Pokhara University

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| Level: Bachelor | Semester: Spring | Year : 2014 |
| Programme: BE | | Full Marks: 100 |
| Course: Computer Graphics | | Pass Marks: 45 |
| Time : 3hrs. |

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| *Candidates are required to give their answers in their own words as far as practicable.* |
| *The figures in the margin indicate full marks.* |
| Attempt all the questions. |

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|  | 1. Computer graphics makes easier in working computer fields. Why? 2. Explain different Graphics File formats. 3. Explain the process of Polygon clipping Sutherland Hodgeman. | 5  5  5 |
|  | 1. What is flat panel display? Explain the working principles of LCD monitor with figure. 2. Describe the raster scan and vector scan system used in computer graphics with their appropriate system architecture. | 7  8 |
|  | 1. Derive Bresenham's line drawing algorithm for |m| <1. 2. Digitize one octant of a circle by using midpoint circle generation algorithm center at (10, 20) and radius is 10. | 7  8 |
|  | 1. Perform a 45 degree rotation of a line A(8,3) and B(14,10): 2. About the origin. 3. About a fixed point (4,2). 4. Reflect a rectangle A(2,2) B(5,2) C92,4) D(5,4) about a line x=y. | 8  7 |
|  | 1. What are the issue in 3D that makes it more complex than 2D? Derive an equation for 3D translation and reflection. 2. Define projection. Derive an equation for the parallel projection. | 7  8 |
|  | 1. Compare object space method with image space method. Explain scan line algorithm for detecting visible surfaces with suitable figure. 2. What is diffuse light? Derive the equations to calculate the intensity of diffuse reflection. | 8  7 |
|  | Write short notes on**: (Any two)**   1. Z-Buffer algorithm. 2. RGB color model. 3. Open GL. | 2×5 |