

 Zagda Singh Charttable That's (Alagd.)
 A - Block, Thakur Educational Campus,

 THAKUR COLLEGE OF
 Shyamnarayan Thakur Marg, Thakur Village,

 Kandivali (East), Mumbai - 400 101.
 The andivali (East), Mumbai - 400 101.

 (Approved by AICTE, Govt. of Maharashtra & Affiliated to University of Mumbai*)
 Tel: 6730 8000 / 8100 / 8100

 (Accredited Programmes by National Board of Accreditation, New Delni**)
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 **Permaent Affiliated Up Programmes : Computer Engineering * Idectronics & Telecommunication Engineering * Information Technology (wc.f: A12015-16 onwards)

 **It time Accredited UP Programmes : Computer Engineering * Electronics & Telecommunication Engineering * Information Technology * Electronics Engineering * Information Technology * Electro



TCET/FRM/IP-08/10 Revision: B								
Semester Plan								
(Practical / Tutorials / Assignment)								
Semes	ster: V	Course: B.E.(IT)	Batches: LAB 213 B1					
Subjec	tt: Computer Graphics and Virtual Reality	Class: T.E(IT) B	Batch Size: 20					
Labora	tory faculty in charge: Mr. Sandip Bankar	Lab. Assistant /Attendant: Mr. Vinod Mourya						
Sr. No.	TITLES Experiments / Tutorials / Assignment (Planning with use of Technology)	Planned Date	Completion Date	Remarks				
		B1	B1					
1	To draw different graphics objects / graphics primitives using basic graphics commands.	24-07-17						
2	To implement Digital Differential Analyzer line drawing algorithm and draw house using same algorithm.	31-07-17						
3	To implement Bresenham's line drawing algorithm and draw any closed shape using same algorithm.	31-07-17						
	Design/ Deve	lopment Experiments:						
4	To implement midpoint circle drawing algorithm and draw Olympic symbol, concentric circle using same algorithm.	07-08-17						
5	To Implement Area Filling algorithm using 4 connected & 8 connected approach.	14-08-17						
6	To implement Generation of 2D (Bezier) curves and fractals.	04-09-17						
7	To implement 2-D Transformation on any polygon.	04-09-17						
8	To implement the line clipping algorithm (Cohen Sutherland and Liang Barsky Line clipping algorithm) and consider line in all three possible cases.	11-09-17						
9	To implement polygon clipping algorithm. Sutherland Hodgeman Polygon clipping algorithm and Weiler Atherton Polygon clipping algorithm.	18-09-17						
Group Learning Activity:								



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10	Case Study on: Case study of VRML to create & implement models in Virtual Reality.	18-09-17					
11	Project:1. To represent a 3D object using polygon surfaces and performs 3-D transformation2. To implement Computer animation	25-09-17					
12	IEEE Transaction: Towards Pervasive Augmented Reality : context awareness in Augmented Reality	25-09-17					
Bridge courses Objective: Bridging of gaps with respect to prerequisites and industry skills or to carryout research in that particular field. (30 Hrs / Semester / student)							
S. No.	Bridge courses/Technology	Duration (Week/hrs)	Modes of Learning	Recommended Sources			
	Prerequisite course:	2 Weeks / 3 Hrs	Self-				
1.	Matrix calculations in maths		Learning/ Revision	 http://www.tutswing.c om/cplusplus-home 			
	Programming using C++ or Java						
	Advanced course:	06 Weeks / 2 Hrs	Technolo	 https://ocw.mit.edu/co 			
2	Multimedia Systems, Gaming, Animation Mini /Minor Projects Objective: To get han	ds on experience to exe	gy Based learning	 https://ocw.mit.edu/co/ urses/comparative- media-studies- writing/cms-608- game-design-fall- 2010/study-materials/ https://ocw.mit.edu/co/ urses/comparative- media-studies- writing/cms-608- game-design-fall- 2010/study-materials/ https://www.university .youth4work.com/AA G_Academy-of- Animation-and- Gaming/study with respect to student 			
 Mini /Minor Projects Objective: To get hands on experience to execute projects with respect to student choice in the following areas. (30 Hrs / Semester / Student). (Total 120 Hrs) 							
The areas are :							
1 Decembra 2 Interdisciplingers 4 Application							
	1. Research 2. Core 3. Interdisci	ounary 4. Applicatio	on				
Minor project : As per University Scheme							



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Sr. No	Project Title/G	Group Size	С	lass	Type / Project Hours	Modes of Learning	Reference	
07	 This Open(computer g project investigation racecar. Implement ENGINE. 7 is made up Engine Pole Head, Flyw Crank Bell Crank usin OpenGL co graphic pro involves communica between a c server. 	GL graphic olves of a a STEAM The Engine of a Piston, e, Cylinder theel, and a g OpenGL. omputer oject thion client and a	TE IT B		Application / 120 Hrs	Project Based Learning	 <u>https://www.opengl.org/</u> <u>https://learnopengl.com/</u> <u>www.videotutorialsrock.com/</u> <u>https://www.vrs.orguk/virtual-reality/what-is-virtual-reality.html</u> <u>whatis.techtarget.com/Topics/DataCenter//Virtualization</u> <u>http://cg.cs.unibonn.de/en/projects//</u> 	
	Planned	Completed		Planned	Completed		Planned Completed	
No. of Prac.	Basic Exp: 03 Design Base Exp: 06 Group Learning: 02 Bridge Course: 02 Minor Project: 02		No. of Assign.	09		No. of Tutorial		
DOSLNE:			DOSLE (engaged in some other dates):					



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THAKUR COLLEGE OF
ENGLINE COLLEGE OF
(Approved by AlCTE, Govt. of Maharahtra & Affiliated to University of Mumbai*)
(Accredited Programmes by National Board of Accreditation, New Delhi**)
"Permanent Affiliated US Programmes : Computer Engineering "Electronics & Telecommunication Engineering"
"Ist unit Accredited US Programmes : Computer Engineering"



Permanent Affiliated UG Programmes : Computer Engineering • Electronics & Telecommunication Engineering • Information Technology (w.e.f.: A.Y.2015-16 onwards) *1st time Accredited UG Programmes : Computer Engineering • Electronics & Telecommunication Engineering • Information Technology *2nd time Accredited UG Programmes : Computer Engineering • Electronics & Telecommunication Engineering • Information Technology *2nd time Accredited UG Programmes : Computer Engineering • Electronics & Telecommunication Engineering • Information Technology • Electronics Engineering • Java • Electronics • Engineering • Electronics • Telecommunication Engineering • Information Technology

student in the course. Group activity includes: Group presentation, new experiment design, mini projects etc. Note: 1. The practical plan date and completion date shall be in compliance. For any non-compliance reason(s) required to be stated in remark column. 2. Learning objective and outcome shall be clearly stated with each of experiments/ tutorials/ assignments and are required to be mapped at the end of the semester. 3. Entry for DOSLE (engaged on some other date) shall be done with proper mapping to DOSLNE. Mr. Shridhar Kamble Dr. Rajesh Bansode Dr. R. R. Sedamkar Name & Signature of Faculty Signature of HOD Signature of Principal/ Dean (Academics) Date: Date: Date:

Group activities are required to be added with the practical related to course to enhance the learning activity of the