Subject Code: H0402/R13

M. Tech –II Semester Regular Examinations, September, 2014
COMPUTER GRAPHICS
(CAD/CAM)

Time: 3 Hours   **Max Marks: 60**

Answer any FIVE questions
All questions carry EQUAL marks
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1. a) What is computer graphics? Explain various application areas of computer graphics.
   b) List out various hardcopy display devices and also comment on their merits and limitations.

2. a) Explain the concept of Bresenham's circle drawing algorithm in detail.
   b) List out the merits and limitations of Bresenham's circle algorithm compared to circle drawing by circle equations.

3. What is antialising? Explain different techniques used in antialiasing.

4. a) Explain Sutherland – Hodgeman algorithm.
   b) Explain about 3D clipping.

5. Explain about the following transformations.
   a) 2D and 3D scaling.
   b) 2D and 3D rotation.
   c) 2D and 3D shearing.

6. a) Explain about Warnock algorithm .
   b) Explain about Painter algorithm.

7. What is shading? Explain about gourand and Phong's shading algorithm.

8. a) Explain about the importance of 2D and 3D transformations in any CAD system.
   b) Explain about Half toning.

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Subject Code: H0507/R13

M. Tech –II Semester Regular Examinations, September, 2014
HUMAN COMPUTER INTERACTION
(Common to CS and CS&E)

Time: 3 Hours   Max Marks: 60

Answer any FIVE questions
All questions carry EQUAL marks
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1. a) Is good design of user interface important? What comprises a good design? Explain benefits of good design.
    b) Discuss in detail why graphics became popular. Write the chronological history of graphical user interfaces.

2. a) Compare and contrast GUI Vs Web design.
    b) Briefly describe about advantages and disadvantages of graphical user interface. Explain the design goals in creating a user interface.

3. a) Discuss how a poor screen design can distract the user and what a user expects in good screen design.
    b) Explain briefly about the human characteristics in the design of business systems.]

4. a) Explain in detail about the following techniques determining requirements. Categorize them as direct or indirect method.
        i) Traditional focus group
        ii) Paper survey or Questionnaire
        iii) Competition analysis
    b) Purpose the guidelines for choosing proper words, sentences, messages to present on the screen.

5. a) Discuss how the screen navigation and flow are required for effective user interface.
    b) Explain Microsoft window types and also their components. What is the coordination by tightly coupled windows?

6. a) Explain about the way in which links aggravate the user. Discuss in detail Web Site Navigation Problems.
    b) In presentation styles what is the role of error messages? Explain about readability guidelines for messages.

7. a) Explain the role of user interface architects in building software tools? Also discuss about the specification methods of software tools.
    b) What is use of interface building tools and explain their features?

8. a) Describe about discrete word recognition and continuous speech recognition in detail.
    b) Explain in detail the construction and functioning of different types of pointing devices.

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Subject Code: H3802/R13

M. Tech –II Semester Regular Examinations, September, 2014
ADVANCED COMPUTER ARCHITECTURE
(Common to DECS, E&CE and DECE)

Time: 3 Hours   **Max Marks: 60**

Answer any FIVE questions
All questions carry EQUAL marks
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1. a) Explain the Changing faces of computing and task of computer designer.
    b) What is the memory addressing methodology of computer design from relevant instruction set? Explain in detail.

2. a) Briefly Explain how operations are performed in the instruction set.
    b) Explain Amdahl's law and elaborate how the speedup is quickly calculated using Amdahl's law.

3. a) Elaborate the classic five stage pipelined RISC processor with a neat diagram.
    b) Explain the Dynamic scheduling in detail.

4. a) How we reduce the cache miss penalty in Memory hierarchy design.
    b) Explain the Dynamic scheduling using Tomasulo's approach.

5. a) Draw and explain the flow of memory hierarchy design, in detail.
    b) Illustrate Instruction Level Parallelism VLIW software approach with suitable example.

6. a) Briefly Explain Systematic shared memory architecture.
    b) Explain the characteristics of DECS, ECE and DECE51.

7. a) Draw and explain the operation of Intel based IA-64 Instruction Level Parallelism processor.
    b) What are the practical issues raised in interconnecting networks?

8. a) Write short notes on Designing of clusters.
    b) Write short notes on distributed shared memory.

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Subject Code: H5801 /R13
M. Tech –II Semester Regular Examinations, September, 2014
COMPUTER NETWORKS
(Computer Science & Engineering)

Time: 3 Hours   Max Marks: 60

Answer any FIVE questions
All questions carry EQUAL marks
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1. a. What is transmission media? In which layer of OSI one can utilize this? Briefly describe Broadband ISDN.
    b. Briefly describe the PPP full frame format for unnumbered mode operation.

2. a. What is framing? Briefly describe the design issues of DLL.
    b. A channel has a bit rate of 4 kbps and a propagation delay of 20 msec. For what range of frame sizes does stop-and-wait give an efficiency of at least 50 percent?

3. a. What is Medium Access Control? Briefly describe the assumptions and principles of Dynamic Channel Allocation in LANs and MANs.
    b. What are collision free protocols? Briefly describe any two collision free protocols.
    c. An IP packet to be transmitted by Ethernet is 60 bytes long, including all its headers. If LLC is not in use, is padding needed in the Ethernet frame, and if so, how many bytes?

4. a. What is load shedding? Are there any circumstances when connection-oriented service will (or at least should) deliver packets out of order? Explain.
    b. Assuming that all routers and hosts are working properly and that all software in both is free of all errors, is there any chance, however small, that a packet will be delivered to the wrong destination?

5. a. What is warning bit? With a neat diagram, briefly describe congestion control in datagram subnets.
    b. What is autonomous system? Briefly describe transparent and non-transparent fragmentation.

6. a. With a neat diagram, briefly describe the TCP header frame format. Describe the process of establishing a TCP Connection.
    b. What is Nagles algorithm? What is silly window syndrome, how it reduces the TCP performance?

7. a. A client sends a 128-byte request to a server located 100 km away over a 1-gigabit optical fiber. What is the efficiency of the line during the remote procedure call?
    b. With a neat diagram, briefly describe the TCP header frame format. Describe the process of establishing a TCP Connection.

8. a. What is DNS? What is Name server? Describe how a resolver looks up a remote name.
    b. What is cryptanalysis? Briefly describe DES and importance of whitening in DES.

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