**[4218] – 306**

| Seat No. | |
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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – VI)
## CS –336 : Object Oriented Software Engineering
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***Instructions*** *: 1)* ***All*** *the questions are* ***compulsory****.*
*2)* ***Neat*** *diagram must be drawn* ***whenever*** *necessary.*
*3) Black figures to the* ***right*** *indicate* ***full*** *marks.*

1. Attempt **all** of the following: **(10×1=10)**

   a) Define the object “Passenger” with possible attributes and operations with visibility.

   b) What is meant by protected visibility ?

   c) Which are the kinds of building blocks of UML ?

   d) Define Active class.

   e) What is meant by Recursive Association ?

   f) Define Multilevel Aggregation.

   g) Define Swim lanes.

   h) What is meant by stereotypes ?

   i) Define link attributes.

   j) What is meant by stubs ?

2. Attempt **any two** of the following : **(2×5=10)**

   a) What do you mean by Relationships ? Explain two different kinds of relationships.

   b) What are components of Deployment diagram ? Explain common uses of Deployment diagram.

   c) Consider an Automatic water level control system, which is used for controlling the water flow. Identify the different states and draw a state chart diagram.

**P.T.O.**

3. Attempt **any two** of the following : **(2×5=10)**

   a) Prepare a class diagram giving attributes and operations for both Stack and Queue implementation using linked list.

   b) What is UML ? Explain different views of UML.

   c) “Does unified process architecture centric”. Justify.

4. Attempt the following : **(1×10=10)**

   A) Indian Bank provides Fixed Deposit (FD) schemes through which people can deposit money for a certain period of time. The bank pays interest for this period and returns money when FD period is over. Interest rate depends upon the period.

   The depositor may choose to renew FD and may get loan against deposits. Consider the above case and draw following diagram :

   i) Use case diagram. **3**

   ii) Sequence diagram. **4**

   B) How Test cases are designed for object oriented software ? **3**

   OR

   B) Draw a collaboration diagram for ATM system. **3**

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**[4218] – 301**

| Seat No. | |
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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – I)
## CS – 331 : Systems Programming and Operating System – I
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***Instructions :*** *1)* ***Neat*** *diagram must be drawn* ***wherever*** *necessary.*
*2) Figures to the* ***right*** *indicates* ***full*** *marks.*
*3)* ***All*** *questions are* ***compulsory****.*

1. Attempt **all** : **(10×1=10)**

a) Explain the term device driver.
b) Define the principal of screen editor.
c) Define the term 'Translator Pass'.
d) Compare and contrast between START and ORIGIN.
e) What is Macro Expansion ? When it occurs ?
f) What is meant by 'Imperative statement' ?
g) "Relocation factor is always a positive value" True/False ? Justify.
h) Define the term Absolute Loader.
i) List the sub-phases of compiler which are related with the hardware of computer system.
j) List the different parts of Macros in Assembly language in order.

2. Attempt **any two** : **(2×5=10)**

a) Explain various states of compilation process in the context of following statement

$A + B * C + (E - F)$

A, B, C are of type int and E, F are of type float.

b) What is editor ? Explain various types of editors.

c) Explain various components of object module with suitable example.

**P.T.O.**

3. Attempt **any two** : **(2×5=10)**

a) For the following sample assembly program show the intermediate code according to intermediate code varient – I and varient – II

```
        START   200
        READ    A
        READ    B
        MOVER   AREG, = '56'
        ADD     AREG, B
        MOVER   BREG,A
        SUB     BREG, A
        MOVEM   BREG, ZERO
        STOP
A       DS      1
B       DS      1
        END
```

b) Explain various data structures used Macro Pre-processor with suitable example.

c) Consider following expressions/code segment

gamma = $m + n * (n + q) \wedge t$;

alpha = $(n + q) * (m - n) \wedge (m + n)$;

Show the entries in triple's table.

