RAJIV GANDHI PROUDYOGIKI VISHVAVIDYALAYA (DIPLOMA WING) BHOPAL P05 DIPLOMA IN PRODUCTION ENGINEERING PART A:- PROCESS OF CURRICULUM DEVELOPMENT

LIST OF IDENTIFIED PROFESSIONAL ROLES

- 1. To apply knowledge of mathematics, science, and engineering.
- 2. To design and conduct experiments, as well as to analyze and interpret data.
- 3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- 4. To function on multidisciplinary teams.
- 5. To identify, formulate, and solve engineering problems.
- 6. To understand professional and ethical responsibility.
- 7. To communicate effectively.
- 8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- 9. To engage in lifelong learning.
- 10. To use the techniques, skills, and modern engineering tools necessary for engineering practice.

LIST OF SELECTED TERMINAL BEHAVIORS

- 1. To apply knowledge of mathematics, science, and engineering.
 - TB-1 To understand various elements of Estimating & Costing.
 - TB-2 To understand Process of estimating in various shops of manufacturing
- 2. To design and conduct experiments, as well as to analyze and interpret data. NIL
- 3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
 - TB-1 To understand causes & Methods of Depreciation.
 - TB-2 To understands various methods of overheads allocation.
 - TB-3 To design a Job of each shop of manufacturing to understand way of calculating cost incurred in each shop.
- 4. To function on multidisciplinary teams. NIL
- 5. To identify, formulate, and solve engineering problems NIL
- 6. To understand professional and ethical responsibility. NIL
- 7. To communicate effectively. NIL
- 8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context. NIL
- 9. To engage in lifelong learning.
 - TB-1, To undertands all elements of estimation & Costing
 - TB-2, To perform estimation of each job from various manufacturing Processes.
 - TB-3, To Make the process plan for each job.
- 10. To use the techniques, skills, and modern engineering tools necessary for engineering practice. NIL

COS FOR SELECTED TERMINAL BEHAVIORS

- 1. To apply knowledge of mathematics, science, and engineering.
 - TB-1,To understand various elements of Estimating & Costing
 - CO2: Estimate the cost of a product based on manufacturing methods
 - CO3: Estimate the machining time to manufacture a given product
- 2. To design and conduct experiments, as well as to analyze and interpret data. NIL
- 3. To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. NIL
- 4. To function on multidisciplinary teams. NIL
- 5. To identify, formulate, and solve engineering problems. NIL
- 6. To understand professional and ethical responsibility. NIL
- 7. To communicate effectively. NIL
- 8. To understand the impact of engineering solutions in a global, economic, environmental, and societal context.NIL
- 9. To engage in lifelong learning.
 - TB-1, To undertands all elements of estimation & Costing.
 - CO1: Predict the parameters to evolve the cost of any product
 - TB-2, To perform estimation of each job from various manufacturing Process
 - CO2: Estimate the cost of a product based on manufacturing methods
 - CO3: Estimate the machining time to manufacture a given product
 - TB-3. To Make the process plan for each job
 - C05: Determining the Manufacturing Sequence and Prepare the documents for process planning
- 10. To use the techniques, skills, and modern engineering tools necessary for engineering practice.NIL

CO GROUPING AND COURSE FORMATION

COURSE NAME: - ESTIMATION COSTING AND PROCESS PLANNING(503)

(Total 100 Hrs. Total 100 Marks)

LIST OF COs:-

CO1: Predict the parameters to evolve the cost of any product.(20Hrs, 20 marks)

CO2: Estimate the cost of a product based on manufacturing methods. (20Hrs, 20 marks)

CO3: Estimate the machining time to manufacture a given product. (20Hrs, 20 marks)

C04: Discuss the steps involved in process planning..(20Hrs, 20marks)

C05: Determining the Manufacturing Sequence and Prepare the documents for process planning. (20Hrs, 20 marks)

LOs FORMATION

COURSE NAME: - ESTIMATION COSTING AND PROCESS PLANNING (503) (Total 100 Hrs. , Total 100 Marks)

List of COs and Los

CO1: Predict the parameters to evolve the cost of any product. (20hrs, 20 marks)

LO1: To explain methods of costing and elements of cost estimation. (10 Hrs., 10Marks)

