

Total No. of Questions : 10]

SEAT No. :

**P2912**

**[4958]-1107**

[Total No. of Pages : 3

**T.E.(Information Technology)**

**OPERATING SYSTEMS**

**(2012 Course) (Semester-II) (314451)(End - Sem)**

*Time :2½Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q 7 or Q8, Q 9 or Q10.*
- 2) *Figures to the right hand indicates full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable data if necessary.*

**Q1) a)** Explain the difference between a monolithic kernel and a microkernel with advantages & disadvantages. **[5]**

b) Describe in detail the functions of OS as a resource manager. **[5]**

OR

**Q2) a)** Explain deadlock prevention techniques with example. **[5]**

b) What is Operating system? Explain any two types of OS in detail. **[5]**

**Q3) a)** Explain thread life cycle **[5]**

b) Explain FCFS scheduling with example **[5]**

OR

**Q4) a)** Draw and explain process state transition diagram. **[5]**

b) What are the requirements for mutual exclusion? **[5]**

**Q5) a)** What are requirements for memory management? **[8]**

b) Consider the following page reference string:

1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6 **[8]**

Calculate the no. of page faults for following page replacement algo.

- i) FIFO
- ii) Optimal
- iii) LRU

OR

**P.T.O.**



**Q9)** a) What is kernel module? Explain the process for inserting a module in the kernel. [8]

b) With neatly labeled diagram explain embedded linux system architecture [10]

OR

**Q10)** Write a short note on any three [18]

a) NACH OS.

b) SOOS

c) Ubuntu EDGE

d) Embedded OS

