RGPV (E	DIPLO BHOP	MA WING PAL	6)	OBE CU	JRRICULUM FOR THE COURSE	FORMAT-3	Sheet No. 1/3
Branch		Refrigera	tion	and Air-cor	nditioning	Semester	v
Course Co	ode	501	Co	ourse Name	Advanced refrigeration		
Course Out	come	1 ^{Describ} Cycle.	e A	dvanced Vapo	ur Compression Refrigeration	Teaching Hrs	Marks
Learni Outcom	ng le 1	State fun refrigerat	ction tion s	of componen system	ts of advance vapour compression	10	10
Conte	nts	Function balancing	of c g val	compressor, co ve, inter coole	ondenser, expansion valve, flash c r dual compressor and their symbo	hamber, evapora	tors chambers, n.
Method Assessm	l of nent	Paper-Pe	en Te	st (Part of Pg.	1)		
Learni Outcom	ng le 2	Explain f refrigerat	funda tion o	amental conceptions of the second sec	pts of actual vapour compression	10	15
Conter	nts	Introduct refrigerat with mul	tion of tion of tiple	of actual vapo cycle, use of s evaporator.	ur compression refrigeration cycle suction heat exchanger, vapour co	, deviation from mpression refrig	simple vapour eration system
Method Assessm	of ent	Laborato	ory w	ork			
Learni Outcom	ng le 3	Analyze evaporate	diffe or a	rent types of c nd compressio	compounding and multiple n system.	8	10
Conter	nts	Types of compress complete	con sion mul	npound vapour system, flash ti stage compr	r compression with intercooler, Ty gas removal, flash inter cooling, c ression system.	pes of multiple hoice of interme	evaporator and diate pressure,
Method Assessme	of ent	Assignm	ent/	Paper-Pen Tes	st		
Cour Outcor	rse me 2	Describe	the	working of co	ndensers and evaporators.	Teaching Hrs	Marks
Learni Outcom	ng ne 4	Select th with justi	ne rel ificat	evant condens tion.	ser for given refrigeration system	9	10
Conte	nts	Purpose evaporati applicatio	of co ive c ons,	ondensers, classondenser, condenser, con natural and for	ssifications, working of air coolect mparison and applications. Coolin rced draft cooling towers.	l and water cool ng towers and t	ed condensers, heir types and
Method Assessm	of ent	Theory E	Exam	l			
Learni Outcom	ng 1e 5	Select th system w	he ro vith j	elevant evapo ustification.	prators for given refrigeration	9	10
Conte	nts	Purpose of flooded, and flood	of ev shell ded t	aporator, class and tube type ype chillers, w	sification and working of finned ty evaporators and their applications orking and applications	pe, bared tube, p c. Chillers- direct	late type, expansion

Method of Assessment	Theory Exam		
Learning outcomes 6	Explain the various Frosting and De-Frosting methods Refrigeration systems.	7	10
Contents	Definition of Frosting, importance of defrosting evaporators, Frosting, non-frosting and Defrosting evaporators. Temperatu down and supplementary heat defrost methods.	methods of defro re Defrost metho	osting, ods, time shut
Method of Assessment	Laboratory test by observation		
Course Outcome 3	Describe the working of various types of expansion valve.	Teaching Hrs	Marks
Learning Outcome 7	Select the relevant Expansion device for given refrigeration system with justification.	9	10
Contents	Purpose of expansion devices, classifications, capillary tub thermostatic expansion valve, selection, working and applicat	e, automatic ex ion.	pansion valve,
Method of Assessment	Theory Exam		
Learning Outcome 8	Explain the working of specified auxiliary devices used in refrigeration system.	8	10
Contents	Drier, Solenoid valve, Thermostatic switch, Low side floa Defrosting devices, working and applications.	t valve, high si	de float valve
Method of Assessment	Laboratory test by observation		
Course Outcome 4	Describe the working of various types of refrigerant compressor and non mechanical refrigeration system.	Teaching hrs	Marks
Learning Outcome 9	Select the relevant Compressors for given refrigeration system with justification.	8	10
Contents	Purpose of compressor, classification, construction and w compressor, open type compressor, reciprocating, rotary and and scroll compressor and their applications.	orking of herm centrifugal com	etically sealed pressor, screw
Method of Assessment	Theory exam		
Learning Outcome 10	Explain wet compression and its impact on Performance of System.	8	10
Contents	Wet compression, compressor speed, mechanical efficiency a suction, super heat on compressor performance. Advan centrifugal compressor over reciprocating compressor. Select	and other efficient ntages and disa on of compresso	ncies, effect of advantages of r.
Method of	Paper pen test (part of Pg.2)		

Assessment			
Learning Outcome 11	Explain the working non mechanical refrigeration system.	8	10
Contents	Steam jet refrigeration, thermoelectric refrigeration, vortex to	ube refrigeration.	
Method of Assessment	Theory Exam		
Course Outcome 5	Describe food spoilage and their preservation by refrigeration.	Teaching Hrs	Marks
Learning Outcome 12	Explain food spoilage and their preservation.	9	10
Contents	Food preservation, deterioration and spoilage- Enzymes, and moulds control of spoilage agent. Preservation by refrige and air velocity in chill room. Combined chilling and stora Slow or sharp freezing, Quick freezing, packaging of froze sharp freezing, Quick freezing, packaging of frozen materials	Micro-organism. eration, refrigeration ge, freezing and the n materials for stors for stors for storage.	Bacteria-yeast on system, RH frozen storage. orage. Slow or
Method of Assessment	Theory exam		
Learning Outcome 13	Explain components of domestic and commercial refrigerators for food preservation and their working	2+7	15
Contents	Domestic and commercial refrigerators-reach in refrigerator refrigerator vending machines and Bar refrigerators.	, walk-in-coolers,	display cases,
Method of Assessment	Laboratory test by observation		
Learning Outcome 14	Explain the working of ice plant, cold storage and cold chain	8	10
Contents	Working of ice plant, preservation of fruits and vegetables, and perishable products, medicine, other products. Their sto transportation of refrigerated product by refrigerated Railwa Chain)	storage condition orage conditions. ys, Cars, Trucks,	and properties Application of Trailers. (Cold
Method of Assessment	Theory Exam		