4. Attempt either **A** or **B**.

A) a) What is dead code ? Give suitable example. **2**

b) Explain the terms 'public definition' and 'External Reference' in the context of linking. **2**

c) For the following assembly language program show the entries in various data structures. **6**

```
          START   300
          READ    A
          READ    B
RAMA      MOVER   DREG, A
          MOVER   CREG, = '15'
          MULT    DREG, = '21'
          MOVEM   CREG, C
          BC      ANY, AGAIN
          DIV     AREG, C
          LTORG
          MOVER   AREG, = '66'
          ADD     AREG, B
          DIV     AREG, = '15'
JMP1      SUB     AREG, C
JMP2      DIV     AREG, = '51'
          ORIGIN  RAMA + 5
          SUB     AREG, C
          ORIGIN  JMP2 + 1
AGAIN     EQU     JMP1
          PRINT   C
A         DS      1
B         DS      1
C         DS      1
D         DC      '7'
          END
```

B) a) Compare and contrast between compiler and interpreter. **2**

b) "Can web browser be called as system program ?" Comment. **2**

c) What is keyword parameters and positional parameters ? What are the advantages of keyword parameters as compare to positional parameters ? Give suitable example. **6**

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**[4218] – 304**

| Seat No. | |
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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – IV)
## CS : 334 : Web Development and PHP Programming – I
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

1. Attempt **all** of the following : **(1×10=10)**

   a) Give at least two examples of Web Server.

   b) Find the output

```
< ? php
    $ a = array ('apple', 'banana', 'coconut');
    $ b = array-pad ($a, 5, ' ');
    print – r ($b);
?>
```

   c) How to find the number of parameters passed to the function ?

   d) Give purpose of parse-ur !.

   e) What is difference between strcmp () and strcasecmp() ?

   f) What is purpose of clone ?

   g) State the purpose of extends keyword.

   h) Write the purpose of rewind ().

   i) How to check whether a variable is set with a session ?

   j) What is HTTP ?

**P.T.O.**

2. Attempt **any two** of the following : **(2×5=10)**
   a) What is array iterator ? Explain any four array traversing iterator functions.
   b) Explain the following functions with their syntax
      i) ucwords ()
      ii) trim
      iii) strtoupper ()
      iv) ucfirst ()
      v) similar-text().
   c) Write short note on SSL.

3. Attempt **any two** of the following : **(2×5=10)**
   a) Write a PHP program to accept associative array of five expenses (electricity bill, phone bill, petrol bill, property tax, college fees) and their respective amount of two persons. Print the total expenditure of each person.
   b) Write a PHP program to accept the directory name and print the files with extension “java”.
   c) Write a short note of introspection.

4. Attempt either **A** or **B** : **10**
   A) i) Write functions which gives information about file. Explain purpose of each.
      ii) Write a PHP script to accept two strings and check if strings are equal using sticky form.

   B) i) Write a PHP script which accepts sales transaction information (product code, name quantity, rate per unit) for five items display bill in tabular format on the next form.
      ii) Write a note on interface and abstract method.

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**[4218] – 402**

| Seat No. | |
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## T.Y. B.Sc. (Semester – IV) Examination, 2012
## COMPUTER SCIENCE (Paper – II)
## CS : 342-Theoretical Computer Science and Compiler Construction – II
## (2008 Pattern) (New Course)

Time : 2 Hours Max. Marks : 40

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

1. Attempt **all** of the following : **(10×1=10)**

   a) Differentiate between a compiler and an interpreter.

   b) State true or false : symbol table is not required in all phases of compilers.

   c) List LEX library functions.

   d) Draw labelled transition diagram for recognizing octal number e.g. 3570.

   e) State disadvantages of top down parser.

   f) State left factoring rule for CFG.

   g) Define L-attributed grammar.

   h) State two steps to implement SDT's.

   i) Differentiate between a syntax tree and DAG.

   j) State any two transformations of Basic Blocks.

2. Attempt **any two** : **(2×5=10)**

   a) Check whether the following grammar is LL(1) or not.

