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## BCA SEM II 21-22

## Question Papers

Total No: of Questions: 6

Duration: 2 Hrs.

## Instructions:

1) All questions are compulsory.
2) Figures to the right indicate maximum marks.
3) Start each new question in a fresh page.
Q. 1

a) $\qquad$ deals with the ascertainment of cost of product or service.
b) A unit of quantity of product, service or time in relation to which costs may be ascertained or expressed as $\qquad$ .
c) $\qquad$ consists of wages paid to labour which convert raw materials into some finished output.
d) $\qquad$ are those materials which can be identified in the product and can be conveniently measured and directly charged to the product.
e) When costing information is set out in the form of a statement, it is called $\qquad$ .
B) Answer the following questions
A) Answer the following questions


## B.C.A. Semester End Examination <br> Cost Accounting <br> B. ${ }^{2}$. Scmester Endexamination

Semester: II
Total No: of pages: 5

Q. 3 A. Prepare a stores ledger account from the following transactions under the FIFO method

## Jan

1 Received 1000 units @ Rs. 1 per unit

10 Received 260 units @Rs.1.5 per unit
20 Issued 700 units
21 Received 400 units @ Rs. 1.15 per unit
22 Received 300 units @ Rs. 1.25 per unit

23 Issued 620 units

24 Issued 240 units

25 Received 500 units @ Rs. 1.10 per unit

26 Issued 380 units

## OR

Q3.B. A. Prepare a stores ledger account from the following transactions under the weighted average method

Feb 1 Opening balance 300 units @ 20 per unit

Feb 5 Purchase 200 units @ 22

Feb 11 Issue 150 units

Feb 22 Purchases 200 units @23

Fich 24 Issuc 150 units

Teb 28 Issuc 200

Shortage 5
Q. 4 A Two components $A$ and $B$ are as follows:

Normal usage
80 units per week each

| Minimum usage | 50 units per week each |
| :--- | :--- |
| Maximum usage | 100 units per week |
| Reorder quantity | A: 600 units |
| Re-order period | B: 800 units |
|  | A: 4 to 6 weeks |
| Maximum lead time for emergency purchases | B: 2 to 4 weeks |
| A: 2 week |  |

B: 4 weeks

Calculate for each component:
(a)Reorder level (b) Minimum level (c) Maximum level (d) Average stock level and (e) Danger level

## OR

Q. 4 B. Explain the material procurement procedure
Q. 5 A. Explain any five incentive plans

OR
Q5 B. What is Labor Turnover? Explain its causes
Q.6.A.Write Short Notes
a) Time booking
b) Importance of cost accounting
Q.6.B. Write Short Notes
$(5 \times 2=10)$
a) Halsey \& Rowan Plan
b) Requirements of good time keeping system

Roll No:
Total No. of Questions: 06

## B.C.A. SEMESTER END EXAMINATION, JUNE 2022 <br> OPERATING SYSTEM CONCEPTS (CAC-106) <br> SEMESTER II

Total Marks: 60
Duration: 2 hours
Instructions: i) All questions are compulsory.
ii) Figures to the right indicate full marks.
Q.1. A. Fill in the blanks with appropriate word(s):

1. $\qquad$ is the only large storage area that the processor can access directly.
2. The $\qquad$ policy determines where in real memory a process piece is to reside.
3. The $\qquad$ lines provide a path for moving data among systems modules.
4. A new process is created by the $\qquad$ system call.
5. A $\qquad$ system is similar to a paging system with swapping where processes reside in secondary memory

## Q.1.B. State whether the following is True or False:

1. Magnetic disk provides storage for both programs and data.
2. As a process executes, it changes its state.
3. Swapping is known as a technique for memory fragmentation.
4. A process is thrashing if it is spending less time paging than executing.
5. Indexed files uses multiple indexes for different key fields.

## Q.2. Answer the following:

A. What is the use of device controller and device driver?
B. What are the ways by which deadlocks could be handled?
C. State the CPU scheduling criteria.

## Q.3. Answer the following:

A. Define thrashing.
B. Explain the following terms:
a) Critical Section
b) Deadlock
C. Write a note on Dispatcher.
Q.4. Answer the following:
A. If the size of physical memory is 64 MB with each partition having 8 MB , mention the degree of multiprogramming.
B. Mention the difference between Asymmetric and Symmetric Multiprocessors.
C. Write a note on Deadlock Prevention.

## Q.5. Answer the following:

A. State the use of the following terms:
a) Address lines
b) Control lines
B. Explain the concept of Proportional frame allocation with example.
C. Write a note on semaphore.
Q.6. Answer the following:
A. Mention any two File Access Rights.
B. Write a short note on the Sequential File Organization.
C. Consider the page references $7,0,1,2,0,3,0,4,2,3,0,3,2$, with 4 frames.

