18 (2/2A) / 2, Pratap Nagar, Opp. S.R.P. Camp, Vijapur Road, Solapur- 413 008 (Maharashtra) Ph.No. -0217-2342499, 2343099 Email: contact@agpit.edu.in Web: www.agpit.edu.in

CO-PO matrices of Courses

SUBJECT	Course Outcomes	PROGRAM OUTCOMES(POs)												
	(COs)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11		
SY-I-Engineering	CO-1													
Mathematics – III	CO-2													
Discrete	CO-1													
Mathematics	CO-2													
Computer	CO-1													
Architecture & Organization	CO-2				$\sqrt{}$							$\sqrt{}$		
Elective –I OOP	CO-1													
	CO-2	-								-				
Data Structures	CO-1													
Lab & Object Oriented	CO-2	$\sqrt{}$							$\sqrt{}$					
Programming Lab														
SY-II-Design &	CO-1													
Analysis of Algorithms	CO-2		$\sqrt{}$											
Operating Systems	CO-1													
	CO-2													
Basic Human	CO-1													
Rights	CO-2													
Probability Theory	CO-1													
and Random Processes	CO-2	$\sqrt{}$				$\sqrt{}$								
Digital Logic Design	CO-1													
& Microprocessors	CO-2													
TY-I-Database	CO-1													
Systems	CO-2													
Theory of	CO-1													
Computation	CO-2													
Software	CO-1													
Engineering	CO-2													
Elective – II	CO-1													
	CO-2													
Elective – III	CO-1													

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	CO-2	√										
TY-II-Compiler	CO-1	√		_			√					
Design	CO-2											
Computer	CO-1											
Networks	CO-2											
Machine Learning	CO-1											
	CO-2											
Elective- IV	CO-1											
	CO-2											
Elective – V	CO-1											
	CO-2											
BE-Artificial	CO-1											
Intelligence	CO-2											
Cloud Computing	CO-1											
	CO-2											
Elective – VI	CO-1								•			
	CO-2											
Open Elective – VII	CO-1	,										
	CO-2					$\sqrt{}$						
Open Elective – VIII	CO-1					, v						
'	CO-2		•					•				
Foreign Language	CO-1											
Studies	CO-2				· ·							
		•									•	
SUBJECT	Course				PR	OGRAN	N OUT	COMES	(POs)		•	
	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
	(COs)											
SY-I-Engineering	CO-1											
Mathematics – III	CO-2											
Materials Science	CO-1											
and Metallurgy	CO-2											
Fluid Mechanics												
	CO-1											
Machine Drawing	CO-1 CO2	$\sqrt{}$										
		$\sqrt{}$										
and CAD	CO2	√ √							√	√	V	
_	CO2 CO-1								V	V	√ √	
and CAD	CO2 CO-1 CO-2								V	V		
and CAD	CO2 CO-1 CO-2 CO-1	√		√					V	V		
and CAD Thermodynamics	CO2 CO-1 CO-2 CO-1 CO-2	√		√			- √		V	V		
and CAD Thermodynamics Basic Human	CO2 CO-1 CO-2 CO-1 CO-2 CO-1	√	√	√ 			√		V	V		
and CAD Thermodynamics Basic Human Rights	CO2 CO-1 CO-2 CO-1 CO-2 CO-1	√	√	√	√		√		√ 	√ √		
and CAD Thermodynamics Basic Human Rights SY-II	CO2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2	√	√	√	√		√		V			
and CAD Thermodynamics Basic Human Rights SY-II Manufacturing	CO2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2	√	√	√ √	√		√		√ 			

