Bran	ich Co	de		Cou	ırse Code	CO Code	LO Code	Format No. 4
	` '	· · · · ·	OUTCO	ME	C	0		2			2	1	
	URSE AME	MECHANICAL OPERATION											
CO De	scription	Students will be able to underst	and the size reduction of	solids.									
LO Des	scription	Students will be able to explain	the theory of size reduction	on.									
			S	CHEME OF ST	UDY								
S. No.	Lea	rning Content	Teaching – Learning Method	Descripti Pro	on of T- cess	L		Teacl Hrs.		Pract. /Tut Hrs.	LRs	Require	ed Remarks
1		action -Criteria of size reduction, nd Power requirement, Crushing	Interactive classroom teaching,	Teacher will exp contents and pro-			()5		2	Handouts board, ch	*	

SCHEME OF ASSESSMENT

handouts to students.

Teacher will conduct assignments/ quiz/tutorial to make students practice their knowledge.

demonstration, quiz,

assignments, tutorial.

efficiency

S. No.	Method of Assessment	od of Assessment Description of Assessment		Resources Required	External / Internal
1	Paper Pen Test	Theory question (including simple numerical problem) related to the learned content will be asked in the test paper	10	Test Paper + Rating Scale	Internal

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Nil

R	RGPV (Di	ploma Wing) Bhopa	al		FOR LEARNING	Brai	nch Co	de	Co	ourse Code	CO Code	LO Code	Format No. 4
		r		οι	JTCOME	C	0	2			2	2	
	URSE ME	MECHANICAL OPERAT	TION			'	·					'	
CO Des	scription	Students will be able t	to underst	and the size redu	iction of solids.								
LO Des	cription	Students will able to e	explain the	e laws of crushing	and to determine I	Rittingers	constar	nt using	g Jaw	crusher.			
					SCHEME OF	STUDY							
S. No.	Lea	arning Content		ing –Learning Method	Description of Process	f T-L		Tea Hi	-	Pract. /Tut Hrs.		L R s Require	Remark d
1	Laws of crushing-Rittingers Law,kicks law,Bonds law,work index		teaching demonst assignment	ve classroom ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	Teacher will expl and provide hand Teacher will cond assignments/ quiz students practice Teacher will cond assignments to ma practice their kno	outs to students. duct z/tutorial to make their knowledge duct lab take students				01	Handouts board, PF book, cha		
					SCHEME OF AS	SESSME	NT						
S. No.	Metl	hod of Assessment	D	Description of A	ssessment	Maximu Mark			R	esources Re	quired		Internal
1	Laboratory Test by observat		take refront	ner will ask t eading and the of him and tness of result	n calculate in	10	R	Rating Scale					External
			ADDIT	TIONAL INST	RUCTIONS FOR	THE HO	D/ FA	CULT	Y (II	F ANY)			
					Nil								

CO Des	scription Students will be	able to understand the size re	eduction of solids.						
LO Des	scription Students will b	e able to operate & control t	the size reduction	equipments.					
			SCHEM	E OF STUDY					
S. No.	Learning Content	Teaching — Learning Method	_	otion of T-L rocess	Teach Hrs.	Pract. /Tut Hrs.	LRs Requi	ired	Remarks
1	Size reduction equipment Principle, construction & wor of crushers, grinders, ultrafine grinders & cutting machines, open & close circ operations, simple problems	teaching, demonstration, quiz, assignments, tutorial.	and provide har Teacher will co	uiz/tutorial to	05	05	Handouts, ch board, PPT, t book, charts.	alk ext	
			SCHEME C	DFASSESSMENT					
S. No.	Method of Assessme	nt Description of	f Assessment	Maximum Mark	KS	Reso	urces Required	Extern	nal / Internal
1	Theory Exam	Theory questions re learned content will the university question	be asked in	10	Que	stion paper	7		External
		ADDITIONAL IN	STRUCTIONS	FOR THE HOD/ I	FACULTY	Y (IFANY)			