Find the number of page faults using Optimal Page Replacement Algorithm.


Roll No:
Total No. of Questions: 06
Total No: of pages:03

## B.C.A. Semester End Examination <br> Data Structures (CC-201) <br> Semester No: II <br> CBCS

Duration: 2 Hrs.
Maximum Marks: 60

## Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
Q.1.A) Complete the statements by using appropriate word(s)
3. The term Push and Pop is related to $\qquad$
a. Queue
b. Stack
c. Both
d. None
4. An array is a collection of $\qquad$ .
a. different data types scattered throughout memory
b. the same data type scattered throughout memory
c. the same data type placed next to each other in memory
d. different data types placed next to each other in memory
5. Which of the following is a non linear data structure?
a. Array
b. Queue
c. Binary Trees
d. Stacks
6. A queue follows $\qquad$
a. LIFO principle
b. FIFO principle
c. Linear tree
d. Ordered array
7. Insertion and Deletion operation in Queue is known as?
a) Push and Pop
b) Enqueue and Dequeue
c) Insert and Delete
d) None
B) Define the following
8. Data structure
9. Space Complexity
10. Stack
11. Doubly linked list
12. Circular queue
Q.2. A) List and explain any two advantages of linked list
B) Sort the given numbers using ANY ONE of the following techniques

7348962
a. Insertion Sort
b. Selection Sort
c. Bubble Sort
C) Write an algorithm to perform push and pop operation on stack.
Q. 3 A) List any two properties of array
B) Write a note on Binary tree
C) Sort the given numbers using ANY ONE of the following techniques

5237481
a. Quick Sort
b. Heap Sort
c. Shell Sort
Q.4.A) List various types of linked lists.
B) State and briefly explain any two operations on linear list.
C) Demonstrate three types of traversal on given binary tree

Q.5. A) Write an algorithm for adding element at start of linked list.
B) Demonstrate insert and delete operations on a given binary search tree.

a) Insert 2, 9
b) Delete 14,6
C) Explain various terminologies associated with tree data structure.
Q.6. A) Mention any two applications of queue
B) Convert the expression $(A+B / C *(D+E)-F)$ into postfix expression.
C) Explain the working of Queue with an example.

##  <br>  <br> brimeralo II



## Insificithons?





## OIf A. Nill in the bhandis:

a) Hase lon heraderimal momber byatern in
b) Negation of "p if is a prime momion" it
() The symbel low $\mathrm{N}(1)$ gate is
(1) $110=|2,4,6,11| \& 1)=|2,1,5,6|$ |hen $(1) \mid 14$
c) The todal momber of omecomes when in dies in colled in

## IS. Jill in the blankis


b) The nember of dieits in octal member byatem in
c) Inverte of $f(x)=2 x-7$ in
d) $\operatorname{Lec} A=(1,9,1, s)$ amil $11=\{1,5,7 \mid$ 1hen $A \times 11=$ $\qquad$
c) The converse of the statemen "if it it minine. the gean in wel" in
()2| Answer the following questionn
a) If $f(x)-x^{2}-$ In 1 , hlow find $/(x+1)$
b) I Find the lemen independent of $x$ in the expantion ol $(25-1)^{n}$

d) Find inmili valuce for

$$
\begin{align*}
& \text { (i) } \quad p \wedge|,(p \vee q)| \\
& \text { (ii) }(p, q) \cdots(p \vee q) \tag{5}
\end{align*}
$$

## Q3) Answer the following questions

 $\operatorname{Verify}(A \cup B)^{l}=A^{\prime} \cap A^{\prime}$
b) Convert the decimal fraction $(0,43.75) 10$ th binaty fraclon
c) I ind the output from the following circuit diassam:


OR
d) Find the output from the following circuit diagram.


## Q4] Answer the following questions.

a) A function is given as follows:
$f(x)= \begin{cases}3 x+5 & \text { for }-3 \leq x<-1 \\ 2 x+1 & \text { for }-1 \leq x<2 \\ 2-x & \text { for } 2 \leq x \leq 4\end{cases}$
(i) State domain of f
(ii) Find $\mathrm{f}(-1)$ and $\mathrm{f}(3)$.
b) Let $A=\{x \mid x<4, x \in \mathbb{N}\}$. A relation R on the set A is given by
$\mathrm{R}=\{(1,1),(1,2),(2,1),(2,3),(3,2)\}$. Prove that R is symmetric relation but it is neither
If $A=\{a, b, c, d\} \& B=\{b, d, e, f, g\}$ find
(i) $(A \cap B) \times(A-B)$
(ii) $A \times(A-B)$
(iii) $(A-B) \cup(B-A)$
d) If $X=\{A, B, C, D, E, G, H, I, L, M, N, O, R, S, T, Y, Z\}$,

$$
B=\{T, H, E, O, R, Y\} \& C=\{T, H, E, O, R, M, S\} \text { then verify that }
$$

