(d) Write a shell script to merge the contents of three files and sort the contents and then display them page by page.

तीन फाइलों को मर्ज करने की शेल स्क्रिप्ट लिखो, फिर सॉर्ट करो, और फिर पेज दर पेज दिखाओ।

(e) Briefly explain memory allocation strategies.

Memory allocation की व्यूहरचना को संक्षेप में समझाओ।

(f) Explain the difference between internal fragmentation and external fragmentation. Which one occurs in paging systems?

Internal fragmentation एवं external fragmentation के बीच का अंतर समझाओ। Paging system में कौनसी होती है?

(g) Explain usage of the following commands:

निम्नलिखित कमांड्स का उपयोग समझाओ:

ls, pwd, try, cat, who, who am I, rm, mkdir, rmdir, touch

(h) Write short notes on:

पर निबंध लिखो:

(i) Grep

(ii) Pipes and Filters

Contd.

(e) What is virtual memory ? What are the advantages of virtual memory ?

Virtual memory क्या है ? Virtual memory के ?

(f) Write a shell script to display the multiplication table of any number.

किसी भी संख्या की गुणनफल सारणी को प्रदर्शित करने के shell script लिखें।

(g) Write a shell script to find LCD (least common divisor) of two numbers.

दो संख्याओं में से दिखाने के लिए shell script लिखें।

(h) Write a shell script to check whether the number is Armstrong or not.

यह जांच Armstrong संख्या है या नहीं यह shell script लिखें।

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3. Answer **any three** of the following questions : 10×3=30

किन्हीं **तीन** प्रश्नों के उत्तर दें :

(a) Define process and thread. What are the advantages of multiprocessing threads in user space ? What are the disadvantages ?

(b) Briefly explain any two non-preemptive scheduling algorithm.

(c) Write a shell script to accept a login name. If not a valid login name displays message "Invalid login name".

Contd.

(k) _____ is a non-preemptive scheduling algorithm. *(Fill in the blank)*

_____ এটা non-preemptive scheduling algorithm. *(খালী ঠাই পূৰণ কৰা)*

(l) _____ command is used to change the access permissions and the special mode flags of file. *(Fill in the blank)*

_____ আদেশ ব্যৱহাৰ কৰি ফাইলৰ access permissions আৰু the special mode flag বোৰ সলনি কৰিব পাৰি। *(খালী ঠাই পূৰণ কৰা)*

2. Define **any four** of the following terms :

2×4=8

যিকোনো চাৰিটা পদৰ সংজ্ঞা লিখা :

(a) Resource abstraction

(b) Multiprogramming

(c) Real time system

(d) Process

(e) Process modes

(f) Thread

(g) System call

(h) Paging

3. Answer **any three** of the following questions :

5×3=15

যিকোনো তিনিটা প্ৰশ্ন উত্তৰ লিখা :

(a) What are different types of operating system ? Give brief introduction of each.

বিভিন্ন প্ৰকাৰৰ অপাৰেটিং চিস্টেমবোৰ কি কি ? প্ৰত্যেকৰে চমু বিৱৰণ দিয়া।

(b) What are the basic functions of an operating system ?

অপাৰেটিং চিস্টেমৰ মৌলিক কামবোৰ কি ?

(c) Give brief description of any two system calls.

যিকোনো দুটা system call ৰ চমু বিৱৰণ দিয়া।

(d) What is shell ? Write the syntax of loops used in shell script.

Shell কি ? Shell script ত ব্যৱহাৰ হোৱা loop বোৰৰ syntax লিখা।

(c) Time sharing operating system allows the user to perform more than one task at a time, each task getting the same amount of time to execute.

(State True or False)

[Bengali text]

Time sharing operating systems [...]

(State True or False)

[Bengali text]

(d) Each process has its own address space.

(State True or False)

[Bengali text]

(e) All the threads in a process share a common address space.

(State True or False)

[Bengali text]

(f) First Come First Serve scheduling in primarily used for interactive systems.

Interactive systems are supported by First Come First Serve scheduling.

(State True or False)

[Bengali text]

(g) Sometimes segmentation and paging are combined to provide a two-dimensional virtual memory.

(State True or False)

[Bengali text]

(h) Degree of multi-programming is less in fixed partitioning system.

(State True or False)

Fixed partitioning systems are multi-programming [...]

[Bengali text]

(i) _____ is a lightweight process.

(Fill in the blank)

[Bengali text]

(j) _____ is a popular method of virtual memory management. (Fill in the blank)

[Bengali text]

OPTION – C

COMPUTER APPLICATION

Paper : CSC-HG-3036/CSC-RC-3016/TCA-RC-3016 /TCA-HG-3016

(Operating Systems)

*Answer **either** in English **or** in Assamese.*

1. Answer **any seven** the following questions as directed : 1×7=7

   তলত দিয়া প্ৰশ্নবোৰৰ *যিকোনো সাতটাৰ* নিৰ্দেশানুযায়ী উত্তৰ লিখা ঃ

   (a) Operating system is an application software. *(State True **or** False)*

   Operating system এটা application software *(শুদ্ধ নে অশুদ্ধ লিখা)*

   (b) _____ is the system call to create a new process in POSIX.

   (Fill in the blank)

   POSIX ত নতুন প্ৰছেচ তৈয়াৰ কৰিবলৈ _____ system call লাগে।

   (খালী ঠাই পূৰণ কৰা)