Nil

SCHEME FOR LEARNING

OUTCOME

RGPV (Diploma Wing) Bhopal

MECHANICAL OPERATION

COURSE

NAME

Branch Code

0

CO

Code

Course Code

LO

Code

3

Format No. 4

NA NA	AME	MECHANICAL	OPERATION						
CO Des	scription	Students will be a	able to understand agitation	on and mixing opera	tions.				
LO Des	scription	The student will b	be able to explain the agi	tation of fluids.					
				SCHEME O	FSTUDY				
S. No.	Lear	rning Content	Teaching –Learning Method	Description of T	7-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	agitation, A ,Impellers ,I agitated ves of swirling ,	liquids-Purpose of gitation equipment Flow pattern in ssels ,Prevention Draft tubes urbine design	Interactive classroom teaching, demonstration, quiz, assignments, tutorial. lab demonstration	Teacher will explain and provide handout Teacher will conduct quiz/tutorial to make practice their know will conduct lab assemake students practice their knowledge. Teacher demonstrate the processing processing the processing provides the processing the processing provides and provides provid	ats to students. act assignments/ ace students aledge. Teacher asignments to attice their ar will	07	03	Handouts, chalk board, PPT, text book, charts, lab.	
		I		SCHEME OFAS	SSESSMENT				
S. No.	Metho	od of Assessment	Description o	f Assessment	Maximum Marks	R	esources Req	uired	External / Internal
1	Laborator	y Test by observat	Examiner will ask reading and then can him and will ass	alculate in front of	7	Rating Scale			Internal
			ADDITIONAL IN	STRUCTIONS FO	R THE HOD/ F	FACULTY (I	FANY)		
				Nil					

SCHEME FOR LEARNING

OUTCOME

RGPV (Diploma Wing) Bhopal

MECHANICAL OPERATION

COURSE

Branch Code

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2

C

CO

Code

3

Course Code

LO

Code

Format No. 4

R	RGPV (Dij	GPV (Diploma Wing) Bhopal SCHEME FOR LEARNING OUTCOME			G Br	anch		de 2	Cou	rse Co	ďΛ	CO Code 3	LO Code	Format No. 4
	URSE ME	MECHANICAI	L OPERATION					2				<u> </u>	2	
CO Des	cription	Students will be a	ble to understand agitati	on and mixing operation	ons.									
LO Des	cription	The student will a	ble to explain the mixin	g technique of pastes.										
			-	SCHEME OF	STUDY									
S. No.	Lea	rning Content	Teaching –Learning Method	Description of T Process	-L	Tea h Hı		/".	ract. Fut Irs.		LR	s Requ	uired	Remarks
	mixers for pasteRepr mixers for Criteria of and mixing dry powde types of m powders, N granular so at zero tim	pastes - ative types of esentative types of plastic massses mixer effectiveness g index ,Mixing of rs ,Representative ixers for dry Mixing index for colids ,mixing index e ,Rate of mixing oblems on mixing	Interactive classroom teaching, demonstration, quiz, assignments, tutorial.	Teacher will explain contents and provid to students. Teacher conduct assignment quiz/tutorial to mak practice their knowledge.	e handouts will s/ e students	06	06 03			board, PPT, text book, charts,		halk text		
				SCHEME OF AS	SESSMENT	r								
S. No.	Meth	od of Assessment	Description of	f Assessment	Maximu Marks				Re	source	es Rec	quired		External / Internal
1	Theory E	xam	Theory questions recontent will be asked question paper		10		Que	estior	n pape	r				External
	1		ADDITIONAL IN	STRUCTIONS FOR	THE HOD	/ FA(CUI	TY	(IF A	NY)				1
				Nil										

RGPV (Di	ploma Wing) Bhopal	SCHEME FOR LEARNING	Branch Code			Course Code		CO Code	LO Code	Format No. 4
	3 / 1	OUTCOME	<i>C</i>	0	2			4	1	
COURSE NAME	Mechanical operation									
CO Description	Students will able to underst	and the mechanical separation of solid	s.							
LO Description	Students will able to explain da	rag, motion of the particles through flu	ids.							
	·									

SCHEME OF STUDY

			SCHEME OF STODI				
S. No.	Learning Content	Teaching –Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1	Mechanical Separation-Drag, drag coefficient and stoke's law Relation between drag coefficient and Reynolds number. Motion of particles through fluids, Equation for one dimensional motion of particles through fluids, Terminal velocity, Motion of spherical particles, Free and Hindered settling, Separation of size by free settling and difference in density.	Interactive classroom teaching, demonstration, quiz, assignments, tutorial. lab demonstration	Teacher will explain the contents and provide handouts to students. Teacher will conduct assignments/ quiz/tutorial to make students practice their knowledge.	06	02	Handouts, chalk board, PPT, text book, charts,	