(i) $B-C=\left(B^{C} \cup C\right)^{C}$
(ii) Find $C \cap B$

## Q5] Answer the following questions.

a) Define symmetric, reflexive and transitive relation.
b) Write the truth table for NOR gate and draw its symbol.
c) Find n for the following:
(i) $\quad 4\left({ }^{\left({ }^{2}\right.} \mathrm{P}_{4}\right)={ }^{n} \mathrm{P}_{5}$
(ii) ${ }^{2 n} \mathrm{P}_{3}=60\left({ }^{n} \mathrm{P}_{2}\right)$

## OR

d) 9 cards are selected from a pack of cards. How many selections will contain
(i) Exactly 3 diamonds and 2 clubs
(ii) No diamond card
(iii) At least one diamond card

## Q6] Answer the following questions.

a) If $f(x)=3 x-1 \& g(x)=x^{2}+1$ find $f(g(x))$.
b) Convert (6438) ${ }_{10}$ to its binary form and convert (654) 8 to its decimal equivalent.
c) Prove by mathematical induction that

$$
\begin{equation*}
1+3+6+\cdots+\frac{n(n+1)}{2}=\frac{n(n+1)(n+2)}{6} \tag{5}
\end{equation*}
$$

OR
d) Prove by mathematical induction that $1+4+7+\cdots+(3 n-2)=\frac{n(3 n-1)}{2}$.

Roll.No:
Questions: 3


Duration: 1. Hr.
Maximum Marks: 30
Instructions: 1. Write each question on fresh page.
2. All questions are compulsory.
3. Figure to the right indicates full marks.
Q.1.A Answer following questions ANY-5

10 marks
i. How MIC poses disaster to human health.
ii. Explain the phenomena of green house effect with suitable examples of green house gases.
iii. Explain in short about thermal pollution
iv. What are the differences between the term Developed countries and Developing countries?
v. Explain about any one scheme introduced by Indian Government for children
vi. List any 4 adverse effect that tourism leaves behind on Environment
vii. What is the fear of global warming if temperature rises by $3^{0} \mathrm{C}$ ?
Q.2.A Explain in brief about Industrial accident with suitable case study 5 mks OR
Q.2.A Write a short note on HIV AIDS 5mks
Q.2. B How tourism are degrading the quality of environment. Explain with suitable case study OR

## Q.3.A Write a short note on Air Pollution

Q.3.B Write a short note on Family Welfare programme

Roll No:

Total No. of Questions: 06


Total No: of pages: 02

## B.C.A. SEMESTER END EXAMINATION, JUNE 2022 OPERATING SYSTEM CONCEPTS (CAC-106) <br> SEMESTER II

Duration: $\mathbf{2}$ hours
Total Marks: 60
Instructions: i) All questions are compulsory.
ii) Figures to the right indicate full marks.
Q.1. A. Fill in the blanks with appropriate word(s):

1. $\qquad$ is the only large storage area that the processor can access directly.
2. The $\qquad$ policy determines where in real memory a process piece is to reside.
3. The $\qquad$ lines provide a path for moving data among systems modules.
4. A new process is created by the $\qquad$ system call.
5. A $\qquad$ system is similar to a paging system with swapping where processes reside in secondary memory
Q.1.B. State whether the following is True or False:
6. Magnetic disk provides storage for both programs and data.
7. As a process executes, it changes its state.
8. Swapping is known as a technique for memory fragmentation.
9. A process is thrashing if it is spending less time paging than executing.
10. Indexed files uses multiple indexes for different key fields.

## Q.2. Answer the following:

A. What is the use of device controller and device driver?
B. What are the ways by which deadlocks could be handled?
C. State the CPU scheduling criteria.
Q.3. Answer the following:
A. Define thrashing.
B. Explain the following terms:
b) Deadlock
a) Critical Section
C. Write a note on Dispatcher.
Q.4. Answer the following:
B. Mention the difference between Asymmetric and Symmetric Multiprocessors. multiprogramming.
C. Write a note on Deadlock Prevention.

## Q.5. Answer the following:

A. State the use of the following terms:
a) Address lines
b) Control lines
B. Explain the concept of Proportional frame allocation with example.
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Find the number of page faults using Optimal Page Replacement Algorithm.

Total No: of pages: 02

## B.C.A. SEMESTER END EXAMINATION, JUNE 2022 <br> OPERATING SYSTEM CONCEPTS (CAC-106) <br> SEMESTER II

Duration: 2 hours
Total Marks: 60
Instructions: i) All questions are compulsory.
ii) Figures to the right indicate full marks.
Q.1. A. Fill in the blanks with appropriate word(s):
( $5 \mathrm{x} \mathrm{I}=05$ )

1. $\qquad$ is the only large storage area that the processor can access directly.
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## Q.1.B. State whether the following is True or False:

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B. Ivplain the following teme
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Find the number of page faults using Optimal Page Replacement Algorithm.