LO2: To explain overhead allocation and calculation of depreciation cost. (10Hrs, 10 Marks)

CO2: Estimate the cost of a product based on manufacturing methods. (20 Hrs, 20 marks)

LO1: To explain the different types of jobs and estimation of foundry shop. (10Hrs, 10 marks)

LO2: To explain about the forging Shop and welding shop. (10Hrs, 10 marks)

CO3: Estimate the machining time to manufacture a given product. (20Hrs, 20 marks)

LO1: To explain the estimation of machining time and calculation for Lathe operation (10 Hrs, 10 marks)

LO2: To explain the calcuation of machining Time for Drilling and Boring. (10Hrs, 10 marks)

CO4: Discuss the steps involved in process planning. (20 Hrs,20 marks)

LO1: To explain the different methods of process planning and material evaluation. (10Hrs, 10 marks)

LO2: Steps in process selection-Production equipment and tooling selection. (10Hrs, 10 marks)

CO5: Determining the Manufacturing Sequence and Prepare the documents for process planning (20Hrs, 20 marks)

LO1: Determining the Manufacturing Sequence.(10Hrs, 10 marks)

LO2: Set of documents for process planning and Economics of process planning..(10Hrs, 10 marks)

PART B:- CURRICULUM OF PRODUCTION ENGINEERING

RGPV	(Diplor	na W	Ving) Bhopal		COURSE	PLAN		F	ormat	- 2	t No.	
Cour	se Nam	e	ESTIMATION PLANNING	N CO	STING AND	PROC	CESS	Sem	ester		FIFTH	[
Branch			ODUCTION GINEERING	C	Course Code	503	No. of	Cos	05	No.	No. of LOs	
Total I Teac Lear	_	100	Total Marks	100	Total no. of Assessments		Type Assess			Ex	o. of ternal ssments	
			DESCR	IPTIC	ON OF OUTC	OMES					T-L Hrs.	Max. Marks
CO 1	P05503	31	Predict the par	rame	ters to evolve	the co	st of any	y produ	ıct		20	20
	PO550	311	Γο explain methor	ods of	costing and ele	ements o	of cost est	timation	ı		10	10
Los	PO550	312	Γο explain overh	ead al	llocation and ca	alculatio	on of depr	eciation	cost.		10	10
CO 2	P05503	32	Estimate the co	ost of	a product base	ed on m	anufactu	ıring m	ethods.	,	20	20
	PO550	321	To explain the d	liffere	nt types of jobs	s and es	timation	of Four	dry Sho	op.	10	10
Los	PO540	322	To explain abou	it the f	Forging Shop ar	nd weldi	ing shop.				10	10
CO 3	P05503	33	Estimate the	mach	ining time to	manuf	acture a	given	produ	ct.	20	20
	PO550	331	To explain the e	estima	tion of machini	ng time	and calc	ulation	for Lath	ne	10	10
Los	PO550	332	To explain the c	calcua	tion of machini	ng Time	e for Drill	ling and	Boring	Ţ.	10	10
CO 4	P05503	34	Discuss the ste	ps in	volved in pro	cess pl	anning.				20	20
Los	PO550	341	To explain the cevaluation.	liffere	nt methods of p	process	planning	and Ma	terial		10	10
	PO550	342	Steps in process	selec	tion-Production	n equipr	nent and	tooling	selectio	n.	10	10
CO 5	P05503	35	Determining th documents for			quence	and Pre	pare th	e		20	20
	PO550	351	Determining the			ience.					10	10
Los	PO550	352	Set of documen	ts for	process planning	ng - Eco	nomics o	f proces	s plann	ing	10	10