SCHEME OF ASSESSMENT

S. No.	Method of Assessment	Description of Assessment	Maximum Marks	Resources Required	External / Internal
1	Theory exam	Theory questions related to the learned content will be asked in the university question paper	10	question paper	external

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

Nil

R	RGPV (Diploma Wing) Bh	oloma Wing) Bhon	al		OR LEARNI	NG 1	Brai	nch C	ode	Cour	se Code	Code	Code	Format No. 4
				OUT	ГСОМЕ		C	0	2			4	2	
	URSE ME	Mechanical operati	on								·			·
CO Des	cription	Students will able t	o understar	nd the mechanical	separation of	solids.								
LO Des	cription	Students will be ab	le to learn	sedimentation and	l perform batc	h settling te	st.							
					SCHEME O	F STUDY								
S. No.	Lea	rning Content		ng –Learning Method	Description Proce			each Irs.		ract. it Hrs.	LR	s Requir	red	Remarks
•		ation- n of batch settling ign the thickner		emonstration,quiz ts,tutorial,lab tion	. Teacher will explain		0	7		04	Handouts, chalk board, PPT, text book, charts, lab.			
	ı			SC	CHEME OF A	SSESSME	NT				ı			
S. No.	Meth	od of Assessment	De	escription of Asso	essment	Maximu Marks				Resou	irces Req	uired		External / Internal
1	Laborator	ry Test by observation	Examin reading	ner will ask to stud and then calculated will asses correct	te in front of	10		Rati	ng Sc	ale	Ex		ternal	
			ADDITI	ONAL INSTRU	CTIONS FO	R THE HO	D /	FACU	ULTY	(IF A	NY)			

Nil

CO

LO

	URSE ME	Mechanical operation	on						
CO Des	scription	Students will able to	o understand the mechani	cal separation of s	solids.				
LO Des	scription	Students will able to	o explain the floatation, E	ESP, cyclone separ SCHEME O		ust collect	or.		
S. No.	Lea	rning Content	Teaching –Learnin Method	g Descrip	tion of T-L	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks
1		atic separator, Cyclone Bag dust Collector		Teacher wincontents are handouts to Teacher will assignments to make study their knowledge.	ill explain the ad provide o students. I conduct of quiz/tutorial dents practice edge.	05	04	Handouts, chalk board PPT,	
				SCHEME OFAS	SSESSMENT				
S. No.	Meth	od of Assessment	Description of A	Assessment	Maximum Marks		Resource	es Required	External Internal
	Theory Ex	xam	Theory questions learned content will university question pa	be asked in the	10	Question	n paper		External
			ADDITIONAL INST	RUCTIONS FOI	R THE HOD/	FACULT	Y (IF ANY)		
			NIL						

SCHEME FOR LEARNING OUTCOME

RGPV (Diploma Wing) Bhopal

CO

Code

Course Code

Branch Code

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LO

3

Code Format No. 4

RGPV (Diploma Wing) Bho	ıl s	SCHEME FOR		Bran	nch Co	le	Cour	se Code	Code	Code	Format No. 4		
	- · · · · ·	g ,		OUTCO	JME	C	0	2			5	1	
	URSE AME	Mechanical operati	on							'	<u>'</u>		
CO Des	scription	Students will able t	o understand	theory of filtration	on operations.								
LO Des	scription	Students will able t	o learn and ex	xplaintypes of file	tration, filter r	nedia,& filter	aids						
					SCHEME O								
S. No.	Lea	rning Content		ng –Learning Iethod	-	tion of T-L rocess	Teac Hrs		Pract /Tut Hi		LRs Requ	uired	Remarks
I	Filtration-Theory of filtration Relation between thickness of cake and volume of filtrate Constant rate and constant pressure filtration ,Filter media and filter aid		Interactive classroom to demonstrati assignments tutorial.	on, quiz,	Teacher wind contents are handouts to Teacher will assignments to make study their knowledge.	07	07 02 Handouts, chalk board PPT,			alk			
				SCI	HEME OFAS	SSESSMENT							I
S. No.	Meth	od of Assessment	Desc	eription of Asses	sment	Maximum Marks			Resou	rces Rec	quired		External / Internal
1	Theory Ex	xam	learned co	questions relate ontent will be a question paper		10	Ques	ion	paper				External
			ADDITIO	NAL INSTRUC	CTIONS FOI	R THE HOD/	FACU	LTY	(IF AN	(Y)			
				NIL									