			hanal	SCHEME FOR	LEARNING		Branch	Code	Co	ourse Co	ode	CO Code	LO Code		л
KGP		oma wing) B	nopai	OUTC	OME	R	2 () :	1 5	0	1	1	1	orm	at No. 4
COURS	E NAME	ADVANCED REF	RIGERATI	ON											
CO Des	cription	CO-1 Describe Ad	vanced Va	pour Compression Refrig	geration Cycle.										
LO Des	cription	LO-1 State function	on of com	ponents of advance vapo	our compression refri	gerat	tion s	vstem.							
				SC	HEME OF STUDY										
S. No.		Learning Content		Teaching –Learning Method	Description of	T-L I	Proce	SS	Teac h Hrs.	F /T	Pract. ut Hrs	LF	Rs Requi	red	Remarks
1	1Function of compressor, condenser, expansion valve, flash chamber, evaporators chambers, balancing valve, inter cooler dual compressor and their symbolic representation.Interactive Classroom method, Handout, PPTs, Charts and Videos.Teacher will expla should be taught at develop different t that students are at competency.					n the d witl pes o e to a	e conte h the a f skill acquire	ents im to s so	10			Ha Cl V	andouts, harts, ideos		NIL
				SCHEN	ME OF ASSESSMEN	Т									
S. No.	Metho	d of Assessment		Description of A	Assessment			Max M	imum arks	Re	esourc	es Re	equired	E	xternal / Internal
1	Paper-Pe Pg.1)	n Test (Part of	will be asked to defin pour compression refrige	e various terms ass eration system.	socia	ted		10	Tes	st Pape	r		Int	ernal	
			AC		ONS FOR THE HOD	/ FA	CULT	Y (IF	ANY)						
				Par	t of Progressive 1										

			la a sa a l	SCHE	ME FOR L	EARNING		Branch C	ode	C	ourse Co	ode	CO Code	LO Code		Л
KGPV		oma wing) B	nopai		Ουτςο	ME	R	0	1	5	0	1	1	2	Form	nat No. 4
COURS	E NAME	ADVANCED REFI	RIGERATIO	N							1	1		1	1	
CO Des	cription	CO-1 Describe Ad	vanced Vap	our Compre	ession Refriger	ation Cycle.										
LO Des	cription	LO-2 Explain fund	amental cond	cepts of actu	al vapour comp	pression refrigeration	ı cycle	e.								
		,			SCHE	ME OF STUDY										
S. No.		Learning Co	ntent		Teaching – Learning Method	Description Process	of T-I	<u>L</u>	Teach Hrs.	Pi	ract. Hrs	/Tut 5.	LRs	Requi	ired	Remarks
1	Introduction of actual vapour of refrigeration cycle, deviation from sin refrigeration cycle, use of su exchanger, vapour compression of system with multiple evaporator.				Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher will exp contents and pro handout to stude Teacher will con Quiz/visit to ma students practice knowledge	lain t vide nts. duct ke their	he	10				Hand Chart	outs, s, Vide	eos,	
					SCHEM	E OF ASSESSMENT										
S. No.	Metho	d of Assessment			Description o	f Assessment				Max Ma	imur arks	n I	Resoui Requi	rces red	Ex Ir	ternal / nternal
1	Laborato work	ry	Student w compress	vill be aske	d to explain the cation cycle.	e concepts of actual	vapo	ur			15		Paper	Pen	E	External
	1		ADE	DITIONAL	INSTRUCTIO	NS FOR THE HOD	/ FAC	CULTY	(IF AN	Y)		1			1	

		ma Mina) B	hana	SCHEME FC	DR LEARNING	Branch	Code	С	ourse Code	2	CO Code	LO Code	Л
KGPV	סוקוט) י	ma wing j B	nopa	' OUT	COME	R 0	1	5	0	1	1	3	Format No. 4
COURS	E NAME	ADVANCED REF	RIGERA	TION							-		
CO Des	cription	CO-1 Describe Ad	lvanced V	Vapour Compression Ref	frigeration Cycle.								
LO Dese	cription	LO-3: Analyze di	fferent t	ypes of compounding an	nd multiple evaporator	and comp	ression	syster	n.				
				:	SCHEME OF STUDY								
S. No.	L	earning Content		Teaching –Learning Method	Description of T-L I	Process	Tea Hr	ch s.	Prac /Tut H	t. rs.	LRs R	Require	d Remarks
1	Types of compound vapour compression with intercooler, Types of multiple evaporator and compression system, flash gas removal, flash inter cooling, choice of intermediate pressure, complete multi stage compression system.			Interactive Classroom method, Handout, PPTs, Charts and Videos,	Teacher will explain the and provide handout to Teacher will conduct Q to make students practi- knowledge.	e contents students. Quiz/visit ce their	8				Hand Chart Video	outs, s, os,	NIL
				SCH	IEME OF ASSESSMENT								
S. No.	Method	l of Assessment		Descrip	tion of Assessment			ľ	Maxim Mark	um s	Res Ree	ources quired	External / Internal
1	Assignm Test	ent/ Paper-Pen	ıltiple		10		Test	paper	Internal				
				ADDITIONAL INSTRUC	TIONS FOR THE HOD/	FACULT	Y (IF AI	NY)			1		

