Total No. of Questions: 5]

SEAT No. : ____

P1308

[Total No. of Pages :2

[6055]-401
T.Y. B.Sc. (Computer Science)
CS-361 : OPERATING SYSTEMS-II
(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.***

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

a) What is claim edge?

b) What is request edge?

c) List any two file attributes.

d) List any two Disk performance parameters.

e) Define distributed system.

f) Write any two design goals of distributed systems.

g) What is cluster computer?

h) What is grid computing?

i) What is size scalability in distributed systems?

j) What is kernel?

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

a) What are advantages of windows mobile OS?

b) Write the difference between SCAN & Look disk Scheduling algorithms.

c) Explain in brief sensor network.

d) Write a short note on centralised organisation system architecture.

e) Define.

   i) Seek time

   ii) Rotational latency

P.T.O.

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

a) Consider the given snapshot of the system. A system has 5 processes and 3 types of resources A,B,C.

	Allocation		
	A	B	C
P_0	0	1	0
P_1	2	0	0
P_2	3	0	2
P_3	2	1	1
P_4	0	0	2

Max		
A	B	C
7	5	3
3	2	2
9	0	2
2	2	2
4	3	3

Available		
A	B	C
3	3	2

Answer the following questions using Banker's algorithm

i) What are the contents of need arrary?

ii) Is the system is in the safe state give the safe sequence.

b) Explain any four file operations

c) Write a note on cloud computing system

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

a) Explain the benefits or advantages of distributed systems.

b) Explain any two deadlock prevention strategies.

c) Explain sequential access & direct access methods of files.

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

a) What is total head movement for first-come first-served (FCFS) scheduling for the disk queue with requests for I/O to blocks on cylinders 98, 183, 37, 122, 14, 124, 65, 67 in that order. If the disk head is initially at cylinder 53.

b) Give a comparative study of Android OS and Apple IOS mobile operating systems.

Total No. of Questions : 5]

SEAT No. :

P-1309

[Total No. of Pages : 2

[6055]-402
T.Y. B.Sc. (Semester - VI)
COMPUTER SCIENCE
CS-362 : Software Testing
(2019 Pattern) (CBCS)

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 : **[8 × 1 = 8]**

a) Define the term errors.

b) What is stub?

c) Write a goal of white Box testing.

d) What is test plan?

e) Write two methods of Black Box Testing.

f) Write dimensions of quality.

g) What do you mean by performance Testing?

h) Write a goal of unit testing.

i) Which is a core agile principle?

j) Define the term Regression Testing.

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

a) Write an advantages of white box testing.

b) Explain the working of web application.

c) Explain various forms of acceptance testing.

d) Write features of agile testing.

e) Explain various types of system testing.

P.T.O.

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

a) Explain the difference between Testing and Debugging.

b) What is Cyclomatic complexity and Graph matrix? Explain with example.

c) Explain the process of stress testing with example.

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

a) Define navigation testing. How to test navigation syntax and semantics?

b) Define the term test case. Explain with example test case.

c) Compare verification and validation.

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

a) Explain the various phases of internationalization testing.

b) Difference between Alpha and Beta Testing.

Total No. of Questions : 5]

SEAT No. :

P1310

[Total No. of Pages : 2

[6055]-403
T.Y.B.Sc. (Computer Science)
CS-363 : WEB TECHNOLOGIES - II
(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.***

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

a) Which function is used to print an error message and exit from current code?

b) What is sticky form?

c) XML Parser cannot alter documents or create new documents. Justify True or False.

d) What is DOM?

e) How the variables declared in Javascript?

f) What is JQuery?

g) Give any two applications of AJAX.

h) Which object is Ajax make web page interactive?

i) What is Code Igniter?

j) Which function is used for page redirecting?

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

a) Discuss differences between GET and POST method.

b) Explain any five elements of $_server variable.

c) Explain the concept of session handling with example.

d) Explain the structure of well-formed XML document.

e) Draw and explain AJAX web application module.

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

a) Explain the workflow of MVC Architecture.

b) Which are the fields used in cookies?

c) What is XML parser? Explain it with its types.

P.T.O.

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

a) Write a JavaScript code to display message - 'Exams are near, Prepare well for it" using alert, prompt and confirm boxes. Accept proper input from user and display messages accordingly.

b) Write a php program to add or append in paragraph text and also in the numbered (ordered) list in a given HTML document using jQuery selectors.

c) Write an Ajax program to search Student Name according to the character typed and display list using array.

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

a) Write XML syntax rules.

b) What are Query selectors? Explain in brief.

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Total No. of Questions : 5]

SEAT No. : ____

P-1312

[Total No. of Pages : 2

[6055]-405

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 collection.

b) Give the name of JDBC API.

c) What is interthread communication?

d) What is servlet?

e) How to represent expression in JSP?

f) List modules in spring.

g) Which interface is implemented by hashset class?

h) What is use of get connection ()?

i) Define multithreading.

j) What is session?