	PLOMA WING) HOPAL	OCB CURRICUL	UM FOR THE COURSE	FORM	IAT- 3	Sheet No. 1/3
Branch	PRODUCTION I	ENGINEERING	Semester		FIFTH	
Course Code	503 Co	ourse Name	ESTIMATION COST AND PROCESS PLA		Teach H	rs Marks
CourseOutco me 1	Predict the para	neters to evolve the	e cost of any product		20	20
Learning Outcome 1	To explain methods	of costing and eleme	nts of cost estimation		10	10
CONTENT	•	ing and estimation –m mating procedure- Est	ethods of costing-elements imation labor cost.	of cost es	stimation	-Types
Method of Assessment		I	Paper pen test			
Learning Outcome 2	To explain overhea	d allocation and calcul	lation of depreciation cost.		10	10
CONTENT			ads, methods of overhead of depreciation calculation.		ion - De	efinition of
Method of Assessment		I	Paper pen test			
CourseOut come 2	Estimate the cost	of a product based o	n manufacturing methods	5.	20	20
Learning Outcome 1	To explain the diff	erent types of jobs an	d estimation of foundry sho	op.	10	10
CONTENT		• •	ocess, Materials and Man- of casting, moulding cost,			•
Method of Assessment			Paper pen test			
Learning Outcome 2	To explain about the	ne forging Shop and w	velding shop.		10	10
CONTENT	materials cost, lab	oour cost. Welding Sh	ging gross and net weight op: Process, materials and lation time, labour cost, materials	Manpowe	r Gas and	l Arc.
Method of Assessment		Paper pen	test			
CourseOutco me 3	Estimate the mad product.	chining time to mar	nufacture a given			
Learning Outcome 1	To explain the esti operation	mation of machining t	ime and calculation for Lat	he	10	10
CONTENT		hining Time - Import r Different Lathe Oper	rtance of Machine Time orations.	Calculatio	on- Calcu	lation of
Method of Assessment		Paper pen tes	t			
Learning Outcome 2	To explain the calc	cuation of machining	Γime for Drilling and Borin	g.	10	10

CONTENT	Calculation of Machining Time for Drilling and Boring.		
Method of Assessment	Paper pen test		
Course Outcome 4	Discuss the steps involved in process planning.	20	20
Learning Outcome 1	To explain the different methods of process planning.	10	10
CONTENT	Process engineering, its scope and relation with product engineering and man production system, types and characteristics. Methods of process planning.	ufacturing	ζ,
Method of Assessment	Paper pen test		
Learning Outcome 2	Steps in process selection and production equipment and tooling selection.	10	10
CONTENT	Steps in process selection-Production equipment and tooling selection		1

Method of Assessment	Paper pen test		
Course	Determining the Manufacturing Sequence and Prepare the documents for process planning	20	20
Learning Outcome 1	Determining the Manufacturing Sequence.	10	10
CONTENT	Operation, classifications and the manufacturing sequence, purpose of major pr	ocess seq	uence
Method of Assessment	Paper pen test		
Learning Outcome 2	To explain the set of documents for process planning and economics of process planning.	10	10
CONTENT	Set of documents for process planning and economics of process planning.		
Method of Assessment	Paper pen test		

CO1:	LO1									
RC	GPV (Diploma V Bhopal	Ving) SC	HEME FOR OUTC	R LEARNING COME	Branch Code P05	Course Code 503	CO Code 01	LO Coc <mark>01</mark>	de	F <mark>ormat</mark> No. 4
COU	RSE NAME	ESTIMAT	TON COST	ING AND PR	ROCESS	PLAN	NING			
COI	Description	Predict the	parameters 1	to evolve the co	st of any	product	,			
LOI	Description	To explain r	nethods of co	sting and eleme	nts of cos	st estimat	ion			
			SCI	HEME OF STU	JDY					
S. No.	Learning Co	ontent	Teaching - Learning Method	Description Proces		Teach Hrs.	Pract. /Tut Hrs.		LRs quir	Rema rks
1	costing-element	ethods of	Traditional Lecture method	Teacher will excontents. Teac conduct Progretest/ give Assignment	her will essive	10		Han Boo	dout, ok.	
			SCHEM	ME OF ASSES	SMENT					
S. No	Method of Assessment		escription of	Assessment	N	Iaximun Marks	n Resou Requi			ternal / ternal
1	Paper pen tes	_	iven learning swer of ques	g content, Stud tions	lents	10	Progress test/ semeste exam/	End	Interr /Exte	
	ADDI	 TIONAL II	NSTRUCTIO	ONS FOR THI	E HOD/	FACUL	TY (IF A	NY)		