				SCHEME FOR LE	ARNING		Branch C	ode	c	ourse Co	ode	CO Code	LO Code	Л
KGP		oma v	ving) Bhopai	OUTCOM	IE	ł	R 0	1	5	0	1	2	4 F	ormat No. 4
COUR	SE NAME	ADVA	NCED REFRIGERATI	ON			I							
CO De	scription	CO-2 I	Describe the working	of condensers and evaporato	rs.									
LO De	scription	LO-4	Select the relevant cond	lenser for given refrigeration sy	stem with justi	ficatio	n.							
				SCHEM	IE OF STUDY									
S.No			Learning Conto	ent	Teaching –Learning Method	Des	cription Proce	n of T- ss	L T	each Hrs.	Pra /Tut	ct. Hrs.	LRs Requi	Remark
1	Purpose of water cool application natural and	f conden led cond ls. Cool l forced	nsers, classifications, lensers, evaporative of ling towers and the draft cooling towers.	working of air cooled and condenser, comparison and ir types and applications,	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teac expl and hanc Teac conc to m prac know	cher will ain the c provide lout to s cher will luct Qui take stuc tice thei wledge.	content tudents z/visit lents r	9 s.				Handou Charts, Videos	ıts,
				SCHEME O	F ASSESSME	NT			· ·					
S. No.	Metho Assess	od of ment		Description of As	sessment					Ma N	ximum 1arks	Re Re	esources equired	External / Internal
1	Theory E	Exam	Student will be aske	ed to concept of condenser, v	woking and ap	plicat	ion of co	ondens	er.		10	Te	st Paper	External
			AD	DITIONAL INSTRUCTIONS	FOR THE HO)D/ F/	ACULTY	(IF AN	IY)					

