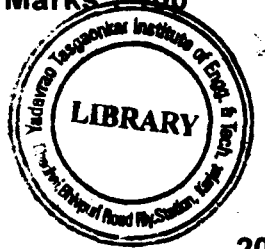


**Date:- 23/5/12**  
**Sem:- II<sup>th</sup>**  
**Branch:- Biomedical**  
**Sub:- Microprocessors**  
 YTIET/LIB/ENG/GI/BM (3 Hours) SEM-II/MP/23

AGJ 1st half (I) 88  
 Con. 3914-12.

23 May 2012  
 GN-6992  
 [Total Marks : 100]



- N.B. :** (1) Question No. 1 is compulsory.  
 (2) Attempt any **four** questions out of remaining **six** questions.  
 (3) Assume **suitable** data, if necessary and state them clearly.  
 (4) **Figures** on right indicate **full** marks.

1. Solve any four :- 20
  - (a) Explain how  $\overline{MEMR}$ ,  $\overline{MEMW}$ ,  $\overline{IOR}$  and  $\overline{IOW}$  control signals are generated in 8085 system.
  - (b) Distinguish between minimum and maximum mode of 8086.
  - (c) Explain string instructions of 8086.
  - (d) What is the role of bus arbiter in multiprocessor.
  - (e) Explain data types supported by 8087.
  
2. (a) Explain interaction between 8086 and 8087 NDP. 10  
 (b) Explain and draw timing diagram for 8086 maximum mode. 10
  
3. Design 8086 microprocessor based system in maximum mode for following 20  
 specifications -
  - (i) CPU with 8MHz clock
  - (ii) 128 kB EPROM using 32 kB
  - (iii) 64 kB RAM using 16 kB
  - (iv) Two 8 bit output port in handshake mode.
 Draw a neat schematic and memory and I/O maps.
  
4. (a) Explain interrupts in 8086 in detail. 10  
 (b) Explain segmentation in 8086 and its advantages. 5  
 (c) Explain banking in case of 8086. 5
  
5. (a) Draw timing diagram for following 8085 instructions :- 10
  - (i) LHL D 8155H
  - (ii) DCR M.
 (b) Explain different modes of 8237 DMA controller. 10
  
6. (a) Explain what is wait state in 8085 microprocessor with an example illustrate its use. 10  
 (b) Write a program to find out area of circle using 8086 and 8087. 10
  
7. (a) Write short note on (any two) :- 10
  - (i) Exceptions of 8087 coprocessor
  - (ii) Addressing modes of 8086
  - (iii) Flag register of 8085.
 (b) What do you mean by multiprocessor system ? Explain in detail the different types of multiprocessor system. 10