CO1:LO2

:LO2				1					
GPV (Diploma W Bhopal	Ving) SC			Branch Code P05	Course Code 503	CO Code 01	Co	de	Format No. 4
IRSE NAME	ESTIMAT	ION COST	ING AND PR	CESS	PLANI	NING		·	
Description	Predict the	narameter	s to evolve the	e cost of	anv pro	duct			
		SCF	HEME OF STU	JDY					
Learning Co	ontent	Teaching Learning Method	-		Teach Hrs.	Pract. /Tut Hrs.			Rema rks
overheads allo Definition & causes of do	Concept, epreciation	Traditional Lecture method	content willconduct	Teacher				,	
		SCHEM	IE OF ASSES	SMENT	1				<u>'</u>
o Method of Assessment	De	escription of	Assessment	N					ternal / ternal
Paper pen test				lents	10	test/	End		
ADDI	TIONAL II	NSTRUCTIO	ONS FOR THI	E HOD/	FACUL'	TY (IF A	ANY)		
	Description Learning Co Definition classification overheads, me overheads allo Definition & causes of de methods of de calculation. Method of Assessment Paper pen test	Bropal CRSE NAME Description Cescription Cescription Cescription Cescription Cescription Cescription Content Cescription Content Cescription Content Cescription Content Cescription Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation. Content Concept, causes of depreciation methods of depreciation calculation.	Bhopal SCHEME FOR OUTC RSE NAME ESTIMATION COST Predict the parameter To explain overhead allocation SCHEME FOR OUTC Predict the parameter To explain overhead allocation SCHEME SCHEME FOR OUTC Predict the parameter To explain overhead allocation SCHEME To explain overhead allocation Learning Method Traditional Lecture method overheads allocation - Definition & Concept, causes of depreciation methods of depreciation calculation. SCHEME OMETHOR OUTC SCHEME FOR OUTC Predict the parameter Teaching Traditional Lecture method Description of Outch Traditional Lecture Method For the given learning write answer of ques	SPV (Diploma Wing) Bhopal SCHEME FOR LEARNING OUTCOME RESE NAME Predict the parameters to evolve the parameters to evolve the parameters to evolve the pescription SCHEME OF STU Learning Content Learning Content Definition and classification of overheads, methods of overheads allocation - Definition & Concept, causes of depreciation methods of depreciation calculation. SCHEME OF ASSES Method of Assessment Paper pen test/ For the given learning content, Study write answer of questions	SCHEME FOR LEARNING Code P05 RSE NAME ESTIMATION COSTING AND PROCESS Predict the parameters to evolve the cost of To explain overhead allocation and calculation of depression SCHEME OF STUDY Learning Content Teaching Process Learning Method Definition classification of overheads, methods of overheads allocation Definition & Concept, causes of depreciation methods of depreciation methods of depreciation calculation. SCHEME OF STUDY Teaching Process Teacher will explain the content Teacher willconduct Progressive test/quiz SCHEME OF ASSESSMENT O Method of Assessment Paper pen test/ For the given learning content, Students write answer of questions	GPV (Diploma Wing) Bhopal SCHEME FOR LEARNING OUTCOME Code P05 503 GRSE NAME Description Predict the parameters to evolve the cost of any pro SCHEME OF STUDY Learning Content Teaching Learning Method Definition classification overheads, methods of overheads allocation Definition & Concept, causes of depreciation methods of depreciation methods of Assessment SCHEME OF ASSESSMENT O Method of Assessment Paper pen test/ For the given learning content, Students write answer of questions SCHEME OF ASSESSMENT Maximum Marks 10	SCHEME OF STUDY Learning Content Definition classification overheads, methods of overheads allocation methods of depreciation calculation. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT O Method of Assessment Paper pen test/ For the given learning content, Students write answer of questions SCHEME FOR LEARNING Code Code Code P05 503 01 Branch Course Code Code Code P05 503 01 Code P05 503 01 Code Code Code Code P05 503 Code Code P05 503 01 Code Code Code P05 503 Code P05 SO3 01 Code P05 SO3 01 Code Code P05 SO3 01 Code Code P05 SO3 01 Code P05 SO3 0	SCHEME OF STUDY Learning Content Definition classification overheads, methods of overheads allocation and classification methods of depreciation methods of depreciation methods of depreciation calculation. SCHEME OF ASSESSMENT Traditional Lecture method Definition & Content Definition & Content SCHEME OF STUDY Traditional Lecture method Traditional Lecture method Toverheads allocation - Definition & Content SCHEME OF ASSESSMENT O Method of Assessment Paper pen test/ For the given learning content, Students write answer of questions SCHEME OF ASSESSMENT Teacher will explain the content. Teacher will content to the proof of the	SCHEME FOR LEARNING Branch Course CO Code Code P05 S03 O1 O2

CO2:LO1

.U2:LU1					1			_		
RGPV (Diplon Bhopa		ng) SC	HEME FOR OUTC	LEARNING OME	Branch Code P05	Course Code 503	CO Code 02	LC Coc	de	Format No. 4
COURSE NAME	E ES	TIMAT	ION COST	ING AND PR	OCESS	PLANI	NING		-	
CO Description	Es	stimate t	he cost of a	product base	d on ma	anufactu	ring me	thods	S.	
O Description				ypes of jobs an						
			SCH	IEME OF STU	JDY		<u> </u>			
S. Learning	g Cont	tent	Teaching Learning Method	Description Proces		Teach Hrs.	Pract. /Tut Hrs.		Rs uired	Rema rks
Estimation Types of Materials a - Pattern c time for ca cost of cas cost, batc time.	Jobs, nd Mar ost, pr asting, sting, r	n- power oduction material	Traditional Lecture method + assignment	Teacher will ex contents and providehandou students. Teach conduct Progre test/assignmen	nt to her will essive	10		Hand Book	,	
			SCHEM	IE OF ASSES	SMENT					
S. No Method Assessm		De	escription of	Assessment	N	Maximun Marks	n Resou Requi			ternal / ternal
Paper pen		_	ven learning wer of quest	g content, Stud tions.	ents	10	Progress Test pa End semest exam	aper/	Interr /Exte	
AΓ	DITIO	ONAL IN	ISTRUCTIO	ONS FOR THE	E HOD/	FACUL	TY (IF A	NY)	1	

CO2:LO2

Process, Materials and Mail power - Forging gross and net weight of forging, forging losses, materials cost, labour cost. Welding Shop: Process, materials and Manpower Gas and Arc. Welding terminology, production operation time, labour cost, materials cost, cost elements. SCHEME OF ASSESSMENT S. No Method of Assessment Maximum Resources Extended Assessment Marks Required Interview	Format No. 4	de	LO Cod 02	CO Code 02	Course Code 503	Branch Code P05	LEARNING OME	HEME FOR OUTC	Ving) SC	PV (Diploma W Bhopal	RGI
To explain about the forging Shop and welding shop. SCHEME OF STUDY								BRICATION	STEEL FAI	SE NAME S'	COUR
SCHEME OF STUDY S. Learning Content No. Process, Materials and Man power - Forging gross and net weight of forging forging losses, materials cost, labour cost. Welding Shop: Process, materials and Manpower Gas and Arc. Welding terminology, production operation time, labour cost, materials cost, cost elements. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT S. No Method of Assessment Paper pen test For the given learning content, Students with answer of questions SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT International Lecture method + Practical (Welding Shop) Handout, Book. Handout, Book. Handout, Book. SCHEME OF ASSESSMENT SCHEME OF ASSESSMENT S. No Method of Assessment Maximum Marks Required International Lecture method + Practical file/ End /Exter semester exam		·-	thods	ring met	nufactur	on ma	product base	the cost of a	Estimate 1	escription	CO De
S. Learning Content No. Learning Content No. Learning Content No. Learning Method I Process, Materials and Man power - Forging gross and net weight of forging, forging losses, materials cost, labour cost. Welding Shop: Process, materials and Manpower Gas and Arc. Welding terminology, production operation time, labour cost, materials cost, cost elements. SCHEME OF ASSESSMENT S. No Method of Assessment Paper pen test Process Teacher will explain the learning outcome. Teacher will explain the learning outcome. Handout, Book. SCHEME OF ASSESSMENT S. No Method of Assessment Maximum Resources Marks Required Intermination of T-L Treach Hrs. Process Materials and Man Process Method Practical Welding Shop) SCHEME OF ASSESSMENT S. No Method of Assessment Paper pen test For the given learning content, Students write answer of questions Practical file/ End semester exam					op.	elding sh	ging Shop and w	about the forg	To explain	scription	LO De
No. Process, Materials and Man power - Forging gross and net weight of forging, forging losses, materials and Manpower Gas and Arc. Welding terminology, production operation time, labour cost, materials cost, cost elements. Scheme of Assessment Process Hrs. /Tut Hrs. Required Hrs. /Tut H						DY	IEME OF STU	SCH			
Process, Materials and Mail power - Forging gross and net weight of forging, forging losses, materials cost, labour cost. Welding Shop: Process, materials and Manpower Gas and Arc. Welding terminology, production operation time, labour cost, materials cost, cost elements. SCHEME OF ASSESSMENT S. No Method of Assessment Maximum Resources Required Intermediate Assessment Wite answer of questions Paper pen test For the given learning content, Students write answer of questions Process, Materials and Mail method + Practical (Welding Shop) Book.	Rema			/Tut		fT-L		Learning	itent	Learning Con	
S. No Method of Assessment Description of Assessment Maximum Resources Required Into Paper pen test For the given learning content, Students write answer of questions 10 Practical file/ End/Extersemester exam		-			10		learing outcom	Lecture method + Practical (Welding Shop)	g gross and f forging, materials t. Welding materials Gas and rminology, ation time,	power - Forging net weight of forging losses, cost, labour cost Shop: Process, and Manpower Arc. Welding ter production operalabour cost, material cost, material statement of the statement of t	
Assessment Marks Required Int Paper pen test For the given learning content, Students write answer of questions 10 Practical file/ End semester exam Internations										T	
write answer of questions file/ End/Exter semester exam	ernal / ernal						Assessment	escription of	D		S. No
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)		Interna /Extern	End	file/ semeste	10	dents	-			Paper pen test	1
		-1	NY)	Y (IF A	FACULT	HOD/ I	ONS FOR THE	NSTRUCTIO	TIONAL II	ADDIT	

CO3:LO1

Bhopal OUTCOME Code Code Code No. 4 COURSE NAME ESTIMATION COSTING AND PROCESS PLANNING CO Description Estimate the machining time to manufacture a given product. LO Description To explain the estimation of machining time and calculation for Lathe operation SCHEME OF STUDY S. Learning Content Teaching Description of T-L Teach Pract. LRs Rem	CO3:	:LOI									
CO Description Column	RC	, -	Wing) S			Code	Code	Code	Cod	.e	ormat No. 4
To explain the estimation of machining time and calculation for Lathe operation	COU	JRSE NAME	ESTIMA	ATION COST	ING AND PR	OCESS	S PLAN	NING			
SCHEME OF STUDY S. Learning Content No. I Estimation of Machining Time - Importance of Machine Calculation of Machining Time for Different Operations. SCHEME OF STUDY Teaching Process Pr	CO I	Description	Estimat	e the machini	ng time to ma	nufactu	re a giv	en produ	ıct.		
S. Learning Content No. Content	LO I	Description	To explai	in the estimation	n of machining t	ime and	calculatio	on for Lat	he oper	ration	
No. Process Hrs. Tut Required rk				SCI	HEME OF STU	JDY					
Time - Importance of Machine Time Calculation of Machining Time for Different Lathe Operations. SCHEME OF ASSESSMENT S. No Method of Assessment Maximum Resources External Marks Required Internal Write answer of questions Paper pen test For the given learning content, Students write answer of questions Ecture the contents to students. Book B		Learning C	ontent	Learning	_			/Tut			Rema rks
S. No Method of Assessment Description of Assessment Maximum Resources Required Internal Paper pen test For the given learning content, Students write answer of questions To Practical file/ End /External semester exam	1	Time - Imp Machine Calculation- of Machining Different	ortance Tin Calculatio Time f	Lecture method	the contents		10	-		ut,	
Assessment Marks Required Internal Paper pen test For the given learning content, Students write answer of questions 10 Practical file/ End /External semester exam				SCHEM	ME OF ASSES	SMENT	•				
write answer of questions file/ End /External semester exam	S. N			Description of	Assessment	N					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)	1	Paper pen tes		-	_	idents	10	file/ semest	End		
		ADDI	TIONAL	INSTRUCTIO	ONS FOR THE	E HOD/	FACUL	TY (IF A	ANY)		

CO3:LO2

CO3:LO2									
RGPV (Diploma W Bhopal	ring) SC	HEME FOR OUTC	LEARNING OME	Branch Code P05	Course Code 503	CO Code 03	LO Cod 02	.e	ormat No. 4
COURSE NAME F	ESTIMAT	ION COST	ING AND PR	COCESS	PLANI	NING			
CO Description	Estimate 1	the machini	ng time to ma	nufactu	re a give	en produ	ıct.		
LO Description	Го explain	the calcuation	of machining	Γime for l	Drilling a	nd Boring	g.		
		SCH	HEME OF STU	JDY			-		
S. Learning Co No.	ntent	Teaching— Learning Method	Description of Proces		Teach Hrs.	Pract. /Tut Hrs.	LI Requ		Rema rks
Calculation of Time for Dri Boring.	Machining lling and	Traditional Lecture method + Assignment + Quiz	Teacher will exthecontents to s	•	10	-	Hando Book	,	
		SCHEM	IE OF ASSES	SMENT					
S. No Method of Assessment	De	escription of	Assessment	N	laximun Marks	n Resou Requi			ernal / ernal
Paper pen test	-	given learnin swer of quest	g content, Stutions,	idents	10	Assigm End semest exam	/	Interna Exter	
ADDIT	IONAL II	NSTRUCTIO	ONS FOR THI	E HOD/	FACUL	ΓY (IF A	NY)		

CO4·LO1

CO4	:LO1				T				1	
R	GPV (Diploma ' Bhopal	Wing) SC	HEME FOR OUTC	LEARNING OME	Branch Code P05	Course Code 503	CO Code 04	Coo	de	Format No. 4
COU	IRSE NAME	ESTIMAT	ION COST	ING AND PR	OCESS	S PLANI	NING			
CO 1	Description	Discuss the	e steps invol	ved in process	planni	ng.				
LO I	Description			methods of proc						
		1		HEME OF STU						
S. No.	Learning C	Content	Teaching - Learning Method	Description Proces		Teach Hrs.	Pract. /Tut Hrs.		Rs uired	Rema rks
1	Process engineer and relation with engineering and manufacturing, particles, the system, types and characteristics. Methods of process.	product production d	Lecture method	Teacher will excontents. Teac conduct Pretest/ give Assignment	cher wil	1		Hand Bool	,	
			SCHEM	IE OF ASSES	SMENT					
S. N	o Method of Assessmen		escription of	Assessment	N	Maximun Marks	n Resou Requ			ternal / ternal
1	Paper pen tes		given learnir swer of ques	ng content, Stutions.	idents	10	Progress Test pa End semest exam	aper/	Interr /Exte	
	ADD	ITIONAL II	NSTRUCTIO	ONS FOR THE	E HOD/	FACUL	TY (IF A	ANY)	1	

CO4·LO2

COURSE NAME ESTIMATION COSTING AND PROCESS PLANNING CO Description Discuss the steps involved in process planning. Steps in process selection and production equipment and tooling selection. SCHEME OF STUDY S. Learning Content No. Steps in process selection and production of T-L Process Hrs. Learning Method Steps in process selection and production equipment and tooling selection. SCHEME OF STUDY S. Learning Content Process Hrs. No. Steps in process selection and production of T-L Process Planning. Learning Content Process Hrs. Feach Pract Hrs. Teach Hrs. Fract	No. 4 Rema
Steps in process selection and production equipment and tooling selection. Steps in process selection and production equipment and tooling selection. Steps in process selection Teaching Description of T-L Process Hrs. Teach Hrs. Hrs.	
Steps in process selection and production equipment and tooling selection. SCHEME OF STUDY S. Learning Content No. Steps in process selection and production of T-L Learning Method Steps in process selection and production equipment and tooling selection. Teaching Process Process Hrs. Tut Hrs. Fequired Hrs. Handout, Book SCHEME OF ASSESSMENT	
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S. Learning Content No. Learning Method Steps in process selection and production equipment and tooling selection. SCHEME OF ASSESSMENT Teach Process Hrs. /Tut Hrs. Process Hrs. SCHEME OF ASSESSMENT	
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and production equipment and tooling selection. Lecture method conduct Progressive test SCHEME OF ASSESSMENT	
S.No Method of Description of Assessment Maximum Resources Exte	
Assessment Marks Required Inte	ernal / ernal
Paper pen test For the given learning content, Students write answer of questions. Progressive Test paper/End semester exam	
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)	

CO5:LO1

COS:	LOI				T							
RGPV (Diploma Wing) SC Bhopal			OUTCOME Co		Branch Code P05	Course Code 503	CO Code 05	LO Coc 01	le	ormat No. 4		
COU	RSE NAME	ESTIMA	TION COST	TING AND PI	ROCES	S PLAN	NING	•	<u>'</u>			
СОГ	Description	Determini planning	ing the Manuf	facturing Sequ	ence and	Prepare	the docu	ıments	s for p	process		
LO Description Dete		Determinin	Determining the Manufacturing Sequence.									
			SCF	HEME OF STU	JDY							
S. No.	Learning Content		Teaching- Learning Method	Description of T-L Process		Teach Hrs.	Pract. /Tut Hrs.	LRs Required		Rema rks		
1	Operation, class and the manufa sequence, purp major process s	cturing ose of	Traditional Lecture method	Teacher will ex thecontents to s		10	-	Handout, Book				
			SCHEM	IE OF ASSES	SMENT							
S. No	Method of Assessment	Description of Assessment			N	Maximum Resou Marks Requi						
1	Paper pen tes	For the given learning content, Students write answer of questions.				10	_		Internal /External			
	ADDI	ΓΙΟΝΑL Ι	NSTRUCTIO	ONS FOR THE	E HOD/	FACUL	$\Gamma Y (IF . A)$	ANY)				

CO5:LO2

RGPV (Diploma Wing) SC Bhopal			CHEME FOR LEARNING OUTCOME Code P05		Course Code 503	CO Code 05	LO Coc 02	de	Format No. 4			
COU	RSE NAME	ESTIM	ATION COST	ING AND PR	OCESS	S PLANI	NING					
CO Description		Determining the Manufacturing Sequence and Prepare the documents for process planning.										
LO Description		To explain the set of documents for process planning and economics of process planning.										
			SCI	HEME OF STU	JDY							
S. No.	Learning Content		Teaching - Learning Method	Description of T-L Process		Teach Hrs.	Pract. /Tut Hrs.	LRs Required		Rema rks		
1	Set of documents for process planning and economics of process planning.		ess method	Teacher will explain the contents to students		10	-	Handout, Book,				
			SCHEM	ME OF ASSES	SMENT	· -						
S. No	Method of Assessmen		Description of	Assessment		Maximun Marks	Resources Required		External / Internal			
1	Paper pen tes	For the given learning content, Student write answer of questions.				10	Progressive Test paper/End semester exam		Internal /External			
	ADD	TIONAL	L INSTRUCTION	ONS FOR THE	E HOD/	FACUL'	$\overline{\Gamma Y}$ (IF A	NY)				

Reference Books:

- 1. Cost Control by G. R. Sharma. (National Productivity Council)
- 2. Engineer's Giude to Costing (Institute of cost works Accounts)
- 3. Mechanical Estimating And Costing by T.R. Banga and & S. C. Sharma (KhannaPub.)
- 4. Mechanical Estimation and Costing by R.L. Shrimali& P.C. Jain (Jain Pub. House)
- 5. Mechanical Estimation And Costing (Resource Persons of Hill Publishing Co.T.T.T.I, Madars Tata McGraw Hill)
- 6. Machine Shop Estimation by Nordoff.
- 7. Learning Packing In Costing And Estimating (T.T.T.I. Bhopal Publication)
- 8. Process Engineering For Manufacturing By Eary and Johnson (Prentice Hall)
- 9. Fundamentals of Process Engineering by Benjamin W. Nicbel, Alon & Ropy
- 10. Produce Design And Process Engineering (McGraw Hill)
- 11. YantrikiAbhiyantrikiAbhikalpan (Hindi) by K. D. Saxena. (Deepak Prakashan, Morar, Gwalior)