   $S \rightarrow S\ \#\ |\ aA\ |\ cB$

   $A \rightarrow aA\ |\ c$

   $B \rightarrow cB\ |\ a$

**P.T.O.**

b) Construct the dependency graph for the following attribute grammar and find the value of S.v. Assume that the value of S.u = 3.

| Productions | Semantic Rules |
|---|---|
| $S \rightarrow ABC$ | $B.u = S.u$<br>$A.u = B.v + C.v$<br>$S.v = A.v$ |
| $A \rightarrow \in$ | $A.v = 2 * A.u$ |
| $B \rightarrow \in$ | $B.v = B.u$ |
| $C \rightarrow \in$ | $C.v = 1$ |

c) Write a LEX program to find the area of circle.

3. Attempt **any two** : **(2×5=10)**

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

$S \rightarrow c\ Ad$

$A \rightarrow ab \mid a$

b) Generate DAG for the following basic block

$t_0 := b + c$
$t_1 := t_0 * d$
$a := t_1$
$t_2 := f * a$
$e := t_2$
$t_3 := b + c$
$t_4 := t_3 * e$
$f := t_4$
$t_5 := b + c$
$t_6 := t_5 / d$
$g := t_6$

c) Write steps to construct syntax trees using semantic rules.

4. Attempt the following :

a) Check whether the following grammar is LR(1) or not. **6**

$S \rightarrow Aa \mid b\ Ac$

$A \rightarrow d$

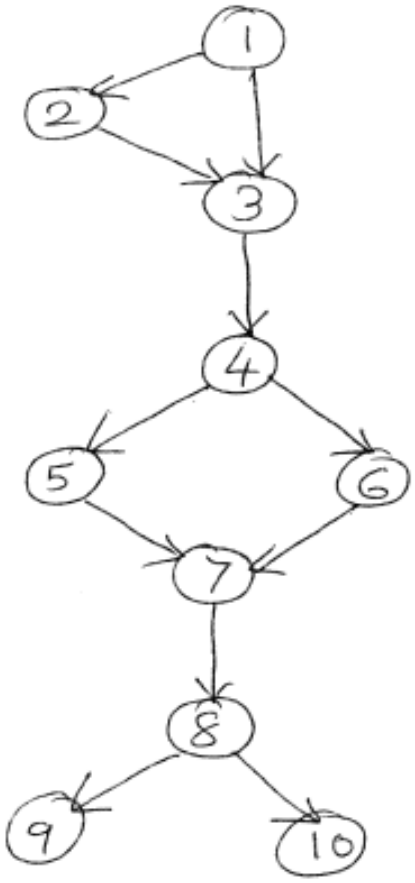
OR

a) i) Construct RDP for the following grammar.

$A \rightarrow OAO \mid A\ 1 \mid AA \mid 1.$ **3**

ii) Differentiate between SLR & LR(1). **3**

b) Construct the DOM tree for the following flow graph. **4**




OR

b) Construct precedence function for the following precedence relation table. **4**

| | id | + | * | $ |
|---|---|---|---|---|
| id | | > | > | > |
| + | < | > | < | > |
| * | < | > | > | > |
| $ | < | < | < | |

**[4218] – 302**

| Seat No. | |
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## T.Y.B.Sc. (Semester – III) Examination, 2012
## Paper – II : COMPUTER SCIENCE
## CS – 332 : Theoretical Computer Science and Compiler Construction – I
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***Instructions*** *:* *1) Black figures to the **right** indicate **full** marks.*
*2) **All** questions carry **equal** marks.*
*3) **Assume** suitable data, if necessary.*
*4) **All** questions are **compulsory**.*

1. Attempt **all** of the following : **(1×10=10)**

   a) Define prefix and list all prefixes of the string “xyz”.

   b) Let A = {a, b} and B = {e, d}. Find A × B.

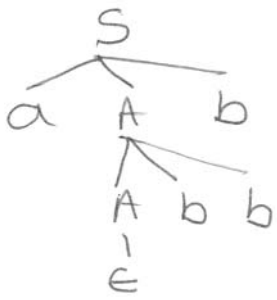
   c) “DFA may have many final states”. Comment.

   d) Construct FA for L = {$\in$}.

   e) Write the smallest string generated by regular expression : b (a*b + ab*)c.

   f) Define ambiguous grammer.

   g) What is the yield of following derivation tree ?




   h) Write a mapping of $\delta$ in PDA.

   i) Differentiate between FA and TM.

