VRK/KS/14/3250

Faculty of Engineering & Technology
Eighth Semester B.E. (Computer Engg.) Examination
ADVANCED MICROPROCESSORS AND MICROCONTROLLERS
Sections—A & B

Time—Three Hours] [Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

(1) All questions carry marks as indicated.
(2) Answer **THREE** questions from Section A and **THREE** questions from Section B.
(3) Due credit will be given to neatness and adequate dimensions.
(4) Assume suitable data wherever necessary.
(5) Retain the construction lines.

SECTION—A

1. (a) Explain in detail the internal architecture of 8086. 7

   (b) Differentiate between :
   (i) 8085 and 8086
   (ii) 8086 and 80386. 6

2. (a) Explain addressing modes of 8086 with example. 7

   (b) Write 8086 ALP to move string of data words from offset 1234 H to offset 5678 H, the length of string is 10. 6

3. (a) Explain the functional block diagram of 8272 in detail. 7

   (b) Explain 8086 – 8255 – Printer interfacing in detail. 6

4. (a) Explain the block diagram of 8087 and explain its co-operation with 8086. 9

   (b) Write short note on bus arbiter. 4

5. (a) Write an ALP to find volume of a sphere using 8087 instruction. 6

   (b) Explain the following instructions of 8087 :
   (i) FPTAN
   (ii) FLDPI. 4

   (c) Explain various data formats of 8087. 4

SECTION–B

6. (a) Illustrate real and protected mode of 80386 with example. 8

   (b) Explain flag register of 80386. 5

7. (a) Explain the significance of Virtual and Cache memory concept. 6

   (b) Explain architecture of 80486. 8

8. (a) Explain new flag added to pentium. 3

   (b) Explain Pentium memory management in detail. 7

   (c) Give the interrupt sturcture of 8051. 3

9. (a) Explain all SFR's of 8051. 8

   (b) Explain watch dog timer of 8097. 5

10. (a) Explain in brief 8097 architecture. 7

    (b) Write an 8051 ALP to find the greatest data byte in a block. 6