GPV (Diploma Wing) Bhopal	SCHEI	ME FOR LEARN	NING	В	ranch Co	de	Co	ourse Co	de	CO Code	LO Code	Л			
	oma v	ving) Bhopai		OUTCOME		R	0	1	5	0	1	2	5	ormat No. 4	
RSE NAME	ADVA	NCED REFRIGERATIO	ON										· · ·		
escription	CO2-	Describe the working	of condense	rs and evaporators.											
escription	LO-5 \$	Select the relevant evapo	prators for giv	en refrigeration system	with justifica	tion.									
				SCHEME OF	STUDY										
	Lea	arning Content		Teaching – Learning Method	Descr	iptio Proce	n of T ess	-L	Te F	each Irs.	Pra /Tut	nct. Hrs.	LRs Requir	ed Remark	
Purpose of e finned type, tube type eva direct expan and application	evaporate bared tu aporator sion and ions.	or, classification and ibe, plate type, floode s and their application d flooded type chiller	working of d, shell and ns. Chillers- rs, working	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher w contents an handout to Teacher w Quiz/visit practice th	ill exp nd pro stude ill co to m eir kr	plain t ovide ents. nduct ake stu owled	he idents lge	9				Handou Charts, Videos	its,	
				SCHEME OF AS	SESSMENT										
o. Metho Assess	od of ment		De	scription of Assess	nent					Μ	laximu Marks	m	Resource Required	s External I / Internal	
Theory 1	Exam	Student will be asked	ssification and workin	ig of evapor	ator.					10	,	Test Paper	External		
		AD	DITIONALI	NSTRUCTIONS FOR	THE HOD/	FAC	JLTY	(IF AN	IY)						
	PV (Diplo RSE NAME pescription escription escription Purpose of effinned type, tube type evaluated type, tube type evaluated applicated type on Methor Assession Theory 1	PV (Diploma V RSE NAME ADVA Description CO2- escription LO-5 S Example LO-5 S Purpose of evaporate finned type, bared to to to to be type evaporator direct expansion and applications. Description Method of Assessment Theory Exam	PV (Diploma Wing) Bhopal RSE NAME ADVANCED REFRIGERATION Description CO2- Describe the working escription LO-5 Select the relevant evaporator Elearning Content Learning content Purpose of evaporator, classification and finned type, bared tube, plate type, floode tube type evaporators and their application direct expansion and flooded type chiller and applications. D Method of Assessment Theory Exam Student will be asked	PV (Diploma Wing) Bhopal Series RSE NAME ADVANCED REFRIGERATION Description CO2- Describe the working of condenses escription LO-5 Select the relevant evaporators for giv Learning Content Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers-direct expansion and flooded type chillers, working and applications. p. Method of Assessment Deemoty Content p. Method of Assessment Student will be asked explain classification classificaticlassificaticlassificaticlassification classification classificati	PV (Diploma Wing) Bhopal OUTCOME RSE NAME ADVANCED REFRIGERATION vescription CO2- Describe the working of condensers and evaporators. escription LO-5 Select the relevant evaporators for given refrigeration system SCHEME OF Learning Content Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers-direct expansion and flooded type chillers, working and applications. Interactive Classroom method, Handout, PTs, Charts and Videos. SCHEME OF ASSESSMENT O Method of Assessment Description of Assessor Theory Exam Student will be asked explain classification and working INSTRUCTIONS FOR	Outcome for the voltage of the voltage	PV (Diploma Wing) Bhopal OUTCOME R RSE NAME ADVANCED REFRIGERATION R Description CO2- Describe the working of condensers and evaporators. secription LO-5 Select the relevant evaporators for given refrigeration system with justification. SCHEME OF STUDY SCHEME OF STUDY SCHEME OF STUDY Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers- direct expansion and flooded type chillers, working and applications. Interactive Classroom method, Handout, PTS, Charts and Videos. Teacher will con Quiz/visit to method, Handout, PTS, Charts and Videos. Description of Assessment Student will be asked explain classification and working of evaporator. Active their kr Description of Assessment Student will be asked explain classification and working of evaporator. Active theory is for evaporator.	PV (Diploma Wing) Bhopal Scheme rout rout control R 0 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. Eescription LO-5 Select the relevant evaporators for given refrigeration system with justification. SCHEME OF STUDY SCHEME OF STUDY Learning Content SCHEME OF STUDY Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers, direct expansion and flooded type chillers, working and applications. Teacher will conduct, PTS, Charts and Videos. Vertice to the relevant with be asked explain classification and working of Assessment Scheme of Assessment Method of Assessment Student will be asked explain classification and working of evaporator.	PV (Diploma Wing) Bhopal Outcome R 0 1 RSE NAME ADVANCED REFRIGERATION ROOL-OBSCIPTION ROOL-OBSCIPTION <th col-obscipascipcion-obscipascipascipascipascipascipa<="" th=""><th>PV (Diploma Wing) Bhopal Outcome R 0 1 5 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. Image: Condensers and evaporator. Image: Condensers and provide handout or students. Image: Cond</th><th>PV (Diploma Wing) Bhopal Outcome R 0 1 5 0 RSE NAME ADVANCED REFRIGERATION CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. Escription of T-L Teaching - Learning Method Process Faching - Interactive Teacher will explain the contents and provide handout, period bandout, period bandout, period bandout of students. Teacher will explain the contents and provide handout, period bandout of tude type evaporators and their applications. Chillers- Interactive Teacher will conduct Quiz/visit to make students. Teacher will conduct Quiz/visit to make students practice their knowledge 9 videos. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT Mathod of Assessment Mathod Mathod of Assessment Mathod Mathod</th><th>PV (Diploma Wing) Bhopal OUTCOME R 0 1 5 0 1 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. SCHEME OF STUDY SCHEME OF STUDY Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shel and tube type evaporators and their applications. Chillers direct expansion and flooded type chillers, working and applications. Teacher will explain the Classroom method, Handout, PPTS, Charts and Videos. Purpose of evaporator make students. Teacher will conduct to make students. Teacher will conduct to students. Teacher will conduct to make students practice their knowledge 9 Implications. Method of Assessment Description of Assessment Student will be asked explain classification and working of evaporator. 10 ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) 10</th><th>PV (Diploma Wing) Bhopal Definition Fortulation of OUTCOME R 0 1 5 0 1 2 RSE NAME ADVANCED REFRIGERATION Description CO2- Describe the working of condensers and evaporators. Evaluation of CO2- Describe the working of condensers and evaporators. Evaluation of CO2- Description of Select the relevant evaporators for given refrigeration system with justification. Description of T-L Process Teach Pract. Pract. Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers- direct expansion and flooded type chillers, working and applications. Description of Assessment SCHEME OF ASSESSMENT Scheme Students and provide the students or students. Teacher will conduct to make students practice their knowledge Maximum Marks b. Method of Assessment Description of Assessment 10</th><th>PV (Diplowar Wing) Bhopal Operation of Outcome of Ou</th></th>	<th>PV (Diploma Wing) Bhopal Outcome R 0 1 5 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. Image: Condensers and evaporator. Image: Condensers and provide handout or students. Image: Cond</th> <th>PV (Diploma Wing) Bhopal Outcome R 0 1 5 0 RSE NAME ADVANCED REFRIGERATION CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. Escription of T-L Teaching - Learning Method Process Faching - Interactive Teacher will explain the contents and provide handout, period bandout, period bandout, period bandout of students. Teacher will explain the contents and provide handout, period bandout of tude type evaporators and their applications. Chillers- Interactive Teacher will conduct Quiz/visit to make students. Teacher will conduct Quiz/visit to make students practice their knowledge 9 videos. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT Mathod of Assessment Mathod Mathod of Assessment Mathod Mathod</th> <th>PV (Diploma Wing) Bhopal OUTCOME R 0 1 5 0 1 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. SCHEME OF STUDY SCHEME OF STUDY Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shel and tube type evaporators and their applications. Chillers direct expansion and flooded type chillers, working and applications. Teacher will explain the Classroom method, Handout, PPTS, Charts and Videos. Purpose of evaporator make students. Teacher will conduct to make students. Teacher will conduct to students. Teacher will conduct to make students practice their knowledge 9 Implications. Method of Assessment Description of Assessment Student will be asked explain classification and working of evaporator. 10 ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) 10</th> <th>PV (Diploma Wing) Bhopal Definition Fortulation of OUTCOME R 0 1 5 0 1 2 RSE NAME ADVANCED REFRIGERATION Description CO2- Describe the working of condensers and evaporators. 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Image: Cond	PV (Diploma Wing) Bhopal Outcome R 0 1 5 0 RSE NAME ADVANCED REFRIGERATION CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. Escription of T-L Teaching - Learning Method Process Faching - Interactive Teacher will explain the contents and provide handout, period bandout, period bandout, period bandout of students. Teacher will explain the contents and provide handout, period bandout of tude type evaporators and their applications. Chillers- Interactive Teacher will conduct Quiz/visit to make students. Teacher will conduct Quiz/visit to make students practice their knowledge 9 videos. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT Mathod of Assessment Mathod Mathod of Assessment Mathod	PV (Diploma Wing) Bhopal OUTCOME R 0 1 5 0 1 RSE NAME ADVANCED REFRIGERATION Rescription CO2- Describe the working of condensers and evaporators. escription CO2- Describe the working of condensers and evaporators. Escription LO-5 Select the relevant evaporators for given refrigeration system with justification. SCHEME OF STUDY SCHEME OF STUDY Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shel and tube type evaporators and their applications. Chillers direct expansion and flooded type chillers, working and applications. Teacher will explain the Classroom method, Handout, PPTS, Charts and Videos. Purpose of evaporator make students. Teacher will conduct to make students. Teacher will conduct to students. Teacher will conduct to make students practice their knowledge 9 Implications. Method of Assessment Description of Assessment Student will be asked explain classification and working of evaporator. 10 ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) 10	PV (Diploma Wing) Bhopal Definition Fortulation of OUTCOME R 0 1 5 0 1 2 RSE NAME ADVANCED REFRIGERATION Description CO2- Describe the working of condensers and evaporators. Evaluation of CO2- Describe the working of condensers and evaporators. Evaluation of CO2- Description of Select the relevant evaporators for given refrigeration system with justification. Description of T-L Process Teach Pract. Pract. Purpose of evaporator, classification and working of finned type, bared tube, plate type, flooded, shell and tube type evaporators and their applications. Chillers- direct expansion and flooded type chillers, working and applications. Description of Assessment SCHEME OF ASSESSMENT Scheme Students and provide the students or students. Teacher will conduct to make students practice their knowledge Maximum Marks b. Method of Assessment Description of Assessment 10	PV (Diplowar Wing) Bhopal Operation of Outcome of Ou