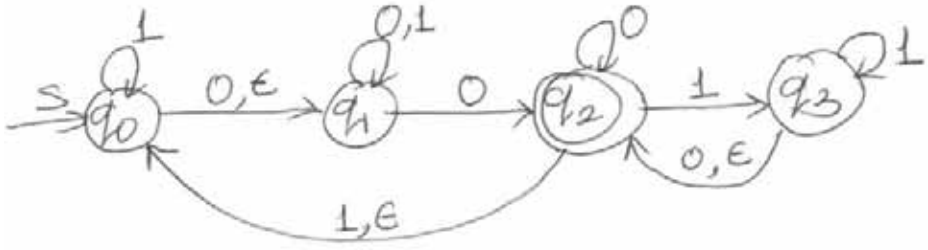
   j) Write tuple for LBA.

**P.T.O.**

2. Attempt **any two** : **(2×5=10)**

   a) Construct DFA for a language over {a, b} which accepts all strings that starts with 'aa' but not having 'aa' as substring in the further string.

   b) Convert following NFA with $\in$ -moves to DFA.




   c) Construct FA for the R.E. 0(10)* + (10)*10.

3. Attempt **any two** : **(2×5=10)**

   a) Construct CFG for $L = L_1 \cup L_2$,

   Where $L_1 = \{a^n b / n \geq 1\}$ and $L_2 = \{0^n 1^n / n \geq 1\}$.

   b) Rewrite following CFG after eliminating unit productions.

   $S \rightarrow aAb/A$

   $A \rightarrow B/b$

   $B \rightarrow \in$

   $D \rightarrow F$

   $F \rightarrow 01/B$

   c) Construct PDA for $L = \{a^n b^m c^k / n, m, k \geq 1, n < m\}$.

4. A) Attempt **any two** : **(2×5=10)**

   a) Construct Mealy machine to accept strings over {a, b} and gives output 'A' if string contains 'aaa', gives output 'B' if string contains 'bba' else gives output 'c'.

   b) Convert following grammar to GNF.

   $S \rightarrow AB$

   $A \rightarrow AA/SA/b$

   $B \rightarrow AB/a$

   c) i) Show that regular languages are closed under union.

   ii) Show that regular languages are closed under concatenation.

   OR

B) Attempt **any two** : **(2×5=10)**

a) Convert CFG to PDA

$S \rightarrow aAb/aBB$

$A \rightarrow a\ Abb/a$

$B \rightarrow aBb/b$

b) Minimize the following DFA

$M = (\{q_0, q_1, q_2, q_3, q_4, q_5\}, \{a, b\}\ \delta, q_0, \{q_3, q_5\})$ where $\delta$ is given by

| $\delta$ | a | b |
|---|---|---|
| $q_0$ | $q_2$ | $q_4$ |
| $q_1$ | $q_0$ | $q_5$ |
| $q_2$ | $q_2$ | $q_4$ |
| $q_3$ | $q_0$ | $q_5$ |
| $q_4$ | $q_1$ | $q_3$ |
| $q_5$ | $q_0$ | $q_5$ |

c) Construct TM for $L = \{a^n\ b^{2n+1} / n \geq 1\}$.

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**[4218] – 303**

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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – III) (New)
## CS-333 : Computer Networks – I
## (2008 Pattern)

Time : 2 Hours | Max. Marks : 40

***N.B. :*** *1)* ***All*** *questions are* ***compulsory****.*
*2) Figures to the* ***right*** *indicate* ***full*** *marks.*
*3) Use of calculators/log tables is* ***allowed****.*

1. Attempt **all** of the following : **(10×1=10)**

a) Give the function of LLC Sublayer.

b) Define pure ALOHA.

c) Apply bit stuffing on the pattern 01001111110111110.

d) Explain half Duplex communication system.

