[5823]-601

T.Y.B.Sc. (C.S.)

CS-361 : OPERATING SYSTEM-II

(2019 Credit Pattern) (Semester - VI)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:
  1)   *All question are compulsory.*
  2)   *Figures to the right indicate full marks.*

Q1) Attempt any eight of the following.   [8×1=8]

  a)   List any four attributes of files.

  b)   What is starvation?

  c)   List the features of ios. mobile OS?

  d)   What is Access Transparency?

  e)   Define mobile OS?

  f)   Define rational latency?

  g)   Define claim edge?

  h)   Wha is cloud computing?

  i)   Define P2P architecture?

  j)   Define native level programming?

Q2) Attempt any four of the following   [4×2=8]

  a)   Define cluster computing. State the advantages and disadvantages of cluster operating system.

  b)   Differentiate mobile OS and desktop OS.

  c)   Explain disk formatting in disk management.

  d)   What is distributed operating system? List the purpose of distributed operating system"?

  e)   List down the advantages and disadvantages of windows mobile OS?

P.T.O.

Q3) Attempt any two of the following. **[2×4=8]**

a) List down the architectural styles in distributed operating system & explain any one in detail.

b) What is deadlock? Explain different ways of deadlock recovery.

c) List down different file allocation methods explain any one in detail.

Q4) Attempt any two of the following. **[2×4=8]**

a) Differntiate between cluster, grid & cloud computing.

b) Consider the following snap shot of a system with 5 processes P_0, P_1, P_2, P_3, P_4 and resources A, B, C.

Process	Allocation			Max		
	A	B	C	A	B	C
P_0	2	3	2	9	7	5
P_1	4	0	0	5	2	2
P_2	5	0	4	11	0	4
P_3	4	3	3	4	4	4
P_4	2	2	4	6	5	5

Available		
A	B	C
3	3	2

Answer the following using Banker's algorithm

i) What are the contents of matrix need?

ii) Is the system in a safe state? If yes find safe sequence.

c) Write a note on tree structured directories.

Q5) Attempt any one of the following **[1×3=3]**

a) Suppose the request sequence is 176, 79, 34, 60, 92, 11, 41, 114, and initial head position is 50. Calculate total head movements using SSTF disk scheduling algorithm.

b) Write a short note on kernel architecture of mobile OS.

● ● ●

[5823]-602

T.Y.B.Sc. (Computer Science)
CS - 362 : SOFTWARE TESTING
(New CBCS 2019 Pattern) (Semester - VI)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:

1) *All questions are compulsory.*
2) *Figures to the right indicate full marks.*
3) *Assume suitable data if necessary.*

Q1) Attempt any eight of the following.   **[1 × 8 = 8]**

    a) Define software testing.

    b) What is mean by validation?

    c) What is stub?

    d) Write goal of white box testing.

    e) Define regression testing.

    f) List any 2 agile principles.

    g) List dimensions of quality.

    h) Define web application, testing.

    i) List levels of testing.

    j) What is test plan?

Q2) Attempt any four of the following.   **[2 × 4 = 8]**

    a) Write 2 differences between bugs, Faults & Failures.

    b) Write short note on black box testing.

    c) Explain equivalance partitioning.

    d) Explain performance testing.

    e) Write features of agile testing.

Q3) Attempt any two of the following. [2 × 4 = 8]

    a) With the help of diagram explain V-model.

    b) What is test case? Explain with example.

    c) Explain Navigation testing in detail.

Q4) Attempt any two of the following. [2 × 4 = 8]

    a) What is performance testing? Write steps in performance testing.

    b) Differentiate between alpha & beta testing.

    c) What is integration testing? Explain top-down integration.

Q5) Attempt any one of the following. [1 × 3 = 3]

    a) Write a short note on Automated tests.

    b) What is internationalization testing? Explain with types.

✿ ✿ ✿

[5823]-603

T.Y.B.Sc.

COMPUTER SCIENCE

CS-363 : Web Technologies-II

(2019 CBCS Pattern) (Semester - VI)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:

1) All questions are compulsory.

2) Figures to the right indicate full marks.

Q1) Attempt any Eight of the following.   **[8×1=8]**

     a)   Which function is used to remove all global session variables?

     b)   Which information is stored in $_FILES?

     c)   What are the characteristics of XML?

     d)   XML tags are case sensitive. Justify true of false.

     e)   Write the primitive datatypes in JavaScript.

     f)   Define DOM.

     g)   What is the use of XML Http Request object?

     h)   What is Ajax?

     i)   What is codeIgniter?

     j)   Which function is used for page redirection in codeIgniter?