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cou	RSE NAME	ADVA	NCED REFRIGERATI	ON									· · · ·		
CO D	escription	CO2- I	Describe the working	of condensers and evapo	orators.										
LO D	escription	LO-6 E	xplain the various Fro	sting and De-Frosting meth	nods Refrigeration	n syster	ns								
				SCH	HEME OF STUD	Y									
S. No.			Learning Conter	t	Teaching – Learning Method	Des	scription Proces	of T-L s	Te F	each Irs.	Pi /Tu	ract. It Hrs.	L Req	Rs uired	Remark
1	Definition of methods of evaporators supplement	of Frostin defrostin ary heat of	g, importance of defi g, Frosting, non-fros ature Defrost method defrost methods.	osting evaporators, ting and Defrosting ls, time shut down and	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teac the c prove stude cond make pract know	her will e ontents a ide hando ents. Teac uct Quiz/ e students ice their vledge	explain nd out to cher will visit to	7				Hand Char Vide	louts, ts, os	
				SCHEM	ME OF ASSESSM	ENT									
S. No	D. Metho Assess	od of ment		Description of As	ssessment				Ma N	ximu ⁄larks	m	Res Rec	ources quired	E	xternal / Internal
	Assessment Laboratory test by observation Student will be asked to Frosting and De Refrigeration systems				sting method fo	r vario	us			10		Test P	aper	In	ternal
			AD	DITIONAL INSTRUCTIO	ONS FOR THE H	IOD/ F	ACULTY	(IF AN	Y)						

				SCHEME F	OR LEARNING		Branch	n Code	c	ourse C	ode	CO Code	LO Code		Л
RG	PV (Dip	loma V	Ving) Bhopal	OU	ITCOME		R (0 1	5	0	1	3	7	Form	at No. 4
τοι	IRSE NAM	E ADVA	NCED REFRIGERATI	ON											
CO [Descriptior	CO-3 I	Describe the working	of various types of	expansion valve.										
	escription	LO-7	Select the relevant Expa	ansion device for give	en refrigeration system v	with j	ustificatio	on.							
					SCHEME OF STUD	Y									
S. No			Learning Content		Teaching – Learning Method	De	escriptio Proce	n of T-L ess	Te H	ach rs.	Pr /Tut	act. t Hrs.	Ll Requ	Rs uired	Remark
	Purpose tube, auto valve, sel	of expans omatic exj ection ,wo	sion devices, classifi pansion valve, therm rking and application.	cations, capillary ostatic expansion	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Te exp and han Te con to t pra kne	acher wil plain the d provide ndout to s acher wil nduct Qu make stu actice the owledge	ll contents students ll iz/visit dents ir	9				Hand Chart Video	outs, s, os	
				S	CHEME OF ASSESSM	ENT									
S. N	o. Met Asse	hod of ssment		Descriptior	n of Assessment				Μ	axim Marl	ium ‹s	Res Rec	ources quired	i E	xternal / Internal
	Theor	y Exam	Student will be aske	ed to explain differe	ent types of expansion	n dev	vice.			10		Test P	aper	Ех	ternal
			AD	DITIONAL INSTRI	UCTIONS FOR THE H	OD/	FACULT	Y (IF AI	NY)						

			SCHEME FOR LEAF	RNING	Branch (ode	c	ourse Coo	le	CO Code	LO Code		Л
KGPV	י (טוסוט)	ma wing) Bhopa	OUTCOME		R 0	1	5	0	1	3	8	Format	No. 4
COURS	ENAME	Advanced refrigeration	· 		<u> </u>				I	I			
CO Des	cription	CO-3 Describe the work	ing of various types of expansion v	valve.									
LO Des	cription	LO-8 Explain the working	g of specified auxiliary devices use	ed in refrigera	tion system	n.							
			SCHEME C	OF STUDY									
S. No.		Learning	Content	T-L Method	Descri T-L P	otion c rocess	of 1	Гeach Hrs.	Pr /Tu	act. t Hrs.	Rec	LRs Juired	Rem ark
	Drier, Sole float valve	enoid valve, Thermostatic sy Defrosting devices, workin	vitch, Low side float valve, high side g and applications.	Interactive Classroom method, Handout PPTs, Charts and Videos.	Teacher explain contents provide to stude: Teacher conduct Quiz/vis make stu practice knowled	will the and handounts. will it to udents their lge	It 8	3			Hand Char Vide Expe al set refrig /heat engir pump	louts, ts, os, riment up for gerator ne/Heat	
	1		SCHEME OF A	SSESSMENT	•								1
S. No.	Metho Assessn	d of nent	Description of Assess	ment				Maxi Ma	mum Irks	Res Re	sources quired	5 Exte	ernal / ernal
	Laborato test by observati	ry Student will be as	ked to uses and working of defrost	ting devices, o	lefrosting	method		1	0	Test	Paper	Inter	nal
			ADDITIONAL INSTRUCTIONS FO	R THE HOD/	FACULTY	(IF AN	IY)						