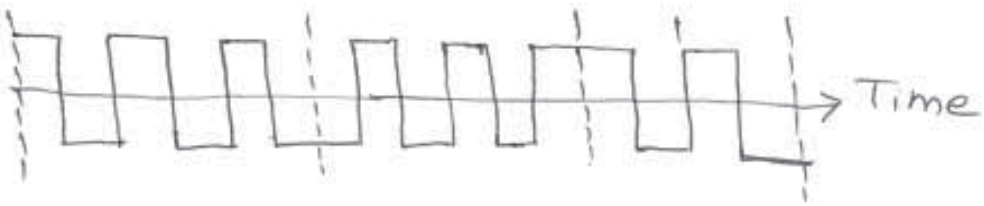
e) Define Line coding.

f) What is socket Address ?

g) Define Mesh topology.

h) Give merits of OSI reference model.

i) Following figure shows differential manchester coding, what is the data stream ?




j) What are dynamic ports ?

**P.T.O.**

2. Attempt **any 2** of the following : **(2×5=10)**

   a) Write a note on FDMA.

   b) How TCP/IP reference model is different from OSI reference model ? Explain.

   c) Explain simplex stop-and-wait protocol.

3. Attempt **any two** of the following : **(2×5=10)**

   a) Calculate maximum bit rate using Shannon's Theorem for a channel having bandwidth 31000 Hz and S/N ratio 20 dB.

   b) Differentiate between HDLC and PPP.

   c) In a particular system the data received was 1011010 using seven bit odd parity Hamming code, determine the correct code.

4. Attempt **any one** of the following : **(1×10=10)**

   I) a) Write a note on 10 Base 5.

      b) Give goals of computer Networks.

   OR

   II) a) Explain polling system used in controlled access.

      b) Explain packet switching in detail.

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**[4218] – 305**

| Seat No. | |
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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – V)
## CS – 335 : Programming in Java – I (New Course)
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***N.B.*** *: 1) Figures to the* ***right*** *indicate* ***full*** *marks.*
*2)* ***All*** *questions are* ***compulsory****.*
*3)* ***All*** *questions carry* ***equal*** *marks.*

1. Attempt **all** of the following : **(1×10=10)**
   a) Why java is called as purely object oriented programming language ?
   b) What will be the output of following statement ? Justify.
   System. out.printIn (35+ 40 + 975 + “Are Integers”);
   c) “A class can be defined as Public/Private/Protected” True/False ? Justify.
   d) “Import statement is not essential in java” True/False ? Justify.
   e) Write the java statements to create the array of 10 Integer objects.
   f) List any 4 methods of File class along with their syntax.
   g) What is scrollpane and what is its use ?
   h) List any 2 restrictions for Applets.
   i) What is the meaning of statement system.out.printIn ?
   j) Give the syntax and use of method get-source( )

2. Attempt **any two** : **(2×5=10)**
   a) Write menu driven program that has following options :
      1) Read Number
      2) Show Number
      3) Show Binary
      4) Show Octal
      5) Show Hexadecimal
      6) Exit

      Handle required exceptions.

**P.T.O.**

b) Write a program to get a file name from command prompt. Check whether a file by given name exist. If file is a regular file then display various details about that file. But if it is a directory then display the number of files in that directory.

c) Explain applet life cycle along with the features of an Applet.

3. Attempt **any two** : **(2×5=10)**

a) Write a swing program using scrollbars to set/accept the values of 2 integers in a range 1 to 100. Use 2 separate scroll bars to set the values of 2 text fields. When scrollbar is updated show the GCD of 2 numbers in 3rd text field.

b) What is runtime polymorphism ? How it is implemented in java ? Give suitable example.

c) What is call by reference ? How call by reference of simple data types implemented in Java ? Give suitable example.

