Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(Emb Sys)EL-I (2016 & Onwards) (Sem.–2)
ADVANCED COMPUTER ARCHITECTURE
Subject Code : MTED-205
Paper ID : [74271]

Time : 3 Hrs.   Max. Marks : 100

INSTRUCTION TO CANDIDATES :
1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q1) a) State Amdahl's Law & give speedup in terms of performance & execution time.   (10)

   b) Explain the impact of time, volume & commodification on the cost of a manufactured component.   10)

Q2) With an example, explain static multiple issue in a VLIW processor.   (20)

Q3) a) What are the various compiler techniques for exposing IPL?   (10)

   b) Explain in detail the hardware support for preserving exception behavior during Speculation.   (10)

Q4) a) Explain different classes of pipeline hazards with examples.   (10)

   b) Explain different benchmarks to measure the computer performance.   (10)

Q5) Explain in detail about hardware and software multithreading techniques.   (20)

Q6) a) Justify the statement that "*Hazard detection & execution control are distributed in dynamic scheduling*".   (10)

   b) How control dependences are taken care in hardware based speculation?   (10)

Q7) Explain in detail the distributed shared memory architecture highlighting the directory based cache coherence protocol. Substantiate your explanation with suitable examples and state diagrams.   (20)

Q8) Write a note on following :

   a) Value predictor.   (10)

   b) Designing of Clusters.   (10)