PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
PARUL INSTITUTE OF COMPUTER APPLICATION
BCA/IMCA 2017–18Mid Semester Examination

Semester: 4   **Date: 02/04/2018**
Subject Code: 05101252/05301252   **Time: 10:00 -12:00**
Subject Name: Operating System   **Total Marks: 40**

Instructions:
1. Figures to the right indicate full marks.
2. Make suitable assumptions wherever necessary.

Q.1   Answer the following.   **[10]**

(a)   1. What is an operating system?   **[3]**
2. Define turn around time?
3.To access the services of operating system, the interface is provided by the _____

(b)   1.Which module gives control of the CPU to the process selected by the short-term   **[7]**
scheduler?
A. dispatcher
B. interrupt
C. scheduler
D. none of the mentioned
2.Which one of the following cannot be scheduled by the kernel?
A. kernel level thread
B. user level thread
C. process
D. none of the mentioned
3.Which one of the following address are generated by the CPU?
A. Physical Address
B. Logical Address
C. Absolute Address
D. none of the mentioned
4.Program always deals with _____
A. Absolute Address
B. Relative Address
C. Physical Address
D. Logical Address
5.Match the following :

(i) Short –term Scheduler   (a)Controls the degree of multiprogramming
(ii)Medium- term Scheduler   (b)Also known as Dispatcher
(iii)Long – Term Scheduler   (c) Handle the swapped out processes

Q.2   Answer the following.   **[10]**

(a)   1. What are the goals of an Operating system?   **[4]**

2. Differentiate between a program and a process?

(b)   1. List and explain the memory management requirements?   **[6]**

2. Explain dynamic memory partitioning with diagram?

Q.3 Attempt any TWO.   **[10]**

 1   Explain five state transition model with neat diagram.   [5]

 2   Explain FCFS, Priority and Round robin process scheduling algorithm   [5]

 3   Explain the while loop construct in shell script with example   [5]

Q.4 Answer the following.   **[10]**

 (a) Explain page replacement algorithms.(Any two)   [5]

 (b) Describe the following commands (with an example and its output):   [5]
          date, pwd, who, grep, mkdir

                                          OR

 (b) List and explain the functional components of Operating system.   [5]