4. Attempt **A** or **B** :

A) a) What is the use of keyword assert ? Give syntax and suitable example. **4**

b) Explain garbage collection in java along with finalize method. **4**

c) How the string are represented by java ? And how to represent dynamic string in java ? **2**

B) a) Explain the meaning of each word on a line “Public static void main (string args[ ])”. **4**

b) Explain following methods of string class in brief along with their syntax. **4**

i) index Of ii) charAt iii) length iv) replace

c) How to create and access the package in java ? **2**

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**[4218] – 305**

| Seat No. | |
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## T.Y. B.Sc. (Semester – III) Examination, 2012
## COMPUTER SCIENCE (Paper – V)
## CS – 335 : Programming in Java – I (New Course)
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***N.B.*** *: 1) Figures to the* ***right*** *indicate* ***full*** *marks.*
*2)* ***All*** *questions are* ***compulsory****.*
*3)* ***All*** *questions carry* ***equal*** *marks.*

1. Attempt **all** of the following : **(1×10=10)**
   a) Why java is called as purely object oriented programming language ?
   b) What will be the output of following statement ? Justify.
   System. out.printIn (35+ 40 + 975 + “Are Integers”);
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**P.T.O.**

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b) Explain following methods of string class in brief along with their syntax. **4**

i) index Of ii) charAt iii) length iv) replace

c) How to create and access the package in java ? **2**

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**[4218] – 401**

**T.Y. B.Sc. (Semester – IV) Examination, 2012**
**COMPUTER SCIENCE (Paper – I)**
**CS – 341 : Systems Programming and Operating Systems – II**
**(2008 Pattern) (New)**

Time : 2 Hours Max. Marks : 40

1. Attempt **all** of the following : **(1×10=10)**

   a) p = fork ( );
   printf (“Hi”);

   This program segment prints Hi two times on screen. Justify.

   b) What factors should be considered while designing OS for handheld system ?

   c) List two benefits of Virtual Machine.

   d) List general methods to pass parameters to operating system.

   e) State two benefits of multi-threading.

   f) Why SJF algorithm can not be implemented at the level of short-term CPU-scheduling ?

   g) What is critical section of a process ?

   h) Define safe sequence.

   i) The page size defined by hardware is typically a power of 2. Justify.

   j) List different ways for handling free-space-list in file system.

**P.T.O.**

2. Attempt **any two** of the following : **(2×5=10)**

   a) Consider the following set of processes, with the length of CPU burst time and arrival time in milliseconds.

| **Process** | **Burst-time** | **Arrival time** |
|---|---|---|
| P1 | 4 | 2 |
| P2 | 6 | 0 |
| P3 | 2 | 1 |

   Illustrate the execution of these processes using Round Robin (RR) CPU scheduling algorithm. (quantum = 3 miliseconds). Calculate average waiting time and average turn around time. Give the contents of gantt chart.

   b) Explain PCB with proper diagram.

   c) What is operating system ? Explain four operating system services.

3. Attempt **any two** of the following. **(2×5=10)**

   a) What is semaphore ? Explain how semaphore can be used to solve the Dining-Philosophers problem of concurrency-control.

   b) Consider a system with four processes P1, P2, P3, P4 and four resource types A, B, C, D with one instance of each type. Resource ownership is as follows

   P1 holds A and wants C

   P2 holds B

   P3 holds D wants B

   P4 holds C wants D

   Is system deadlocked ?

   (Draw resource-allocation graph and wait-for graph)

   c) What is page fault ? Describe the steps for handling page fault with suitable diagram.

4. Attempt **A** or **B** of the following.

A) i) Consider a logical address space of 4 pages of 512 words each, mapped onto a physical memory of 16 frames. **4**

a) How many bits are there in logical address ?

b) How many bits are there in physical address ?

ii) Explain recovery method from deadlock. **4**

iii) Explain Many-to-Many multithreading model. **2**

OR

B) i) Explain Tree-structured directories along with advantages and disadvantages. **4**

ii) Explain multilevel queue scheduling with diagram. **4**

iii) What is tightly coupled system ? State its advantages. **2**

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**[4218] – 403**

| Seat No. | |
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# T.Y.B.Sc. (Semester – IV) Examination, 2012
## COMPUTER SCIENCE (Paper – III)
## CS – 343 : Computer Networks – II
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

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

1. Attempt **all** of the following : **(10×1=10)**
   a) "The UDP is called a connectionless, unreliable transport protocol" . Justify.
   b) State the purpose of TTL and Total Length Field.
   c) What do you mean by infrastructure network in the perspective of BSS ?
   d) Why do we need POP 3 or IMAP 4 for electronic mail ?
   e) Define Gate way.
   f) What is the purpose of RARP ?
   g) Find out class, Netid and Hostid of following : IP address 126.25.21.1
   h) What is stegnography ?
   i) Distinguish between FQDN and PQDN.
   j) Explain socket address.