R	GPV (Di	ploma Wing	g) SCI	HEME FOR LEA	RNING	В	ranch Co	de	c	ourse Code		CO Code	LO Code		-
	В	hopal		OUTCOME		R	0	1	5	0	1	4	9	Format	No. 4
COU	RSE NAME	ADVANCED R	EFRIGERATION	N			1				I	I		1	
CO D	escription	CO-4 Describe	the working of	various types of refrig	gerant comp	pressor	and n	on me	echar	nical refi	igerati	ion systen	1.		
LO D	escription	LO-9 Select the	relevant Compre	essors for given refrigerat	tion system v	with jus	tificati	on.							
				SCH	EME OF ST	rudy									
S. No.		Learning Conte	ent	Teaching – Learning Method	Descrip	tion o	f T-L I	Proce	SS	Teach Hrs.	Pra	act. /Tut Hrs.	Rec	LRs quired	Remark
	Purpose o construction sealed comp reciprocatin compresson and their ap	f compressor, n and working o pressor, open typ ng, rotary and , screw and scro pplications.	classification, of hermetically be compressor, d centrifugal oll compressor	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher w contents a students. 7 Quiz/visit practice th	vill exp nd pro Feache to ma neir kno	lain th vide h r will ke stu owledg	ie andou condu dents ge.	it to act	8			Hand Chart Video Expe setup dryne fracti	outs, es, os, rimental for ess on	
				SCHEM	E OF ASSE	SSMEI	NT								
S. No.	Metho Assessr	d of nent		Description of Asses	ssment					Maxim Mark	um s	Resour Requir	ces ed	Exte Int	ernal / ernal
	Theory e	exam Student	will be asked to	o construction and worl	king of com	presso	r.			10]	Fest Paper	ſ	Ex	ternal
			ADDI	TIONAL INSTRUCTIO	NS FOR TH	HE HO	D/ FA	CULT	Y (IF	ANY)					

RGPV(Diploma		SCHEME FOR LEARNING OUTCOME					anch C	ode	C	ourse Co	de	CO Code	LO Code	Format No.	
Wing	g) Bhopal	JCHL	R	0	1	5	0 1		4	10	4				
COL	JRSE NAME	ADVANCE	D REFRIGERAT	TION		•	•				•				
CO Des	cription	CO-4 Desc	cribe the working of various types of refrigerant compressors and non mechanical refrigeration system.												
LO Des	cription	LO-10 Explain wet compression and its impact on Performance of System													
				SCHE	ME OF STU	DY									
S. No.	S. No. Learning Content			T-L Method	Descrip	Description of T-L Process				Teach		Pract. /Tut Hrs.	LRs Requir	Remark	
	Wet compress mechanical efficiencies, eff on compressor and disadva compressor compressor. Se	sion, comp efficiency fect of suction performance ntages of over election of co	Interactive Classroom method, Handout PPTs, Charts and Videos, Models	Teacher will explain the contents and provide handout to students. Experimental determination of dryness fraction.					l explain the contents handout to students. al determination of ction.				s, ent for		
				SCHEME	OF ASSESS	MENT	-		·				·	·	
S. No.	Method of As	ssessment	De	escription of Assessment			Maximum Marks					Resou Requ	irces ired	External / Internal	
	Paper pen test (part of Pg.2)Student will be asked about wet compress advantages and disadvantages of centrifu compressor over reciprocating compress					n, l	10 Test paper						Internal		
			ADDITIONA	L INSTRUCTION	S FOR TH	E HO	D/ FA	ACUL	TY (I	FAN	Y)				

RGPV (Diploma			SCHEME FOR LEAR	NING	Branch Code Course Code				le	CO Code		Code			
Wi	ng) Bhopal		OUTCOME	R	0	1	5 0 1		1	4		1 Format No		No. 4	
COURSE NAME ADVANCED REFRIGERATIO				I				1	1	11		I	I		
CO De	escription	CO-4 Describe the working of various types of refrigerant compressor and non mechanical refrigeration system.													
LO De	escription	LO-11 Explain the working non mechanical refrigeration system.													
		1		SCHEME OF	STUE	γ									
S. Learning Content No.			Teaching – Learning Method	De	Description of T-L Process				Tea Hr	Teach Hrs. Hrs. Hrs.		l Req	.Rs Juired	Rema rk	
Steam jet refrigeration, thermoelectric refrigeration, vortex tube refrigeration.				Interactive Classroom method, Handout, PPTs, Charts and Videos. Models of boilers, mountings and accessories	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge					8		Han Cha Vid		outs, s, os,	
				SCHEME OF AS	SESSI	MENT									
S. No.	Method o Assessmer	of nt	Description	of Assessment			Maximum Ma			arks		Resources Required		Exte Inte	ernal / ernal
	Theory exam	king of Steam jet i vortex tube refrige	t refrigeration, 10 geration				Test	Test paper		External					
	·		ADDITIONAL INS	TRUCTIONS FOR	THE I	HOD/	FACULT	TY (IF	ANY)						

