3063

III Year (T.D.C.) Science Examination, 2018

COMPUTER SCIENCE

Paper–III

(Operating System)

Time Allowed : Three Hours

Maximum Marks : 50

PART - A (खण्ड-अ)   [Marks : 10

Answer all questions (50 words each).

All questions carry equal marks.

सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न का उत्तर पचास शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART - B (खण्ड-ब)   [Marks : 25

Answer *five* questions (250 words each).

Selecting *one* from each unit. All questions carry equal marks.

प्रत्येक इकाई से **एक-एक** प्रश्न चुनते हुए, कुल **पाँच** प्रश्न कीजिए।

प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART - C (खण्ड-स)   [Marks : 15

Answer any *two* questions (300 words each).

All questions carry equal marks.

कोई **दो** प्रश्न कीजिए। प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART - A

1. Answer the following questions :

UNIT - I

(i)   What is an operating system ?

(ii)   Define multiprocessor system.

UNIT - II

(iii)   What do you mean by scheduling ?

(iv)   Write basic concept of CPU scheduling.

UNIT - III

(v)   What is deadlock ?

(vi)   Define semaphores.

UNIT - IV

(vii)   What do you mean by swapping ?

(viii) What is demand paging.

UNIT - V

(ix) What is kernel ?

(x) Define linux file system.

PART - B

UNIT - I

2. Describe about mainframe system.

3. Explain about various system components.

UNIT - II

4. Describe cooperating processes in detail.

5. Discuss the CPU scheduling criteria.

UNIT - III

6. What are semaphores ? How they help us in handling process synchronization problem.

7. Write four necessary conditions in which deadlock situation can arise.

UNIT - IV

8. Describe about thrasing. What should be done to avoid thrasing ?

9. Explain contiguous memory allocaiton methods.

UNIT - V

10. Describe about various modules of a kernel.

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11. Explain the design principles of linux operating system.

PART - C

UNIT - I

12. What are the goals of an operating system ? Describe about various services provided by an operating system.

UNIT - II

13. What is process ? Discuss various process state. Describe the different among short-term, medium term and long term scheduling.

UNIT - III

14. How do you detect deadlock ? Explain recovery from the deadlock when it is detected, if the system has multiple instance resources.

UNIT - IV

15. Briefly describe different types of memory management

techniques.

UNIT - V

16. Write short notes on :

    (a)   Process management in linux

    (b)   Security in linux

    (c)   History of linux