2. Attempt **any two** of the following : **(2×5=10)**
   a) Explain detail architecture of WWW.
   b) Distinguish between reliable and unreliable services.
   c) For the given IP address 144.10.37.24/28 in some block of address calculate:
      a) Address mask
      b) First address of the block
      c) Last address of the block
      d) Number of addresses in the block.

**P.T.O.**

3. Attempt **any two** of the following : **(2×5=10)**

   a) Distinguish between a repeater and bridge.

   b) Write note on secure DNS.

   c) Explain ARP packet format.

4. Attempt **any one** of the following (I or II) : **(1×10=10)**

   I) a) Draw the structure of IPV4 datagram and explain its fields.

      b) Explain the IEEE 802.11 station types.

   II) a) Enlist physical layer devices. Explain any one of it.

      b) Encrypt the following plain text transposition cipher

      Key : MAGNETIC

      Plain text : transmit this message.

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| Seat No. | |
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# [4218] – 404

## T.Y. B.Sc. (Semester – IV) Examination, 2012
## COMPUTER SCIENCE (Paper – IV)
## CS – 344 : Web Development and PHP Programming – II
## (2008 Pattern)

Time : 2 Hours Total Marks : 40

***Instructions*** *: 1)* ***All*** *questions are* ***compulsory****.*
*2) Black figures to the* ***right*** *indicate* ***full*** *marks.*
*3)* ***All*** *questions carry* ***equal*** *marks.*

1. Attempt **all** of the following : **(10×1=10)**

a) Which database methods permits place holders ?

b) Which PEAR DB methods provide information on a query result object ?

c) What is purpose of imagedestroy () ?

d) Write any two applications of XML.

e) What is vector graphics ?

f) What is DomDocument () ?

g) What is purpose of Ajax engine ?

h) Write any two advantages of web services.

i) 'SMTP protocol is used to send email'. Justify True/False.

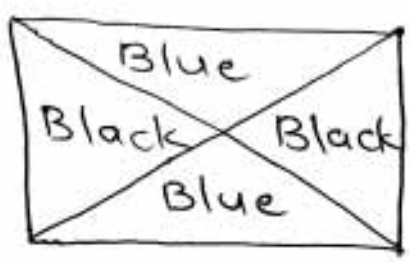
j) What is Ajax ?

**P.T.O.**

2. Attempt **any two** of the following : **(2×5=10)**

   a) Write short note on error handling in PEAR DB.

   b) Write a PHP program to generate PNG image with the specified colors.




   c) Explain rules to write XML elements and attributes.

3. Attempt **any two** of the following : **(2×5=10)**

   a) Consider the following entities and their relationships.
   Game (gno, name, no_of_players, coach_name)
   Players (pno, name, address, clubname)
   Game and players have many to many relationship.
   Write a PHP script which accept game name and display player details who are playing that game.

   b) Which are the internet protocol used for mail handling ? Explain any one in brief.

   c) Write short note on SOAP XML-RPC.

4. Attempt **any one** (**A** or **B**) : **(1×10=10)**

   A) i) Explain advantages and disadvantages of Ajax.

   ii) Write a PHP script to read book.XML and print book details in tabular format using simple XML.

   (Content of book.XML are (bookcode, bookname, author, publisher, price)

   B) i) Explain steps involve in creating web services. **3**

   ii) Explain which functions used to identify the browser. **2**

   iii) Write an Ajax program to print the content of the file myfile.dat.