Roll No:
Total No. of Questions: 06
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# B.C.A. SEMESTER END EXAMINATION, JUNE 2022 OPERATING SYSTEM CONCEPTS (CAC-106) <br> SEMESTER II 

Duration: 2 hours
Total Marks: 60
Instructions: i) All questions are compulsory.
ii) Figures to the right indicate full marks.

## Q.1. A. Fill in the blanks with appropriate word(s):

1. $\qquad$ is the only large storage area that the processor can access directly.
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## Q.2. Answer the following:

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## FYBCA(CBCS) Semester End Examination, JANUARY 2022 Subject: PROBLEM SOLVING AND PROGRAMMING CONEPTS

Instructions:

1) All questions are compulsory
2) The figures to the right indicate maximum marks allotted to the questions.
3) Write the answers on full scape paper bearing the proper format for student details.
4) Take good quality pictures of each page and make a single pdf.
5) PDF should be uploaded in the classroom with rollno.pdf naming format ex: 301.pdf

* Required

1. Email *

## Candidate Examination Detail

Fill with proper details
2. Roll No. (In figures) *
3. Roll No. (In Words) *

4. Examination *
5. Date *


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        A MIntib the followine
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        Third Eeberation
        Fourth Eeneration
        Fifh Generatios 
        I) Anywer the following in I lise
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                                    H. C A. Semenfei I nd I vamimalion, Jallarary 2022
    



A sficiopocessor chips
1. Yarcuan nibes
C Istegrated cifcuils
D 'Tiansystots
[ExiMmark=6 Martis]
- Whids keyword termanates the loop and passes the costrol to the newt istotuction
afer the loop?
b Whicl header file stores mathematkal functeats?
c Whach file mode allows to read, edit and wate to a file ta C
d Wbich function coberts striges to uppercate?
- What value ts retamed by dis fasction tat add (ins y int y) ?

## Q2. Answer the following

a. List any four features of High Level Languages
c. Draw a Dow shan is used in C programoning with a suiable enumple.

## Q3 Answer the folloving

1. My same uhich of the follounge variable sarnet ase valud or invalid
il myName 1 ib myliame
[2 Marla]
in myName
b Identify the output of the following poseram,
minclude esvilo b>
init trpu:().
void outpuer float),
iat main)
1
Iloat result;
int choice, num,
printf "Prou 1 to calculate alea of circle $5^{\circ}$ ")
prant ('Prete 2 to calculate an ea of square $n^{\prime \prime \prime}$ );
```
prixtf Prese 3 to calculate alea of wheren"%
    print, Enter your cloice: n');
    cmoice= = inut):
    swatz) (cloice) (
    case 1./
        pruef"Enee radius: n")
        xtmome=infol
        TESait = 3.14 * num * num;
        prutef", Avea of sphere=";
        outyut[resuly:
        breac:
)
case2:4
    puref" Emerer side of square: n'):
    nmon}=\mathrm{ input);
    reguit = rum* num
    pricif"Ayea of square=");
    ontequt(reeuly);
    brealc
)
case 3:1
    prix:f"Enter radius:m"):
    sum= inputi);
    rewut =4*(3.14* num + num);
    pritfi"Ares of spbere=");
    output(TEsult);
    verek;
    }
    default
    pritth"urong Inputs");
    }
    getmom 0;
}
int [quag
{
    int number;
    scanf("$d}\mp@subsup{d}{}{6},\mathrm{ dmumbe):
    retum (rumber);
}
woid outar(float number)
{
    prinf("fer', number);
}
```

c Demonstrate the use of nested if-else in C
Q4. Answer the following: [2 Marla]
a. Define varable and constant in C.b. Lis three adiantages of algoritime[3 Mark:c. Name ary fre sting related funtion and demonertate bov tisy are used.[5 Maris:
Q5. Answer the following:
a. Name any fory bsic datanpes in C.[3Marls]b. Show bow comments are wed in $C$.[EMartis]
c. Demonstate the we of user defined function: in C.
Q6. Answer the following:
a. Define bus and debueging.
b. Name the different types of operators in C.
c. Identify ten errore in the given code=include cstadiol:
int masin \{
int n: reversed $=0$, remainder;original;
print
scanti r):
orizinal $=n$
while ( $\mathrm{n}:=0$ )
remainder $=\square 10$;
reversed = reversed * $10 \div$ remainder.
$\mathrm{n}=\mathrm{n}: 10$
3
if (origival = teversed)
priatiteop is a palindrome. ", onginal);
ele
printripoc is not a palindrome", original);
retam n:
\}
6. NAME OF THE PDF SHOULD BE YOUR RO Files submitted:

