



B) Fill in the blanks. 7

- 1) The fifth generation of computer was characterized by _____
- 2) CPU is the _____ of the computer.
- 3) ENIAC stands for _____
- 4) URL stands for _____
- 5) Number of pixels on the screen is its _____
- 6) Data (information) stored in computers called as _____
- 7) A Base of decimal number is _____

2. Write answer of the following questions (**any two**) :

- 1) What is computer ? Explain the different types of computer. 7
- 2) Define the term primary memory. Explain its various types in detail. 7
- 3) What is printer ? Explain printing mechanism of laser printer. 7

3. Write answer of the following questions (**any two**) :

- 1) Define operating system. Explain multiprogramming and multiprocessing system. 7
- 2) Define assembly language. Explain advantages and limitations of assembly language. 7
- 3) What are pointing device ? Explain commonly used pointing device in GUI application in detail. 7

4. Write answer of the following question :

- 1) What is computer security ? Explain its types. 7
- 2) Carry out following conversion (**any two**) : 7
 - 1) $(60)_{10} = (?)_2$
 - 2) $(1011101.0101)_2 = (?)_{10}$
 - 3) $(62.54)_8 = (?)_{10}$.



5. 1) Define the term computer network. Explain different types of computer network. **7**
 - 2) What is computer virus ? Explain the different types of computer viruses in detail. **7**
 6. 1) Explain the basic organization of computer in detail. **7**
 - 2) Define high level language. Explain advantages and limitations of high level language. **7**
 7. Write short note on (**any two**) : **14**
 - 1) Lightpen and Joystick.
 - 2) Fourth generation.
 - 3) Hard disk.
-



Seat No.	
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**B.C.A. – I (Semester – I) (Old CGPA) Examination, 2016
PROCEDURAL PROGRAMMING THROUGH ‘C’**

Time : 2½ Hours

Total Marks : 70

Instructions: 1) Q. 1 and Q. 7 are compulsory.
2) Attempt **any two** questions from Q. 2 to Q. 4.
3) Attempt **any one** question from Q. 5 to Q. 6.

1. A) Choose correct alternatives : 7
- 1) _____ is statement terminator character in ‘C’ language.
a) # b) } c) ; d) :
 - 2) _____ operator returns memory address of operand.
a) sizeof b) & c) && d) *
 - 3) Runtime memory allocation is also called as _____ memory allocation.
a) Static b) Dynamic c) Compile time d) None of these
 - 4) gets() function belongs to _____ header file.
a) stdio.h b) conio.h c) string.h d) math.h
 - 5) All the members of _____ are stored from common memory location.
a) structure b) union c) protected d) static
 - 6) Using concept of _____, we can store data permanently onto hard disk.
a) Variable b) Pointer c) Array d) File
 - 7) _____ is invalid identifier in ‘C’ language.
a) Student_ b) _college c) if d) uni_iversity
- B) State whether **true** or **false** : 4
- 1) char data type is an integral data type.
 - 2) Single ‘C’ program may contain multiple main() functions.
 - 3) strcpy(S1, S2) copies the data of ‘S2’ to ‘S1’.
 - 4) do-while is an exit control loop.
- C) Fill in the blanks : 3
- 1) _____ variable stores multiple values of same data type only.
 - 2) _____ function is used to release the allocated dynamic memory.
 - 3) Preprocessor directive starts with _____ character.



2. Attempt **any two** of the followings : 14
- A) What is File ? Explain all file opening modes in detail.
 - B) Write a program that checks entered number is Armstrong or not using recursion.
 - C) What is Data Type ? Explain inbuilt data type in detail.
3. Attempt **any two** of the followings : 14
- A) Write a program that copies the content of one file into another.
 - B) What is Array ? Explain all type of array in detail.
 - C) Write a program that check entered number is Prime or not using pointer.
4. Attempt **any two** of the followings : 14
- A) Write a program that finds maximum and minimum number between two dimensional array having order 3×4 .
 - B) What is Loop ? Explain all entry controlled loop with example.
 - C) Write a program that prints following pattern : (Use 'for' loop)
A B C D E
A B C D
A B C
A B
A
5. A) What is structure and union ? Write a program that demonstrate the difference between structure and union. 7
- B) Write a menu driven program that finds addition, subtraction, multiplication and division of two numbers. 7
6. A) Explain pass by value and pass by pointer concept with example. 7
- B) Write a program that checks whether entered string is palindrome or not. 7
7. Write short note on followings (**any two**) : 14
- 1) Algorithm
 - 2) Bitwise operator
 - 3) malloc() and calloc().
-



- 6) The statement which is prepared as on the date of accounting year ending and shows the financial position of the business is called
- A) Profit and Loss Account
 - B) Trading Account
 - C) Balance Sheet
 - D) Ledger Accounts
- 7) Amount invested in business by the owner or partner is known as
- A) Capital
 - B) Investment
 - C) Loans
 - D) Assets

B) Fill in the blanks :

7

- 1) Capital A/c is usually appears on the _____ side of the Balance Sheet.
- 2) _____ is an explanation of the Journal entrees passed.
- 3) The amount which is not recoverable from the customers is known as _____
- 4) Land and Building Account is the type of _____ A/c.
- 5) Goodwill is an intangible _____.
- 6) Debtors Accounts usually shows _____ balance.
- 7) Wages paid for installation of machinery is debited to _____ A/c.

2. Write short notes on **any two** :

14

- A) Methods of Depreciation.
- B) Need for Accounting.
- C) Bank Reconciliation Statement.

3. Journalise the following transactions in the books of Pandurang Trading Company.

14

- 01-09-2015 Goods purchased Rs. 10,000 on cash.
- 02-09-2015 Wages paid to worker Rs. 200.
- 05-09-2015 Goods sold to Tukaram for Rs. 2,000 on credit.
- 07-09-2015 Cash received from Tukaram Rs. 1,000.
- 12-09-2015 Cash sales are made Rs. 5,000.
- 20-09-2015 Credit purchases from Namdeo worth Rs. 15,000.
- 28-09-2015 Rs. 3,000 paid to Namdeo by cheque.



4. From the following information, prepare Stores Ledger Account using FIFO Method. **14**

Date	Particulars	Rate (Rs.)	Quantity (Units)
2 nd January 2015	Opening Stock	11	3000
3 rd January 2015	Purchases	12	5000
4 th January 2015	Issued	–	4000
8 th January 2015	Purchases	13	7000
10 th January 2015	Issued	–	5000
11 th January 2015	Issued	–	3500
20 th January 2015	Purchased	14	6000
30 th January 2015	Issued	–	700

5. A) Explain the merits and demerits of FIFO and LIFO Method. **7**

B) Give format of Company Balance Sheet under Company law. **7**

6. ABC Traders purchased machinery of Rs. 1,00,000 on 1-04-2011. They charges depreciation @ 10% p.a. using original cost method. Its books of accounts are closed on 31st March every year. Show the Machinery A/c and Depreciation A/c for the year ending 2012, 2013 and 2014. **14**

7. From the following Trial Balance of Jay Bhavani Industries, prepare Trading, Profit and Loss A/c for the year ended 31st March 2014 and Balance Sheet as on that date. Closing Stock is valued at Rs. 1,28,000. **14**

Trial Balance as on 31st March 2014

Particulars	Debit	Credit
Capital	–	2,84,000
Creditors	–	1,00,000
Sales	–	3,36,000
Commission received	–	8,000
Bills payable	–	28,000
Bank overdraft	–	9,600



General expenses	8,000	
Drawings	48,000	—
Building	1,40,000	—
Machinery	40,000	—
Stock on 1-04-2013	88,000	—
Power	12,400	—
Taxes and Insurance	10,800	—
Wages	56,000	—
Debtors	88,000	—
Bad Debts	6,800	—
Purchases	2,08,000	—
Vehicles	40,000	—
Cash	17,200	—
Packing Charges	2,400	—
Total	7,65,600	7,65,600



Seat No.	
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**B.C.A. – I (Semester – I) (CGPA Pattern) Examination, 2016
BUSINESS COMMUNICATION (Old)**

Time : 2 Hours 30 Minutes

Max. Marks : 70

- N.B. :** 1) Q.No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q.No. 2, 3 and 4.
3) Attempt **any one** question from Q.No. 5 and Q.No. 6.

1. A) Rewrite the following questions by choosing the correct alternative. 10
- 1) The word communication came from _____ Language.
a) German b) French c) Latin d) Sanskrit
 - 2) A status block in communication shows _____ barrier.
a) Physical b) Mental
c) Socio-Psychological d) Semantic
 - 3) Principals of Communication are called
a) 7 C's b) 5 C's c) 3 C's d) 9 C's
 - 4) Message has a
a) context b) medium c) feedback d) clarity
 - 5) _____ communication means communication with other organizations.
a) Internal b) External c) Formal d) Vertical
 - 6) Letters sent to introduce new schemes and plans are called _____ letters.
a) Sales b) Collection c) Credit d) Application
 - 7) If the information flows from top to bottom level in the organization is call _____ communication.
a) Upward b) Downward c) Horizontal d) Consensus
 - 8) Reports are divided in main _____ categories.
a) two b) three c) four d) one



- 9) _____ is written in future tense.
a) Memo b) Notice c) Circular d) Report
- 10) _____ is given when we pause in speech.
a) Comma b) Full stop c) Colon d) Semi colon

B) Write whether the following statements are **true** or **false**. **4**

- 1) Non verbal communication is not important.
- 2) Seminars are useful for learning and sharing experiences.
- 3) Communication within the organization is called outward communication.
- 4) Enclosure is not necessary for the by hand application.

2. Write the answer of the following question (**any two**) : **14**

- 1) Write the elements of communication.
- 2) Explain grapevine communication.
- 3) Explain socio-psychological barriers.

3. Write the answer of the following question (**any two**) : **14**

- 1) What are the types of reports ?
- 2) Write any four objectives of communication.
- 3) Write principles of communication.

4. Write the answer of the following question (**any two**) : **14**

- 1) What is the process of communication ?
- 2) Prepare your bio-data for the post of a primary teacher.
- 3) Write types of meetings.

5. Write the answer of the following question : **14**

- 1) Write an application letter to The Manager, Alpha Marketing Ltd. 24 B.T. road, Hyderabad for the post of a Sales Manager.
- 2) What is communication ? Explain the downward communication.



6. Write the answer of the following question : **14**

- 1) Explain the modern office communications.
- 2) Write a letter of complaint to the Samsung care, Shivajinagar, Pune regarding the clarity of picture about your new LED T.V.

7. Write short notes of the following question (**any two**) :

14

- 1) Downward communication.
 - 2) Education and Training.
 - 3) Write the parts of business letter.
 - 4) Grapevine.
-



Seat No.	
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B.C.A. – I (Semester – I) (CGPA Old) Examination, 2016
MATHEMATICS
Discrete Mathematics

Time : 2½ Hours

Max. Marks : 70

- N. B. :** 1) Question No. 1 and question No. 7 are **compulsory**.
2) Attempt **any two** questions from Que. No. 2 to Que. No. 4.
3) Attempt **any one** question from Que. No. 5 to Que. No. 6.
4) **Use of scientific calculator is allowed.**

1. A) Choose the correct alternative :

7

- i) Let $A = \{x/x \in \mathbb{N} \text{ and } 4 \leq x < 11\}$ then cardinality of set A is _____
a) 11 b) 8 c) 7 d) ∞
- ii) If all the elements in the matrix of relation R are zero then relation R is _____ relation.
a) void b) universal c) equivalence d) zero
- iii) The conditional statement $q \rightarrow p$ is called as _____ form of conditional statement $p \rightarrow q$.
a) converse b) inverse
c) contrapositive d) negation
- iv) Let A is any subset of the set U then $A \cup A' =$ _____
a) A b) A' c) empty set d) U
- v) A function $f : A \rightarrow B$ is said to be _____ if $f(a) = f(b)$ implies that $a = b$, where $a, b \in A$.
a) surjective b) injective
c) bijective d) invertible
- vi) Which of the following is not a statement ?
a) Sham is a honest boy b) $3 + 4 = 6$
c) A square has 4 sides d) $x < 4$
- vii) Let * be a binary operation defined on the set A. Let $a, b, e \in A$. If $a * b = b * a = e$ then b is called as _____ of a. Where 'e' is identity element.
a) identity element b) inverse
c) potential d) none of these

P.T.O.



B) Fill in the blanks : 4

- i) If $A = \{a, b, c\}$ and $B = \{p, q, r\}$ then $B \times A =$ _____
- ii) The statement $p \wedge q$ is true if and only if both the statements p and q are _____
- iii) If $f(x) = (x - 3)(x + 2)$ then $f(4) =$ _____
- iv) Two non zero integers a and b are called as relatively prime integers if their g.c.d. is _____

C) State whether **True** or **False** : 3

- i) If aRb implies that bRa , then relation R is called as antisymmetric relation defined on set A . Where $a, b \in A$.
- ii) Let 'e' be the identity element w.r.t. binary operation $*$. Let $a * b = b * a = e$, then 'b' is called as inverse of 'a'.
- iii) $|A \cup B| = |A| + |B| - |A \cap B|$.

2. Attempt **any two** of the following : 14

A) Determine whether the following statement is tautology or contradiction or neither. $[(p \rightarrow \sim q) \wedge (\sim r \vee q)] \rightarrow \sim p$.

B) Let $U = \{a, b, c, e, f, g, h, i, j, k, m, n\}$ be the universal set. Let $A = \{a, c, e, g, h, k\}$ and $B = \{b, c, f, g, i, j, m, n\}$ be any two subsets of U then write the following sets.

- i) A' ii) B' iii) $A - B$ iv) $B - A$
- v) $A \cup B$ vi) $A \cap B$ vii) $(A \cap B) \cup A$.

C) State Fermat's theorem. Hence find the remainder when 8^{398} is divided by 13.

3. Attempt **any two** of the following : 14

A) Let $f : R \rightarrow R$ be a function defined by $f(x) = \frac{4x - 3}{2}$; for all $x \in R$. Show that function 'f' is bijective.

B) How many integers between 1 to 999 are divisible either by 3 or by 5. Hence find the integers between 1 to 999 which are neither divisible by 3 nor 5.

C) Construct the switching circuits for the following Boolean expression.

- i) $(x \vee y') \wedge (x' \vee y \vee z') \wedge [(x \wedge y) \vee z']$
- ii) $(x \wedge y \wedge z') \vee (x' \wedge y \wedge z')$.



4. Attempt **any two** of the following : 14

A) Show that any two equivalence classes are either disjoint or identical.

B) By using principle of mathematical induction, prove that

$$1 + 2 + 3 + 4 + \dots + n = \frac{n(n + 1)}{2}, \text{ for all } n \geq 1.$$

C) Define the following terms :

i) Injective function.

ii) Surjective function.

iii) Equivalence relation.

5. A) Test the validity of the following argument by using truth table.

$$[\sim (p \rightarrow q) \wedge \sim (q \rightarrow r)] \rightarrow \sim (p \rightarrow r). \quad 7$$

B) Let $A = \{p, q, r\}$. Let R be the relation defined on the set A given by $R = \{(p, p), (p, r), (q, p), (r, q), (r, r)\}$. Find transitive closure of relation R by using Warshall's algorithm. 7

6. A) Show the integers 41 and 29 are relatively prime. Hence express their g.c.d. in the form $41m + 29n$ (i.e. find the values of m and n). 7

B) Let A, B and C be any finite sets. Then prove that

$$|A \cup B \cup C| = |A| + |B| + |C| - |A \cap B| - |A \cap C| - |B \cap C| + |A \cap B \cap C|. \quad 7$$

7. Attempt **any two** of the following : 14

A) Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$. Let $A = \{1, 2, 4, 5, 9\}$ and $B = \{1, 3, 4, 8, 10\}$ be two subsets of U . Then show that $(A \cup B)' = A' \cap B'$.

B) Let $A = \{a, b, c, d\}$. Let R be the relation defined on the set A given by $R = \{(a, a), (a, c), (b, a), (b, b), (c, a), (c, d), (c, c), (d, a), (d, c)\}$. then,

i) Write matrix for relation R .

ii) Draw digraph of relation R .

iii) Also write in-degree and out-degree of each element of the set A .

C) Show that

i) $p \leftrightarrow q \equiv \sim (p \wedge \sim q) \wedge \sim (q \wedge \sim p)$

ii) $\sim (p \wedge q) \equiv \sim p \vee \sim q$.



- 7) Which of the following is used to make an abstract class ?
- a) Declaring it abstract using static keyword.
 - b) Declaring it abstract using virtual keyword.
 - c) Making at least one member function a virtual function.
 - d) Making at least one member function as pure virtual function.
- 8) _____ contains function prototype for the standard input and standard output functions.
- a) iostream.h b) iomanip.h c) string.h d) math.h
- 9) Which of the following statements is correct ?
- a) Base class pointer cannot point to derived class
 - b) Derived class pointer cannot point to base class
 - c) Pointer to derived class cannot be created
 - d) Pointer to base class cannot be created
- 10) _____ function can have access to only other static members declared in the same class.
- a) friend b) inline c) virtual d) static

b) State **True** or **False** :

4

- 1) A virtual function can not be a friend of another class.
- 2) '<<' is called insertion operator.
- 3) The static member variables must be defined outside the class.
- 4) A reference variable must be initialized at the time of declaration.

2. Write the answer of the following questions (**any two**) :

14

- a) Explain the basic concepts of Object Oriented Programming Language.
- b) How run time polymorphism is achieved in C++ ? Explain with a program.
- c) Explain with example the uses of scope resolution operator.

3. Write the answer of the following questions (**any two**) :

14

- a) Explain with example array of objects.
- b) Explain control structures in C++.
- c) Write a program to find out area of circle, triangle, rectangle using function overloading.



4. Write the answer of the following questions (**any two**) : **14**
- a) Write a program to show the use of default argument in a function.
 - b) What is constructor ? Explain parameterized constructor with example.
 - c) What is operator overloading ? State the rules for overloading operators.
5. a) Write a program for multilevel inheritance. **7**
- b) Explain the functions for manipulation of file pointers. **7**
6. a) Write a program for swapping of two numbers using class. **7**
- b) Differentiate between POP and OOP. **7**
7. Write short note on (**any two**) : **14**
- a) get() and put() function in file handling.
 - b) pure virtual function.
 - c) pointers to object.
-



- B) Fill in the blanks : 7
- 1) In HTML there are _____ heading tags.
 - 2) CSS stands for _____
 - 3) What is the output of this expression ? $x = 2 + "2"$; `document.write(x)`;
 - 4) XML stands for _____
 - 5) The _____ *tag* was used to designate the default font-family, font-size, and color for all text within a document.
 - 6) Use the _____ *tag* to define subscript text.
 - 7) DHTML stands for _____
2. a) What is World Wide Web, SGML and XML ? Explain. 7
- b) What is Internet ? Explain TCP/IP, Client and Server and Packet Switching. 7
3. a) What is HTML ? Explain the general Structure of HTML Document with suitable example. 7
- b) Explain Formatting tags in Html with suitable example. 7
4. a) Explain Types of Links and Lists in Html with suitable example. 7
- b) What is Forms in HTML ? Explain Get and Post method in Html with suitable example. 7
5. a) What is CSS ? Explain CSS with suitable example. 7
- b) What is function in JavaScript ? Explain with suitable example. 7
6. a) Explain looping statement with correct syntax in VBScript. 7
- b) Explain Inputbox and MsgBox function in VBScript. 7
7. Write short notes :
- 1) Tables tag in Html 4
 - 2) Frames in Html 4
 - 3) Array in JavaScript 4
 - 4) Types of Lists in HTML. 2
-



B) Fill in the blanks :

- 1) _____ Sub menu is used for voucher entry in Tally.
- 2) Golden rule of classification of accounts _____ the receiver, _____ the giver.
- 3) _____ groups are pre defined in Tally.
- 4) Transaction of salary, rent paid is recorded in _____ voucher.
- 5) _____ key is used for shutting a company.
- 6) Total amount invested by the proprietor into the business is called as _____
- 7) A person who owes money to the business is called _____

2. Attempt **any two** from the following : 14

- a) How to create single and multiple groups in Tally ?
- b) What is Data Maintenance ?
- c) How to create a new company in Tally ?

3. Attempt **any two** from the following : 14

- a) Give the advantages and disadvantages of Computerized Tally.
- b) Explain the opening screen of the Tally.
- c) What is software maintenance ?

4. Attempt **any two** from the following : 14

- a) How to copy a voucher ?
- b) What is Debit Note and Credit Note ?
- c) Explain Service Tax Ledger.

5. a) Explain accounting concepts and conventions. 14

- b) Explain different types of vouchers.

6. a) What is TDS ? Explain TDS vouchers and TDS reports. 14

- b) Explain VAT on MRP.

7. Write a short note on following (**any two**) : 14

- a) Types of MIS report in Tally.
 - b) Bank Reconciliation Statement.
 - c) Special function keys in Tally.
-



- 5) Goal setting is essential for _____
- To under come weakness
 - To overdown weakness
 - To overcome weakness
 - To outcome weakness
- 6) _____ is an individual capacity to perform different task in job.
- Attitude
 - Ability
 - Behavior
 - Tendency
- 7) _____ helps us in finding out the strength and weakness of your personality.
- Journey of self-discovery
 - Behavior
 - Value
 - Opportunity
- 8) The listener must judge the content of the message rather than the _____ of the speaker.
- Strength
 - Weakness
 - Personality
 - Style

B) Fill in the blanks :

3

- 9) _____ ability refers to analyze or to diagnosis of complex situation.
- 10) SWOT stands for _____
- 11) _____ involves combining response or ideas of individual or group in novel ways.

C) Match the pairs :

3

- | A | B |
|--------------|---------------|
| 12) Values | A) Conceptual |
| 13) Ability | B) Truth |
| 14) Attitude | C) Tendency |
| | D) Etiquette |



2. Answer **any two** of the following questions : **14**
- a) What is meant by basic abilities ? Explain their types.
 - b) Define Value. Explain five universal values in detail.
 - c) Employers expectations during the interview.
3. Answer **any two** of the following questions : **14**
- a) What is meant by attitude ? Explain the formation of attitude.
 - b) Explain the concept and preparation of seminar.
 - c) Write a note on extempore speech.
4. Answer **any two** of the following questions : **14**
- a) What is stress management ? Explain how to control on stress.
 - b) Define interview and their types.
 - c) Explain planning to presentation.
5. Answer the following questions : **14**
- a) What is meant by human skills ? Explain reading and listening skill.
 - b) Define group discussion. Explain the process of group discussion.
6. Answer the following questions : **14**
- a) What is meant by leader ? Explain the types of leadership.
 - b) Write the guidelines to make presentation interesting.
7. Write a short note (**any two**) : **14**
- a) SWOT Concept
 - b) Learning Process
 - c) Journey of Self-discovery
 - d) Do's and Don'ts of GD.
-



Seat No.	
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**B.C.A. (Part – I) (Semester – II) (CGPA Pattern) Examination, 2016
BUSINESS STATISTICS**

Time : 2½ Hours

Max. Marks : 70

- Instructions:** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
3) Attempt **any one** question from Q. No. 5 to Q. No. 6.
4) Use of any type of calculator is **allowed**.
5) Figures to the **right** indicates **full** marks.
6) **Graph** paper will be supplied on **request**.

1. A) Select most correct alternative :

10

- In _____ method of sampling, every units in the population has equal chances of being selected in the sample.
 - SRS
 - Systematic
 - Stratified
 - None of these
- The difference between upper and lower limits of a class is called _____ of that class.
 - Frequency
 - I.c.f.
 - Width
 - None of these
- The measure of central tendency that based on all observations is
 - Median
 - Mode
 - A. M.
 - All of these
- The mean of 20 observations is 16, if each observation is increased by 5 then mean will be
 - 20
 - 25
 - 21
 - 16
- The relative measure of dispersion is
 - range
 - coefficient of range
 - s.d.
 - none of these
- If two variables change in same direction, then there is _____ correlation.
 - Positive
 - Negative
 - Perfect
 - None of these

P.T.O.



- 7) If one of the regression coefficient is negative, then other must be
 - a) Positive
 - b) Negative
 - c) May be positive or negative
 - d) None of these
- 8) If price index number is 120, it means that the prices in current period are increased by
 - a) 20%
 - b) Rs. 20
 - c) 20 units
 - d) None of these
- 9) If $P(A) = 1$, then event 'A' is known as _____ event.
 - a) Impossible
 - b) Sure
 - c) Null
 - d) None of these
- 10) To construct histogram in case of unequal class-width, the height of rectangle is taken equal to _____ of corresponding class.
 - a) frequency
 - b) frequency density
 - c) l.c.f.
 - d) none of these

B) State **true** or **false** : **4**

- 1) SRS method provides a representative sample if population is homogeneous.
- 2) All measures of central tendency can be determined graphically.
- 3) Sample space is a set of all possible outcomes of random experiment.
- 4) Measure of dispersion 'range' is based on all observations.

2. Attempt **any two** : **14**

- 1) Define – population, census method. State limitations of census method.
- 2) Compute A.M. for the data given below.

X	12	15	17	20	22
Frequency	7	11	18	14	9

- 3) Compute Karl Pearson’s coefficient of correlation between X and Y.

X	14	20	27	30	32
Y	40	35	19	23	18



3. Attempt **any two** : 14

- 1) Define – i) Classification ii) Frequency iii) L.C.F. iv) Midpoint of a class.
- 2) Find price index number for the data given below by i) Simple aggregate method ii) Simple average of relatives method.

Commodity	A	B	C	D
Price in base period	40	47	35	50
Price in current period	60	58	72	55

- 3) Obtain Coefficient of Variation (C.V.) for the data given below.

X	5	7	8	9	10
Frequency	3	9	11	8	4

4. Attempt **any two** : 14

- 1) Define – median and state its merits and demerits.
- 2) A coin is tossed 3 times. Write sample space and find probability of getting i) atleast one head ii) exact one head.
- 3) Given : $n = 10, \sum X = 450, \sum Y = 525, \sum X^2 = 301428, \sum XY = 27312$
Obtain equation of line of regression Y on X and hence estimate Y for X = 60.

5. A) Define – i) Event ii) Mutually exclusive events iii) Probability. 7

B) Draw histogram to represent the following data and hence obtain mode. 7

Class	6 – 12	12 – 18	18 – 24	24 – 30	30 – 36	36 – 42	42 – 48
Frequency	5	9	14	20	17	14	8

6. A) Define correlation and explain types of correlation. 7

B) The mean and s.d. of 100 observations were 40 and 31 respectively. Later on it was noticed that an observation 48 was wrongly taken as 58. Find correct mean and variance. 7

7. Attempt **any two** : 14

- 1) Define – Index number and state problems in construction of it.
 - 2) Define – regression and explain lines of regression.
 - 3) The A.M. of scores of batsman A and B are 46 and 58, the variances of their scores are 81 and 121 respectively. Find which batsman is more consistent.
-



Seat No.	
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**B.C.A. – II (Semester – III) (CGPA) Examination, 2016
DATA STRUCTURE USING ‘C’**

Time : 2 Hours 30 Minutes

Total Marks : 70

Instructions : 1) Q. 1 and Q. 7 are **compulsory**.

2) Attempt **any two** questions from Q. 2 to Q. 4.

3) Attempt **any one** question from Q. 5 to Q. 6.

1. A) Choose the correct alternatives.

7

- 1) Queue data structure is useful for implementation of _____ sort method.
a) Radix b) Bubble c) Insertion d) Shell
- 2) If preorder traversal of binary tree is ZPSQRTU then its post order is
a) SRPQUTZ b) SRQPUTZ
c) SQRPUTZ d) SRQPTUZ
- 3) _____ node is useful for traversing in linked list, since it stores address of first node.
a) Next b) Previous
c) Header d) Both a and b
- 4) In case of circular queue, if “front = -1” then queue is
a) Full b) Created c) Empty d) Overflows
- 5) _____ linked list has three parts in its node structure.
a) Singly b) Doubly
c) Circular singly d) Linear Singly
- 6) In sub routine call, _____ data structure is used.
a) Array b) Stack c) Queue d) Tree
- 7) To sort ‘n’ numbers, bubbler sort requires _____ maximum comparisons.
a) $n(n + 1)/2$ b) $n(n + 2)/n$
c) $n(n - 1)/2$ d) $n(n - 2)/n$



B) State whether **true** or **false**.

4

- 1) Maximum key comparisons arises fast searching process.
- 2) For polynomial manipulations, stack data structure is used.
- 3) Siblings are the nodes that belong to different parent nodes.
- 4) Binary search method requires data to be sorted first.

C) Fill in the blanks.

3

- 1) _____ node of a tree does not have any ancestors.
- 2) “Stack Overflow” condition occurs while performing _____ operation.
- 3) In _____ queue, intrinsic ordering of element does not determine the result of its basic operations.

2. Attempt **any two** of the followings :

14

- A) Write a program that converts infix expression into prefix expression.
- B) What is circular Queue ? Explain its insert() and remove() operations.
- C) Write a program that finds second smallest and second largest number in an array.

3. Attempt **any two** of the followings :

14

- A) Write a program to sort array elements in ascending order using insertion sort method.
- B) What is Binary Tree ? Write an algorithm to insert new node in binary search tree.
- C) How will you reverse “Doubly circular” linked list ? Explain it with suitable implementation of reverse() function.



4. Attempt **any two** of the followings : 14
- A) Write a program that check entered expression is valid or not using stack.
 - B) What is AVL tree ? Explain all AVL tree rotations in detail.
 - C) Write a program that concatenates two linked lists together.
5. A) Write a program to implement binary search technique. 7
- B) Write a program to implement queue using linked list. 7
6. A) What is Tree ? Explain following operations of binary search tree : 7
- a) count_leaf()
 - b) search_node()
 - c) display()
- B) Write a program that counts total number of vowels present in string using stack. 7
7. Write short note on followings (**any two**) : 14
- 1) ADT for stack
 - 2) Tree traversal methods
 - 3) Quick sort method.
-



**B.C.A. – II (Semester – III) Examination, 2016
(CGPA Pattern)
NETWORKING AND DATA COMMUNICATION**

Time : 2½ Hours

Total Marks : 70

- Instructions:** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2, Q. 3 and Q. 4.
3) Attempt **any one** question from Q. 5 and Q. 6.

1. Choose the correct alternative :

14

- 1) The _____ layer is the layer closest to the transmission medium.
a) Physical b) Data Link c) Network d) Transport
- 2) As the data packet move from the lower to the upper layers, headers are _____
a) added b) subtracted c) rearranged d) modified
- 3) Local area network can transmit _____
a) Slower than telecommunication over public telephone lines
b) Faster than telecommunication over public telephone lines
c) Using twisted pair wiring or coaxial cables
d) Both a) and c)
- 4) Modulation is the process of _____
a) Sending a file from one computer to another computer
b) Converting digital signal to analog signal
c) Converting analog signal to digital signal
d) Echoing every character that is received
- 5) A computer network consists of both hardware and software
a) True b) False
- 6) Computers in LAN can be interconnected by radio and infrared technologies with _____
a) wireless LANs b) network topologies
c) multiplexer d) modem

P.T.O.



- 7) ALOHA _____
- a) is used for channel allocation problem
 - b) is used for data transfer
 - c) is used for buffering
 - d) all of these
- 8) The topology with highest reliability is _____
- a) Bus topology
 - b) Star topology
 - c) Ring topology
 - d) Mesh topology
- 9) Bandwidth refers to the capacity of the communication line
- a) True
 - b) False
- 10) ARP is _____
- a) A TCP/IP protocol used to dynamically bind a high level IP address to a high level physical hardware address
 - b) A TCP/IP high level protocols for transferring files from one machine to another
 - c) A TCP/IP protocol used to dynamically bind a high level IP address to a low level physical hardware address to a high level IP address
 - d) A protocol that handles error and control messages.
- 11) Which of the following is an example of bonded medium ?
- a) Waveguide
 - b) Coaxial Cable
 - c) Fiber-optic cable
 - d) All of these
- 12) In link state routing, flooding allows changes to be recorded by _____
- a) all routers
 - b) neighbor routers only
 - c) some routers
 - d) all networks
- 13) DNS is used to locate the _____
- a) MAC address of a URL
 - b) IP address of a URL
 - c) Root domain of URL
 - d) Domain name of a URL
- 14) Which of the following is/are presentation layer functions ?
- a) Encryption of data
 - b) Compression of data
 - c) Translation of data
 - d) All of these



2. Answer the following questions (**any two**) : **14**
- 1) Discuss the versions of ALOHA.
 - 2) What is the difference between a port address, a logical address and a physical address ?
 - 3) Define Network Topology. Explain the types of network topologies with advantages and disadvantages.
3. Answer the following questions (**any two**) : **14**
- 1) What are the responsibilities of physical layer and session layer in the ISO-OSI model ?
 - 2) Explain the guided media.
 - 3) Explain HTTP and WWW in detail.
4. Answer the following questions (**any two**) : **14**
- 1) What is Modulation ? Explain the modulation techniques.
 - 2) What is data communication ? Give the components of it.
 - 3) Explain the concept of framing and its types.
5. a) Discuss Simplex and Stop-and-Wait Protocol with net diagram. **7**
- b) Give significant difference between the environments of the data link layer and transport layer. **7**
6. a) What is Congestion ? Explain Congestion Control algorithm. **7**
- b) What is Error Detection ? Explain Parity Check and Cyclic Redundancy Technique. **7**
7. Write a short note on the following (**any two**) : **14**
- 1) TCP/IP Reference Model
 - 2) History of Internet
 - 3) Uses of a Computer Networks.
-



Seat No.	
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**B.C.A. – II (Semester – III) Examination, 2016
DATABASE MANAGEMENT SYSTEM (CGPA)**

Time : 2½ Hours

Max. Marks : 70

Instructions: 1) Q. 1 and Q. 7 are **compulsory**.

2) Attempt **any two** questions from Q. 2, Q. 3 and Q. 4.

3) Attempt **any one** question from Q. 5 and Q. 6.

1. a) Choose correct alternatives : 7

- 1) The overall description of database is called
a) Instance b) Schema c) Data d) Snapshot
- 2) Two actions on same data object are conflict if one of them
a) Read b) Write c) Read or write d) None of these
- 3) Any binary relation is in
a) 1NF b) 2NF c) 3NF d) 4NF
- 4) ER modeling technique is a
a) Top-down approach b) Bottom-up approach
c) Left-right approach d) Right-left approach
- 5) _____ key uniquely identifies each record in the table.
a) Null b) Not null c) Primary d) Foreign
- 6) Which of the following is the serious problem of file processing system ?
a) Lack of data independence b) Data redundancy
c) Atomicity problem d) All of these
- 7) Which of the following is not ACID property ?
a) Atomicity b) Isolation c) Integrity d) Durability

b) Fill in the blanks : 4

- 1) Large collection of files are called _____.
- 2) _____ stores metadata about the structures of the database.
- 3) DDL stands for _____.
- 4) Data independence means _____.



- c) State whether **true** or **false** : **3**
- 1) DBA are unsophisticated users.
 - 2) Logical level of data abstraction describes what data are stored in the database.
 - 3) Generalization is a bottom-up approach.
2. Write answers of the following questions (**any two**) : **14**
- a) Explain the following relational algebra operations
i) Union ii) Project iii) Intersect
 - b) What is index ? Explain multilevel indices.
 - c) Explain two tier architecture and its disadvantages.
3. Write answer of the following questions (**any two**) : **14**
- a) Explain different types of attributes.
 - b) Write note on deadlock detection and recovery.
 - c) What is normalization ? Give the advantages of it. Explain third normal form.
4. Write answer of the following questions (**any two**) : **14**
- a) Explain record based data model.
 - b) What is foreign key ? Explain advantages and give one example.
 - c) Explain working of query processor in a database system.
5. a) Explain how to control concurrency in database. **7**
- b) Give the list of advantages of DBMS. Explain any two advantages of DBMS. **7**
6. a) What is ER model ? Explain different notations in ER model. **7**
- b) Explain the term : **7**
- i) Domain ii) Relationship iii) Entity set
7. Write short note on (**any two**) : **14**
- a) Log based recovery.
 - b) Strong and weak entity set.
 - c) Specialization and aggregation.
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Seat No.	
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**B.C.A. – II (Semester – III) Examination, 2016
CORE JAVA (CGPA)**

Time : 2 Hours 30 Minutes

Max. Marks : 70

- Instructions :**
- 1) Q.No. 1 and Q.No. 7 are **compulsory**.
 - 2) Solve **any two** questions from Q.No. 2 to Q.No. 4.
 - 3) Solve **any one** question from Q.No. 5 to Q.No. 6.
 - 4) Figures to the **right** indicate **full** marks.

1. Multiple choice questions.

14

- 1) What is the range of data type short in Java ?
 - a) – 128 to 127
 - b) – 32768 to 32767
 - c) – 2147483648 to 2147483647
 - d) None of the mentioned
- 2) Which of these operators is used to allocate memory for an object ?
 - a) malloc
 - b) alloc
 - c) new
 - d) give
- 3) Which of the following statements are incorrect ?
 - a) public members of class can be accessed by any code in the program
 - b) private members of class can only be accessed by other members of the class
 - c) private members of class can be inherited by a sub class and become protected members in sub class
 - d) protected members of a class can be inherited by a sub class and become private members of the sub class
- 4) Which of these keywords must be used to handle the exception thrown by try block in some rational manner ?
 - a) try
 - b) finally
 - c) throw
 - d) catch



- 5) What will happen if two thread of same priority are called to be processed simultaneously ?
 - a) Any one will be executed first lexographically
 - b) Both of them will be executed simultaneously
 - c) None of them will be executed
 - d) It is dependent on the operating system
- 6) Which of these interfaces is not a member of a java.io package ?
 - a) DataInput
 - b) ObjectInput
 - c) ObjectFilter
 - d) FileFilter
- 7) What is a listener in context to event handling ?
 - a) A listener is a variable that is notified when an event occurs
 - b) A listener is a object that is notified when an event occurs
 - c) A listener is a method that is notified when an event occurs
 - d) None of the mentioned
- 8) Which of the following statements are incorrect ?
 - a) Default constructor is called at the time of declaration of the object if a constructor has not been defined
 - b) Constructor can be parameterized
 - c) Finalize() method is called when a object goes out of scope and is no longer needed
 - d) Finalize() method must be declared protected
- 9) Which of these are integer constants of TextEvent class ?
 - a) TEXT_CHANGED
 - b) TEXT_FORMAT_CHANGED
 - c) TEXT_VALUE_CHANGED
 - d) TEXT_SIZE_CHANGED
- 10) What is the return type of a method that does not returns any value ?
 - a) int
 - b) float
 - c) void
 - d) double
- 11) Delete operator is used by Java run time implementations to free the memory of an object when it is no longer needed
 - a) True
 - b) False



- 12) Break is a selection statement in Java
 - a) True
 - b) False
 - 13) Constructor has no return type
 - a) True
 - b) False
 - 14) Encapsulation is the process by which we can control what parts of a program can access the members of a class
 - a) True
 - b) False
 - 2. A) What are the different features of Java ? 7
B) Explain character stream classes. Write a program to copy file to file using character stream. 7
 - 3. A) Describe various iterative control statements in Java. 7
B) How to create a thread ? Describe life cycle of thread. 7
 - 4. A) Differentiate between abstract class and interface with example. 7
B) Define Constructor. Explain the types of constructor. 7
 - 5. A) What is the use of Layout Managers ? Explain GridLayout with example. 7
B) What is Exception Handling ? Explain the user defined exception with example. 7
 - 6. A) What do you mean by static and non static variables and methods ? Explain their properties with example. 7
B) What is polymorphism ? Differentiate between method overloading and overriding. 7
 - 7. Write a short note on :
 - 1) JDK Tools. 4
 - 2) Types of adapters. 4
 - 3) Usage of wait() and notify() 4
 - 4) Arrays and its types. 2
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B.C.A. – II (Semester – III) (CGPA Pattern) Examination, 2016
FINANCIAL MANAGEMENT

Time : 2½ Hours

Max. Marks : 70

- N. B. :** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2 , Q. 3 and Q. 4.
3) Attempt **any one** question from Q. 5 and Q. 6.

