

Roll No: -----



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program: Btech CSE+TI
Subject (Course): Real Time Operating System Internals
Course Code :CSIB-475
No. of page/s:

Semester – VII
Max. Marks : 100
Duration : 3 Hrs

Instruction: All Questions are Compulsory

Section A

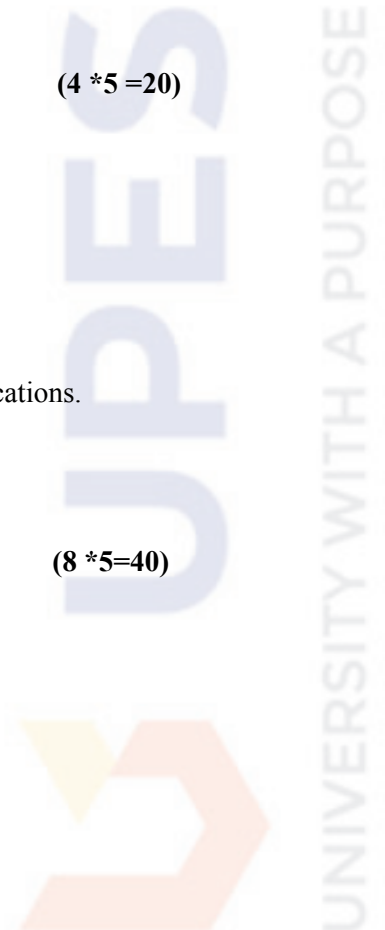
(4 *5 =20)

- 1 What is different metrics use in developing an embedded system?
- 2 What is the role of deferrable server in an embedded system?
- 3 Write a short note on sporadic server.
- 4 What are the parameters used for performance evaluation of server.
- 5 Why priority inversion is required in enhancing performance of some applications.

Section B

(8 *5=40)

- 1 Explain the diagram of didactic C kernel with well labelled diagram.
- 2 Distinguish between periodic and aperiodic task scheduling.
- 3 Explain Graham's notation and how it is useful in classification problem.
- 4 Explain Jackson's algorithm.
- 5 What is the significance of polling server algorithm?



Section C

(20*2=40)

1. Draw well labelled diagram of embedded system design and development life cycle and explain it in detail.
2. Explain the proof of RM optimality.



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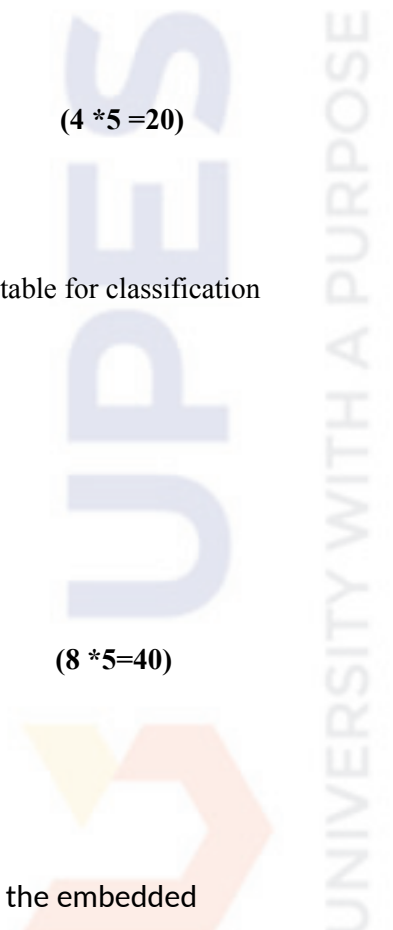
(4 *5 =20)

- 1 Enlist the types of task.
- 2 What is the importance of deferrable server in an embedded system?
- 3 If data is linearly separable and non-separable, which type of network is suitable for classification purpose?
- 4 Write a short note on sporadic server.
- 5 Explain resource constraints.

Section B

(8 *5=40)

- 1 What is the role of stack based priority ceiling protocol.
- 2 Explain Earliest Deadline First Algorithm.
- 3 Explain different processor technology that can be used in designing the embedded system.
- 4 Differentiate between priority inversion and priority inheritance



5 What are the execution criteria of task management?

Section C

(20*2=40)

1. Draw well labelled diagram of functions of real time operating system and explain all the functions in detail.
2. Explain paging concept in detail.