Q2) Attempt any four of the following   **[4×2=8]**

     a)   What is the significance of POST method?

     b)   What is session? How to start the new session?

     c)   Give relationship between XML and PHP.

     d)   Explain Synchronous request to the server in Ajax.

     e)   What is page redirecting? Write down syntax of the function used for page redirection.

Q3) Attempt any two of the following (out of three). [2×4=8]

a) What is XML parser? Explain with its types.

b) What is the scope of variable in JavaScript?

c) What are the advantages and disadvantages of AJAX?

Q4) Attempt any two of the following. (out of three) [2×4=8]

a) Write a JavaScript code to accept username and password validate it with username should not be null and password should be at least 6 digit long.

b) Write a php program to strore current date-time in COOKIE and display last visited on". date-time on the webpage upon reopening of the same page.

c) Create student table as follows student (sno. sname, per). Write Ajax program to select the student name and print the selected student's details.

Q5) Attempt any one of the following (out of two) [1×3=3]

a) Explain use of setcookie () function with its arguments.

b) Explain MVC framework.

● ● ●

[5823] - 604
T.Y.B.Sc.
COMPUTER SCIENCE
CS-364 : Data Analytics
(CBCS 2019 Pattern) (Semester -VI)

Time : 2 Hours]

[Max. Marks : 35

Instructions to the candidates:
1) Figures to the right indicate full marks.
2) All questions are necessary.
3) Neat diagrams must be drawn wherever necessary.

Q1) Attempt any EIGHT of the following :   [8×1=8]

a) Define Data Analytics.

b) Define Tokenization.

c) Define Machine Learning.

d) What is clustering?

e) What is Frequent Itemset?

f) What is data characterization?

g) What is outlier?

h) What is Bag of words?

i) What is Text Analytics?

j) Define Trend Analytics?

Q2) Attempt any FOUR of the following :   [4×2=8]

a) What is confusion matrix?

b) Define support and confidence in association rule mining.

c) Explain any two Machine Learning (ML) Applications.

d) Write a short note on stop words.

e) Define supervise Learning and unsupervise Learning.

P.T.O.

Q3) Attempt any Two of the following : [2×4=8]

    a)   What is prediction? Explain any one regression model in detail.

    b)   Differentiate between Stemming and Lemmatization.

    c)   Describe types of Data Analytics.

Q4) Attempt any TWO of the following : [2×4=8]

    a)   Consider the following transactional database and find out Frequent Itemsets using Apriori algorithm with minimum support count=2

TID	List _ of _ Item_IDs
T_1	I_1, I_2, I_5
T_2	I_2, I_4
T_3	I_2, I_3
T_4	I_1, I_2, I_4
T_5	I_1, I_3
T_6	I_2, I_3
T_7	I_1, I_3
T_8	I_1, I_2, I_3, I_5
T_9	I_1, I_2, I_3

    b)   Which are the challenges in social media analytics?

    c)   Explain Reinforcement learning.

Q5) Attempt any ONE of the following : [1×3=3]

    a)   Write a short note on support vector machine.

    b)   Explain life cycle of Data Analytics.

✰ ✰ ✰

[5823] - 605
T.Y. B.Sc.
COMPUTER SCIENCE
CS - 365 : Object Oriented Programming Using Java - II
(2019 Pattern) (Semester - VI) (CBCS) (Paper - V)

Time : 2 Hours] *[Max. Marks : 35*
Instructions to the candidates:
    1)   **All questions are compulsory.**
    2)   **Figures to the right indicate full marks.**

Q1) Attempt any EIGHT of the following.   **[8×1=8]**

    a)   Define map interface.

    b)   What is use of wait ( )?

    c)   What is use of get connection ( )?

    d)   What is scriplet?

    e)   What is purpose of JSP directives?

    f)   Define spring framework.

    g)   Give the name of JDBC API.

    h)   Define Iterator Interface.

    i)   What is ArrayList?

    j)   Define cookie.

Q2) Attempt any FOUR of the following.   **[4×2=8]**

    a)   How to create thread?

    b)   List JDBC driver.

    c)   Differentiate between set & list interface.

    d)   Write any two methods of HTTP_session.

    e)   What are the applications of spring?

Q3) Attempt any TWO of the following. [2×4=8]

   a) Write a JDBC program to accept details of Book (B_id, B_name, B_cost) from user & display it.

   b) Write a java program in multithreading to display all the alphabets between 'A' to 'Z'. Each alphabet should display after two seconds.

   c) Write a JSP script to check whether given number is perfect or not & display the result in yellow colour.

Q4) Attempt any TWO of the following. [2×4=8]

   a) Write a servlet program to count the number of times a servlet has been invoked [use cookies].

   b) Explain life cycle of thread.

   c) Differentiate between statement & prepared statement interface.