CO

Course Code

Branch Code

LO

R	RGPV (Diı	ploma Wing) Bhopa	al	SCHE	ME FOR LEARNIN	NG	Bran	ich (Code	C	ourse (Code	CO Code	LO Code	Format No. 4
		g/ 1			OUTCOME		C	0	2				5	2	
	URSE AME	Mechanical operation	1			'									-
CO Des	scription	Students will able t	o underst	and theory	of filtration operation	ons									
LO Des	scription	Students will able to			•										
					SCHEME O	F STUD	Y								
S. No.	Lea	rning Content		ing – Learning Method	Description of T Process	-L	1	ach [rs.		Pract /Tut Hrs.		LRs	Require	ed	Remarks
1	Construction and working of plate and frame non washing and washing type ,Construction and working of chamber press Construction and working of lea filter ,Construction and working of continuous rotary drum filter Simple problems		Interactive classroom teaching demonstrative quiz, asset tutorial.	m	Teacher will explain the contents and provide handouts to students. Teacher will conduct assignments/ quiz/tutorial to make students practice their knowledge.		07		02	02		Handouts, chalk board, charts, video film, virtual		, i	
		I			SCHEME OF A	SSESSN	IENT	•							
S. No.	Meth	od of Assessment	D	escription o	of Assessment	Maxiı Maı				R	esour	ces Re	quired		External / Internal
1	Theory E	xam		will be asked	lated to the learned d in the university	10)	Qı	uestic	on pap	er				External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

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RC	GPV (Dipl	loma Wing) Bhopal	l	SCHEME FOR I			ch Co		Cours	e Code Co	CO Code	LO Code	Format No. 4	
	URSE ME	Mechanical operatio	on			C	0	2				6	<i>I</i>	
CO Des	cription	Students will able to	unders	tand the transportation	and handlin	g of solids.								
LO Des	cription	Students will able to	explai	n the transport of solid	S.									
		'			SCHEME C	FSTUDY								
S. No.	Lea	rning Content	Tea	aching –Learning Method	_	otion of T-L rocess	Tea Hr		Pract. /Tut Hrs	•	LRs Required			Remarks
-	Learning Content Handling of solids- Construction and working of Beliconveyor, belt drive errangement, belt tensioning devices, driving sources, eeding and discharge errangements.		Classic	oom teaching, stration, quiz, ments,	contents and handouts to Teacher will assignments	o students. l conduct s/ quiz/tutorial dents practice	07		02		Handouts, chalk board PPT,			
		'		SCH	EME OFA	SSESSMENT								'
S. No.	Meth	od of Assessment		Description of Assess	sment	Maximum Marks			Resour	ces I	Requ	uired		External / Internal
1	Theory Ex	xam		ory questions related ed content will be as ersity question paper		10	Ques	tion	paper					External

ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)

F	RGPV (Diploma Wing) Bho	nloma Wing) Rhon	SCHE	ME FOR LEARNING	G Bra	nch (Code	Cou	rse Code	Code	Code	Format No. 4
_		F-0		OUTCOME	C	0	2		6 2	2		
	URSE AME	Mechanical operation	ו		1				'			
O De	scription	Students will able t	o understand the tra	insportation and hand	ling of solid	ls.						
O Des	scription			arious conveying&elev								
			-	SCHEME OF	STUDY							
S. No.	Lea	rning Content	Teaching – Learning Method	Description of T-I Process		each Hrs.		Pract. /Tut Hrs.	L	Rs Requir	ed	Remarks
1	Construction and working of Screw conveyor and bucket elevator ,Construction and working of Pneumatic conveyin system, positive and negative pressure system , Packaging		Screw conveyor and bucket classroom teaching, working of Pneumatic conveying system, positive and negative classroom teaching, demonstration, teacher will conduct to student teaching.				02			its, chalk l video film lab.	, i	
				SCHEME OF AS								
S. No.	Meth	nod of Assessment	Description	of Assessment	Maximun Marks	1		Res	sources F	equired		External / Internal
1	Theory E	xam	Theory questions recontent will be asked question paper	elated to the learned ed in the university	10	Qı	uestic	on pape	r			External
			ADDITIONAL IN	ISTRUCTIONS FOR	тне нор)/ FA(CUL	ΓΥ (IF	ANY)			

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