P.T.O.

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

a) Differentiate between list and set interface.

b) What is result set interface? List any two fields of it.

c) Write a syntax of doGet ()

d) What are advantages of JSP over servlet?

e) How to create a thread in multithreading?

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

a) Write a java program to accept N integer from user store them into suitable collection and display only even integers.

b) Write a Java program to accept details of teacher (Tid, Tname, Tsubject), store it into database and display it.

c) Write a JSP program to accept user name and greets the user according to time of system.

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

a) Explain life cycle of JSP.

b) Explain synchronization with an example.

c) Write a Java program to update the salary of a given employee (use prepared statement interface). Assume Emp table (Eno, Ename, Esal) is already created.

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

a) What is spring frame work? Explain its advantages.

b) Explain execution process of servlet application.

Total No. of Questions : 5]

SEAT No. : ____

P1313

[Total No. of Pages : 2

[6055]- 406
T.Y. B.Sc. (Computer Science)
CS - 366 : COMPILER CONSTRUCTION
(2019 Pattern) (CBCS) (Semester - VI)

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

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figure to right indicate full marks.***

Q1) Attempt any EIGHT of the following (Out of 10) **[8×1=8]**

a) Define cross - compiler.

b) State the advantages of Boot-strapping.

c) What is sentinels?

d) State the use of function retract( ).

e) Name the types of LR parsers.

f) What does second 'L' stand for LL(1) parser?

g) What is the purpose of augmenting the grammar?

h) Define synthesize attribute.

i) What is basic block?

j) Define DAG.

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

a) Construct the DAG for the following expression.

$b * (a + c) + (a + c) * d$

b) What are the basic task & auxiliary task of a lexical analyzes?

c) Write any two limitations of top down parsing.

d) Define S-attributed grammar and L-attributed grammar.

e) Differentiate between top-down parsing & Bottom-up parsing.

P.T.O.

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

a) Check whether the following grammar is SLR or not.

$S \rightarrow 0A2$

$A \rightarrow 1A1 \mid 1$

b) Write a lex program to find the sum of n numbers.

c) Write recursive descent parser for the following grammar.

$S \rightarrow aSa \mid sb \mid ss \mid b$

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

a) Write the steps of creation of lexical analyzer on lex. Explain the lex library functions associated with lex.

b) Check whether following grammar is LALR (1) or not.

$S \rightarrow A\,a\;A\,b \mid B\,b\;B\,a$

$A \rightarrow \in$

$B \rightarrow \in$

c) For the input expression (2+3) * (3+4) design SDD and draw annotated tree using following grammar.

$L \rightarrow E$

$E \rightarrow E_1 + T \mid T$

$T \rightarrow T_1 * F \mid F$

$F \rightarrow (E) \mid \text{digit}$

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

a) Consider the following operator grammar

$E \rightarrow E + E \mid E * E \mid id$

Construct the operation precedence relation table.

b) Construct triple and indirect triple for the following strings.

$a + b * c + d * e \uparrow f \,\&\, x + b * c$

Total No. of Questions : 5]

SEAT No. :

P-1314

[Total No. Of Pages : 2

[6055]-407
T.Y.B.Sc. (Computer Science)
CS - 3610: Software Testing and Tools
(Semester-VI) (2019 Pattern) (Paper VII) (CBCS)

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 (Out of TEN):** **[8 × 1 = 8]**

a) Define smoke testing.

b) Define code coverage with formula.

c) Enlist any two bug tracking tool.

d) Explain test plan.

e) Enlist any two types of loop testing.

f) Enlist any two objective of writing test cases.

g) What are functional defects?

h) Enlist any two types of defects.

i) What is automation testing?

j) Silk test is most popular testing tool specifically design for regression and functionality testing. State true or false.

Q2) **Attempt any Four of following (out of Five)*:*** **[4 × 2 = 8]**

a) Enlist any two feature of bugzilla.

b) Write any two advantages of branch coverage.

c) What is test summary report?

d) Write any two causes of defect.

e) Write any two limitations of manual testing.

P.T.O

Q3) **Attempt any Two of following (Out of Three):** **[2 × 4 = 8]**

a) What are entry and exit criteria?

b) Explain path coverage testing.

c) Explain design defects with its different types.

Q4) **Attempt any Two of following (Out of Three):** **[2 × 4 = 8]**

a) Write test plan for the functionality of Flipkart login page.

b) Explain winrunner tool.

c) Consider following code-

```
Inpur (int x,int y){
Sub=x-y;
If(sub>0)
Print("Positive")
else
Print("Negative")
}
```

Test case 1: x = 10, y = 03

Test case 2: x = 10, y = 15

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

Q5) **Attempt any One of following (Out of Two):** **[1 × 3 = 3]**

a) Explain severity defect with its types.

b) What are unit testing and load testing.