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# [4218] – 405

| Seat No. | |
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## T.Y.B.Sc. (Semester – IV) Examination, 2012
## COMPUTER SCIENCE (Paper – V)
## CS-345 : Programming in Java – II
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

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

1. Attempt **all** the questions : **(1×10=10)**

a) State any two methods for inter-thread communication.

b) What is the advantage of using Prepared Statement over statement class ?

c) A TreeSet is a sorted collection. How does a TreeSet know how you want the elements sorted ?

d) State the purpose of the manifest file with respect to Java Beans.

e) Write the Java APIs that will draw a rounded rectangle filled with blue color.

f) State the class responsible for selecting database drivers and creating a new database connection.

g) Explain the syntax of getCookies ( ) method.

h) Which class is used to convert between host names and internet addresses ?

i) State any two predefined variables provided by JSP.

j) Name the methods in the life cycle of a servlet.

**P.T.O.**

2. Attempt any **2** : **(2×5=10)**

   a) Describe the steps used in Graphics 2D to load an image and display the image.

   b) Write a Java servlet to display the items in a shipping cart.

   c) Explain with examples any four methods of the LinkedList interface.

3. Attempt **any two** : **(2×5=10)**

   a) What is a servlet ? Differentiate between the doliet ( ) & doPost ( ) methods.

   b) Write a Java program to create a window with a textbox, a label and 2 buttons – 'submit' & 'Exit'. When the user clicks on 'Submit', the program must change the font of only the vowels (a, e, i, o, u) present in the string entered in the textbox. Display the result in the label.

   c) Write the steps to retrieve information from a remote site using URLConnection object.

4. Attempt **any one** (**A** or **B**) : **(1×10=10)**

   A) 1) Explain with the help of examples, the methods of creating a thread. How can thread synchronization be achieved in Java. **4**

      2) Write a Java program to accept 'n' movie names from the user and sort the list in descending order. **4**

      3) What are JSP directives ? **2**

   B) 1) Write short note on Font class and finding information about a font. **4**

      2) Write a Java program that accepts a table name as an argument from the command prompt and displays information about all columns from that table. **4**

      3) What are JSP scripting elements ? Describe each in brief. **2**

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**[4218] – 406**

| Seat No. | |
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## T.Y. B.Sc. (Semester – IV) Examination, 2012
## (Computer Science) (Paper – VI)
## CS – 346 : BUSINESS APPLICATIONS
## (2008 Pattern)

Time : 2 Hours Max. Marks : 40

***Instructions** : 1) **Neat** diagrams must be drawn **whenever** necessary.*
*2) Black figures to the **right** indicate **full** marks.*
*3) **All** questions are **compulsory**.*

1. Attempt **all** of the following : **(1×10=10)**
   a) What is globalization ?
   b) What is purpose of recruitment ?
   c) Give any 2 uses of ATM.
   d) Write the features of Quotation.
   e) Define EOQ.
   f) State need of Biometrics.
   g) What is Indirect Material ?
   h) Define sales analysis.
   i) Define Quality.
   j) What is the use of market segment ?

2. Attempt **any two** of the following : **(2×5=10)**
   a) "Training and Development is a source of competitive advantages' Justify.
   b) What is Sales Budget ? Explain need of sales budgeting.
   c) What is ERP ? Explain the importance of ERP.

3. Attempt **any two** of the following : **(2×5=10)**
   a) Write a short note on MRP-I.
   b) What is e-Banking ? Give benefits of e-Banking.
   c) Explain the Modern Methods of Employee Appraisal.

**P.T.O.**

4. Attempt the following :

a) Pest control services is a firm that provides pest control services for different types of house holds / organisation etc. They use their own planted products for treatment against different types of pests. Of late its been found that lots of customer orders for pest treatment is pending, due to the non-availability of treatment products. When checked with inventory, the cause was found to be the low quantity production of treatment products ; which in turn was due to the non-availability of raw materials, at the right time for production. Suggest suitable business process to model the above situation and ensure a smooth production process. To specify a business process :

1) Suggest main process using any diagram. **2**

2) Suggest at least 3 input design document in detail. **3**

3) Suggest at least 2 report layouts in detail. **2**

b) Distinguish between Direct and Indirect Material. **3**

OR

b) Explain any 3 activities of supply chain management. **3**

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