RGPV (Diploma Wing)			SCHEME FOR LEARNING Branch Code					c	ourse Coo	e Code CO Code		LO Code			
	[Bhopal		OU	TCOME	R 0	1	5	50		5	12 Forr		nat No. 4	
COURS	E NAME	ADVANCED REF	RIGERATIC	DN								_			
CO Des	cription	CO-5 Describe fo	ood spoilage	e and their preserv	ation by refrig	eration.									
LO Des	cription	LO-12 Explain for	on.												
					SCHEME OF	STUDY									
S. No.		Learning	Teaching – Learning Method	Descripti	on of T-L	. Proce	ss 7	Гeach Hrs.	P /	ract. /Tut Hrs.	LRs Required		Remark		
1 Food preservation, deterioration and spoilage- Enzymes, Micro-organism. Bacteria-yeast and moulds control of spoilage agent. Preservation by refrigeration, refrigeration system, RH and air velocity in chill room. Combined chilling and storage, freezing and frozen storage. Slow or sharp freezing, Quick freezing, packaging of frozen materials for storage. Slow or sharp freezing, Quick freezing, packaging of frozen materials for storage.					Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher w contents a handout to will condu make stud knowledge	vill explai nd provid o students act Quiz/v lents practe	n the le . Teach visit to tice the	er ir)			Handouts, Charts, Videos, models		
	·			SC	CHEME OF AS	SESSMENT	•								·
S. No.	Method	od of Assessment Description of Assessment								/laximum Marks		Reso Req	ources Juired	E	xternal / Internal
	Theory	Exam	Student wi refrigeratio	ll be asked to expon. Various types	ked to explain food spoilage and its preservation by rious types of Food preservation methods						10 Test Paper		aper	Ех	xternal
			ADD	ITIONAL INSTRU	JCTIONS FOR	THE HOD/	FACULT	Y (IF A	NY)						

Phonal			UIIVG		ranch Co	ae	Ľ	ourse Co	de	Code	Code		Л
Бпораг	OU	OUTCOME				1	5	5 0		5	13	Format No. 4	
NAME FUNDAMENTAL	S OF THERMODYNAMICS			1	1		1			1	1	1	
ription CO-5 Describe for	ood spoilage and their preserv	ation by refrig	eration.										
ription LO-13 Explain c	omponents of domestic and	commercial ref	frigerators f	or foc	od pres	servat	ion a	nd thei	r wo	rking			
		SCHEME OF	STUDY										
Learning	Teaching – Learning Method	Descripti	ion of	f T-L P	roce	- 55	Геасh Hrs.	P	ract. /Tut Hrs.	LRs Required		Remark	
Domestic and commerc refrigerator, walk-in-cooler vending machines and Bar	Interactive Classroom method, Handout, PPTs, Charts and Videos.	Teacher w contents a handout to will condu make stud knowledg	vill ex and prostud act Qu lents p e	explain the provide udents. Teacher Quiz/visit to s practice their				7		Han Cha Vide mod	douts, rts, eos, els		
	SC	CHEME OF AS	SESSMENT	-									
Method of Assessment	Description of Assessment							aximu Marks	num Rese rks Rec		ResourcesExRequiredIrPaper penE		xternal / nternal
Laboratory test by observation	Student will be asked to Don in refrigerator, walk-in-cool machines and Bar refrigerate	mestic and commercial refrigerators-reach lers, display cases, refrigerator vending tors.						15 Paper		External			
	ADDITIONAL INSTRU	JCTIONS FOR	THE HOD/	′ FAC	ULTY	(IF AI	NY)						
r r I I (iption CO-5 Describe for iption LO-13 Explain c Learning Domestic and commerce 'efrigerator, walk-in-coolere vending machines and Barn Method of Assessment Laboratory test by observation	iption CO-5 Describe food spoilage and their preserving to a components of domestic and a LO-13 Explain components of domestic and a Learning Content Learning Content Learning Content Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. SC Method of Assessment Description Laboratory test by observation Student will be asked to Domin refrigerator, walk-in-cool machines and Bar refrigerator ADDITIONAL INSTRUCTIONAL	iption CO-5 Describe food spoilage and their preservation by refriging iption LO-13 Explain components of domestic and commercial refrigeration SCHEME OF Learning Content Teaching – Learning Content Interactive Classroom Classroom vending machines and Bar refrigerators. Interactive Charts and videos. SCHEME OF AS Method of Assessment Description of Assessment Laboratory test by observation Student will be asked to Domestic and con in refrigerators. ADDITIONAL INSTRUCTIONS FOR	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators of SCHEME OF STUDY Learning Content Teaching – Learning Method Description Domestic and commercial refrigerators, walk-in-coolers, display cases, refrigerator, walk-in-coolers, display cases, refrigerator, will conduct,	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food SCHEME OF STUDY Learning Content Teaching – Learning Method Description of Method Domestic and commercial refrigerators, display cases, refrigerator, walk-in-coolers, display cases, refrigerator, walk-in-coolers, display cases, refrigerator, wending machines and Bar refrigerators. Interactive Classroom method, Handout, PPTs, Charts and Videos. Teacher will excontents and private students prefrigeratory walk-in-coolers, display cases, refrigeratory walk-i	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food press SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L P Domestic and commercial refrigerators, display cases, refrigerator, walk-in-coolers, display cases, refrigerator, walk-in-coolers, display cases, refrigerator, walk-in-coolers, display cases, refrigerator Teacher will explain to contents and provide handout, PTS, Charts and Videos. SCHEME OF ASSESSMENT Scheme of Assessment Scheme of Assessment Laboratory test by observation Student will be asked to Domestic and commercial refrigerators. Student will be asked to Domestic and commercial refrigerators refrigerators. ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservat SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L Procestic Domestic and commercial refrigerators-reach in efrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. Interactive Classroom method, Handout, PPTs, Charts and Videos. Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice thei knowledge SCHEME OF ASSESSMENT Scheme of Assessment Method of Assessment Description of Assessment Laboratory test by observation Student will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators.	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservation a SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L Process Domestic and commercial refrigerators-reach in efrigerator, walk-in-coolers, display cases, refrigerator, walk-in to students. Teacher will conduct Quiz/visit to PTs, Charts and Videos. Teacher will explain the conduct Quiz/visit to make students practice their knowledge SCHEME OF ASSESSMENT Method of Assessment M Laboratory test by observation Student will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. M ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservation and their SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L Process Teach Hrs. Domestic and commercial refrigerators-reach in efrigerator, walk-in-coolers, display cases, refrigerator. Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to method, Videos. Teacher will conduct Quiz/visit to make students practice their knowledge 2 SCHEME OF ASSESSMENT Method of Assessment Description of Assessment students will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerators. 15 ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservation and their wo SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L Process Teach Hrs. P Domestic and commercial refrigerators-reach in efrigerator, walk-in-coolers, display cases, refrigerator Interactive Classroom method, PTS, Charts and Videos. Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge 2 7 Method of Assessment Description of Assessment in refrigerator, walk-in-coolers, display cases, refrigerators. Maximum Marks Scheme of Assessment Description of Assessment in refrigerator, walk-in-coolers, display cases, refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. If Aboratory test by observation Student will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. 15 ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)	iption CO-5 Describe food spoilage and their preservation by refrigeration. LO-13 Explain components of domestic and commercial refrigerators for food preservation and their working SCHEME OF STUDY Teaching – Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. Domestic and commercial refrigerators, walk-in-coolers, display cases, refrigerator, walk-in-coolers, display cases, refrigerator. Interactive Classroom method, Handout, PTS, Charts and Videos. Teacher will explain the contents and provide handout to students. Teacher wake students practice their knowledge 2 7 Method of Assessment Description of Assessment in refrigerator, walk-in-coolers, display cases, refrigerators. Maximum Marks Reso Retool of Assessment Maximum Marks Reso Paper SCHEME OF ASSESSMENT Student will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. 15 Paper	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservation and their working SCHEME OF STUDY Teaching – Learning Method Pract. Pract. Pract. Pract. Req Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerators. Interactive Classroom method, PPTs, Charts and Videos. Teacher will explain the classroom method, PPTs, Charts and Videos. 2 7 Han Charts mod SCHEME OF ASSESSMENT Maximum Marks Resources Required Method of Assessment Caboratory test by observation Student will be asked to Domestic and commercial refrigerators. Maximum Marks Resources Required Abditional linstructions FOR THE HOD/ FACULTY (IF ANY) Student will be asked to DOMestic and commercial refrigerator vending 15 Paper pen	iption CO-5 Describe food spoilage and their preservation by refrigeration. iption LO-13 Explain components of domestic and commercial refrigerators for food preservation and their working SCHEME OF STUDY Learning Content Teaching – Learning Method Description of T-L Process Teach Hrs. Pract. /Tut Hrs. LRs Required Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator rending machines and Bar refrigerators. Interactive Classroom method, PPTs, Charts and Videos. Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their Charts and Videos. Q 7 Handouts, Charts, Videos, models Scheme t Description of Assessment Maximum Marks Resources Required E Method of Assessment Description of Assessment in refrigerator, walk-in-coolers, display cases, refrigerator vending machines and Bar refrigerators. Student will be asked to Domestic and commercial refrigerators-reach in refrigerator, walk-in-coolers, display cases, refrigerator vending Maximum Marks Resources Required E ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY) I I

BCDV (Diplome Wing) Bhonel S(CHEME FOR LEARNING			Branch Code				ourse C	ode	CO Code	LO Code		Л		
KGPV		oma wing) Bhopai		OUTCOME)	1	5 (1	5 14		Format No.	
COURS	E NAME										-	-					
CO Des	cription	CO-5 Descri	be food spoilag	e and t	heir preservation by refrige	ration.											
LO Des	cription	LO-14 Expla	in the working	of ice p	plant, cold storage and cold	chain											
					SCHEME OF	STUDY											
S. No. Learning Content				Teaching –Learning Method	Descr F	iptio Proc	on of ess	T-I	_	Теа Ні	ach Pract. rs. /Tut Hrs.		ct. Hrs.	LRs Required		Remar k	
	Working of ice plant, preservation of fruits and vegetables, storage condition and properties and perishable products, medicine, other products. Their storage conditions. Application of transportation of refrigerated product by refrigerated Railways, Cars, Trucks, Trailers. (Cold Chain)				Interactive Classroom method, Handout PPTs, Charts and Videos.	Teacher w contents a handout to Teacher w Quiz/visit students p knowledg	Teacher will explain the contents and provide handout to students. Teacher will conduct Quiz/visit to make students practice their knowledge								Handouts, Charts, Videos, models		
					SCHEME OF AS	SESSMENT	-										
S. No.	Me Ass	ethod of essment		Descr	iption of Assessment	Maximum Ma				Ma	rks	Reso	ource	s Requ	uired	d External / Internal	
	Theory 1	⁷ Exam Student will be asked working of ice plant, cold storage and cold chain						10 Test Paper External							al		
	<u>,</u>		AD	DITIO	NAL INSTRUCTIONS FOR	THE HOD/	FA	CULT	Ύ (Ι	IF AN	IY)						