Strength of	CO-1											
Materials	CO-2	V					V					
Numerical	CO-2			V								
Methods in	CO-1	√ √							V			
Mechanical	CO-2	V					V					
Engineering												
Product Design	CO-1											
Engineering – I	CO-2				•							
Elective	CO-1									•		,
	CO-2	· ·							· ·			
TY-I Heat Transfer	CO-1											
	CO-2											
Applied	CO-1											
Thermodynamics –	CO-2							•				
1				· ·					•			
Machine Design – I	CO-1											
	CO-2											
Theory of	CO-1											
MachinesII	CO-2	$\sqrt{}$										
Metrology and	CO-1											
Quality Control	CO-2											
Product Design	CO-1											
Engineering - II	CO-2											
Elective	CO-1											
	CO-2											
TY-II	CO-1											
Manufacturing	CO-2											
Processes- II												
Machine Design-II	CO-1											
	CO-2											
Applied	CO-1											
Thermodynamics-	CO-2											
Elective-1	CO-1	$\sqrt{}$										
	CO-2											
Elective-2	CO-1			-								
	CO-2											
Elective-3	CO-1		<u> </u>								-	
	CO-2											
BE-I Mechatronics	CO-1	$\sqrt{}$						<u> </u>				
	CO-2											
CAD/CAM	CO-1				•							
	CO-2			•						•		
Manufacturing	CO-1											$\sqrt{}$
Processes - III	CO-2	•				•						•
		L	<u> </u>	٧	<u> </u>	L	L	v	<u> </u>	<u> </u>	L	<u> </u>

Elective-1	CO-1											
	CO-2											
Elective-2	CO-1	•										
	CO-2		•		,							
SUBJECT	Course	•	<u> </u>		PR	OGRAN	N OUT	COMES	(POs)		ı	
	Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
	(COs)											
SY-I-Engineering	CO-1											
Mathematics – III	CO-2											
Mechanics of	CO-1											
Solids	CO-2											
Building	CO-1											
Construction &	CO-2											
Drawing											-	
Hydraulics -I	CO-1											
	CO-2											
Surveying	CO-1											
	CO-2											
Soft Skill	CO-1											
Development	CO-2											
SY-II Building	CO-1											
Planning and	CO-2											
Drawing											-	
Environmental	CO-1											
Engineering	CO-2											
Structural	CO-1											
Mechanics - I	CO-2											
Water Resources	CO-1											
Engineering	CO-2											
Hydraulics - II	CO-1											
	CO-2											
Engineering	CO-1											
Geology	CO-2			$\sqrt{}$								$\sqrt{}$
TY-I Design of Steel	CO-1											
Structures	CO-2											
Geotechnical	CO-1											
Engineering	CO-2											
Structural	CO-1											
Mechanics –II	CO-2											
Concrete	CO-1						$\sqrt{}$					
Technology	CO-2											
Project	CO-1											
Management	CO-2											
		'				V						
Water Resources Engineering Hydraulics - II Engineering Geology TY-I Design of Steel Structures Geotechnical Engineering Structural Mechanics –II Concrete Technology Project	CO-1 CO-2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2 CO-1 CO-2	√ √ √	√	√	√	√	√	√	√	√		√ √