Q5) Attempt any ONE of the following. [1×3=3]

   a) Explain JDBC architecture.

   b) Write a java program to accept 'n' numbers from user, store them into LinkedList collection. Display only odd numbers.

❀　❀　❀

[5823]-606
T.Y.B.Sc. (Computer Science)
CS-366: COMPILER CONSTRUCTION
(CBCS 2019 Pattern) (Semester-VI)

Time : 2 Hours]   *[Max. Marks : 35*

Instructions to the candidates:
1) *Figures to the right indicate full marks.*
2) *All questions are compulsory.*

Q1) Attempt any Eight of the following (out of 10).   **[8×1=8]**

a) What is the use of lookahead pointer.

b) State true or false, "Target code is generated in the analysis phase of the compiler".

c) What is the output of LEX program?

d) Terminals can have synthesized attributes, but not inherited attributes. State true or false.

e) Define operand descriptors.

f) State True or False. The yywrap() lex library function by default always return 1.

g) List the two aspects of compilation.

h) List the different types of conflicts that occur in LR parser.

i) What is handle pruning?

j) List the techniques used in code optimization.

Q2) Attempt any Four of the following (out of 5). [2×4=8]

a) Define Annotated Parse tree. Give an example.

b) List and explain in short any two LEX library function.

c) Calculate FIRST and follow for the following.

S→ a |^| (R)

T→ S, T|S

R→ T

d) Give 2 differences between synthesized and inherited attributes.

e) Compute LEADING and TRAILING symbols of the following grammar.

E → E+T | T

T→ T*F | F

F→ (E) | id

Q3) Attempt any two of the following (out of 3) [2×4=8]

a) Write a RDP parser for the following grammar.

S → aA | SbB

A → aA | bB

B → b

b) Give difference between single pass compiler & multipass compiler.

c) Check whether the given grammar is LL(1) or not.

S → A

A → aA | Ad

B → bBc | f

C → g

Q4) Attempt any Two of the following (out of 3) [2×4=8]

a) Check whether the given grammar is SLR(1) or not.

N → V = E | E

E → V

V → a /∗ E

b) Consider the expression a = b∗(−c) + b∗(−c). Give Triple representation and quadruple representation.

c) Check whether given grammar is operator precedence or not.

S → < L > | a

L → L,S | S

Q5) Attempt any ONE of the following (out of 2) [3×1=3]

a) Write a LEX program to find sum of first n numbers.

b) Construct DAG for the following expressions

- b ∗ (a + c) + (a + c) ∗ d

- i = i + 5

❖❖❖❖

[5823] - 607

T.Y.B.Sc. (Computer Science)
CS-3610 : SOFTWARE TESTING AND TOOLS
(2019 Credit Pattern) (Semester -VI) (Paper-VII)

Time : 2 Hours] *[Max. Marks : 35*
Instructions to the candidates:
  1) All questions are compulsory.
  2) Figures to be right indicate full marks.

Q1) Attempt any EIGHT of the following. (out of ten) **[8×1=8]**

  a) Define test case.

  b) Define static testing.

  c) What is test incident report?

  d) What is test plan?

  e) What is design defect?

  f) McCabe's Cyclomatic complexity defines an lower bound for the number of linearly path through a program. State true of false.

  g) Enlist the two open source automation testing tools.

  h) What is defect?

  i) What is entry criteria?

  j) Write two limitation of manual testing.

Q2) Attempt any FOUR of the following. (out of five) **[4×2=8]**

  a) Define errors with its different types.

  b) Enlist the different types of loop testing.

  c) Write objective of writing test cases.

  d) What is testing defect? List its different types.

  e) Write the name of test automation frameworks.

P.T.O.

Q3) Attempt any TWO of the following. (Out of Three). [2×4=8]

    a)   Define bug and explain bug tracking tools.

    b)   Explain branch coverage testing with its advantages and disadvantages.

    c)   Explain IEEE Std. test summary report with its various parameters.

Q4) Attempt any TWO of the following. (out of three) [2×4=8]

    a)   Write a test case for facebook login functionality of the web page application.

    b)   Consider following code.

        Input (int x, int y)

        {

            int z = ((x+y)/200) * 100;

            If (z>50)

            Printf("PASS");

            Else

            Printf("FAIL");

        }

        Test case 1 : x=20, y = 30, Test case 2: x=100, y=75

        Consider above test cases scenarios and find the percentage of statement coverage.

    c)   Write benefits of automated testing.

Q5) Attempt any ONE of the following. (out of Two). [3×1=3]

    a)   Explain defect life cycle.

    b)   Write selenium installation steps.

☆☆☆