Software applications in Civil Engineering		CO-2											
applications in Civil Engineering	Software		V				1/			_ v			
Engineering TY-II Design of RC CO-1			٦/				V						
TY-II Design of RC CO-1		CO 2	V										
Structures CO-2		CO-1											
Foundation Engineering CO-2	l L	CO-2											
Engineering CO-2	Foundation						,						•
Artificial Intelligence CO-2	L	CO-2											
Intelligence	Artificial	CO-1					•						
Elective-1	Intelligence	CO-2	•	•									•
CO-2	Elective-1	CO-1							•				
Elective-2			•										
CO-2	Elective-2												
Indian Constitution		CO-2		•				•				•	
BE-I Design of Concrete CO-2	Indian Constitution												
BE-I Design of Concrete CO-2		CO-2											
Concrete Structures - II CO-2 √ ✓	BE-I Design of	CO-1											
Structures - II		CO-2											
Engineering CO-2	Structures - II		,								•		
Water Resources Engineering CO-1 √ √ √ ✓ Professional Practices CO-1 √ √ ✓ ✓ ✓ Elective CO-1 √ ✓ ✓ ✓ ✓ ✓ Open elective CO-1 ✓	Infrastructure	CO-1											
Water Resources Engineering CO-1 √ √ √ ✓ Professional Practices CO-1 √ √ ✓ ✓ ✓ Elective CO-1 √ ✓ ✓ ✓ ✓ ✓ Open elective CO-1 ✓	Engineering	CO-2											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Water Resources	CO-1											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Engineering	CO-2											
	Professional	CO-1											
	Practices	CO-2											
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Elective	CO-1											
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		CO-2											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Open elective	CO-1											$\sqrt{}$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		CO-2											-
	SUBJECT	Course				PR	OGRAN	1 OUT	COMES	(POs)			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
Mathematics − III CO-2 √		(COs)											
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		CO-1											
Analog Circuits CO-1 $\sqrt{}$	Mathematics – III	CO-2											
	Analog Circuits	CO-1											
CO-2 √		CO-2											
Electronic Devices CO-1 √	Electronic Devices	CO-1											
& Circuits $CO-2$ $\sqrt{}$ $\sqrt{}$	& Circuits	CO-2											
Network Analysis CO-1 √	Network Analysis	CO-1											
CO-2 √		CO-2											
Digital Logic Design CO-1 √	Digital Logic Design	CO-1											
CO-2 \(\)		CO-2											
Basic Human CO-1 √	Basic Human	CO-1											
Rights CO-2 √	Rights	CO-2											

SY-II-Electrical	CO-1									
Machines and	CO-2								<u> </u>	
Instruments		•	'							
Analog	CO-1									
Communication	CO-2									
Engineering				'						•
Microprocessor	CO-1									
	CO-2									
Signals and	CO-1									
Systems	CO-2									
Product Design	CO-1									
Engineering	CO-2									
Numerical	CO-1	V								
Methods and	CO-2	'				•				
Computer					\ \ \			•		
Programming										
TY-I-	CO-1									
Electromagnetic	CO-2		•							
Field Theory							'			
Control System	CO-1									
Engineering	CO-2									-
Computer	CO-1									
Architecture	CO-2									
Digital Signal	CO-1	V								
Processing	CO-2									
Microcontroller	CO-1	$\sqrt{}$								
and its	CO-2	V				,				
Applications		'								
Data Structure &	CO-1									
Algorithms Using	CO-2									
Java Programming										
TY-II-Antennas and	CO-1									
Wave Propagation	CO-2									
Computer Network	CO-1									
& Cloud	CO-2									
Computing		·		·				Ţ		
Digital Image	CO-1									
Processing	CO-2	$\sqrt{}$								
Power Electronics	CO-1									
	CO-2	$\sqrt{}$								
Python	CO-1									
Programming	CO-2									
Employability &	CO-1									
Skill Development	CO-2	$\sqrt{}$								
BE-I-Digital	CO-1	$\sqrt{}$								

Communication	CO-2											
Program Elective 3	CO-1											
	CO-2											
Program Elective 4	CO-1											
	CO-2			$\sqrt{}$,
Program Elective 5	CO-1								•			
	CO-2	√ -				•				•		
Financial	CO-1	,			•							
Management	CO-2			•			,					
SUBJECT	Course	· ·			PR	OGRAN	и OUT	COMES	(POs)	. •		
	Outcomes								()			
	(COs)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
	,											
Engineering	CO-1											
Mathematics- I	CO-2								•			
Engineering	CO-1											
Physics	CO-2				·							
Engineering	CO-1											
Graphics	CO-2											
Communication	CO-1											
Skills	CO-2											
Energy and	CO-1											
Environment	CO-2											
Engineering												$\sqrt{}$
Basic Civil and	CO-1											
Mechanical	CO-2											
Engineering												
Engineering	CO-1											
Mathematics-II	CO-2											
Engineering	CO-1											
Chemistry	CO-2											
Engineering	CO-1											$\sqrt{}$
Mechanics	CO-2											
Computer	CO-1											
Programming in C	CO-2											
Workshop	CO-1										_	
Practices	CO-2											
Basic Electrical and	CO-1											$\sqrt{}$
Electronics	CO-2						,			,		
Engineering												