1. A) Select the correct alternative :

7

- 1) Net profit ratio signifies _____
a) Operating Profitability b) Liquidity Position
c) Big-term Solvency d) None of these
- 2) Working capital turnover measures the relationship of working capital with _____
a) Fixed Assets b) Sales
c) Purchase d) Stock
- 3) Quick assets do not include _____
a) Govt. bond b) Book debts
c) Advance d) Inventories
- 4) Current Ratio is 4 : 1 net working capital is Rs. 30,000 find amount of current assets
a) 10,000 b) 40,000
c) 24,000 d) 6,000
- 5) In MM Model, MM stands for _____
a) M. Khan and Modigliani b) Miller and M. Khan
c) Modigliani and M. Khan d) Miller and Modigliani



- 6) The addition of all Current Assets investment is known as _____
- a) Net working capital b) Gross working capital
c) Temporary working capital d) All of these
- 7) In Walter Model formula, D stands for _____
- a) Dividend per share b) Direct Dividend
c) Dividend earning d) None of these

B) Fill in the blanks :

7

- 1) Maximization of _____ is the main goal of Financial Management.
- 2) Dividends in arrears occur only on _____ preference stock.
- 3) A _____ has a specific amount that has a specified repayment schedule.
- 4) GDR stands for _____
- 5) Retained earnings are _____ source of finance.
- 6) _____ is a person who is responsible to carry out the finance functions.
- 7) Reserve and surplus are _____ form of financing.

2. Write the answers of following questions (**any two**) :

14

- a) What is profit maximization ?
- b) What is wealth maximization ?
- c) Define the effect of over capitalization on company.

3. Write the answers of following questions (**any two**) :

14

- a) Define importance of business finance.
- b) Explain determinants of working capital requirements.
- c) What is financial risk ? How does it arise ?

4. Write the answers of following questions (**any two**) :

14

- a) Explain unfavourable points of profit maximization.
- b) Explain degree of working capital leverage.
- c) Explain steps in financial planning.



5. A) What is working capital ? Explain types of working capital. 7
B) Write the functions of financial manager. 7
6. From the following details, prepare an estimate of the requirement of working capital : 14
Production – 60,000 units, selling price per unit Rs. 5, Raw material 60% of selling price, Direct wages 10% of selling price, Overhead 20% of selling price Material in hand 2 months, Production time 1 month, Finished goods in store 3 months, Credit for material 2 months, Credit allowed to customers 3 months, Average cash balance Rs. 20,000/-, Wages and overheads are paid at the beginning of the month following. In the production all the required materials are charged in the initial stage and wages and overheads accrue evenly.
7. Write short note on **(any two)** : 14
1) Types of Financial Plans.
2) Difference between operating and financial leverage.
3) Merits of profit maximization.
-



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**B.C.A. – II (Semester – IV) (CGPA Pattern) Examination, 2016
SOFTWARE ENGINEERING (New)**

Time : 2½ Hours

Max. Marks : 70

- Instructions:** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2, Q. 3 and Q. 4.
3) Attempt **any one** question from Q. 5 and Q. 6.

1. A) Choose correct alternatives :

7

- 1) Which of the following option is referred to ability of a system to co-exists and co-operate with other system ?
 - a) Portability
 - b) Interoperability
 - c) Usability
 - d) Integrity
- 2) _____ feasibility considers the cost/benefit analysis of the system.
 - a) Technical
 - b) Operational
 - c) Economical
 - d) None of these
- 3) Which fact finding technique is adopted when the field of investigation is very vast and the respondents are spread over a wide geographical area ?
 - a) Interview
 - b) Questionnaire
 - c) Record Review
 - d) Observations
- 4) Black-box testing attempts to find errors in which of the following categories ?
 - a) Incorrect or missing functions
 - b) Interface errors
 - c) Performance errors
 - d) All of the above



- 5) Structured charting tools are
- a) Structured Flow Charts
 - b) HIPO Chart
 - c) Warnier-Orr Diagrams
 - d) All of these
- 6) _____ is an agreement between system developer and user.
- a) Requirement specification
 - b) Requirement investigation
 - c) Both a) and b)
 - d) None of these
- 7) _____ is decomposition of complex data structures into flat files called relations.
- a) Normalization
 - b) Association
 - c) Formalization
 - d) None of these

B) State whether **True** or **False** :

7

- 1) Configuring the system means allocating the specific hardware and software technologies to the essential model of the new system.
- 2) If the system is in routine in nature then it gives negative feedback.
- 3) Waterfall Model is suitable for accommodating change.
- 4) The interconnection and interaction between the subsystems are termed as interface.
- 5) The second normal form is a data structure in which all non-key data elements are fully functionally dependent on the primary key.
- 6) Software testing is done to correct error.
- 7) Level 0 DFD is also known as Context Level Diagram.

2. a) What is System Analyst ? Explain role of System Analyst.

5

b) Explain incremental approach.

5

c) Write note on characteristics of software.

4



3. a) What is need of Testing ? Explain different types of testing. 5
 - b) Draw first level DFD of Library System. 5
 - c) Distinguish between system analysis and system design. 4

 4. a) What are the main components of HIPO chart ? State advantages of HIPO chart. 5
 - b) Explain any two fact finding techniques. 5
 - c) Draw a system outline chart for payroll system. 4

 5. a) What is System ? Explain types of system. 7
 - b) Draw Entity Relationship Diagram for College Admission System. 7

 6. a) What is Normalization ? Explain different normal forms with example. 7
 - b) Explain software implementations. 7

 7. Write short notes on **any two** : 14
 - a) Waterfall Model.
 - b) Data Dictionary and its advantages.
 - c) Requirement investigation and requirement anticipation.
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Seat No.	
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**B.C.A. – II (Semester – IV) (New CGPA) Examination, 2016
RDBMS with Oracle**

Time : 2 Hours 30 Minutes

Total Marks : 70

- Instructions :** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
3) Attempt **any one** question from Q. No. 5 to Q. No. 6.
4) **All** questions carry **equal** marks.

1. Choose the correct alternatives :

14

- 1) A column defined as PRIMARY KEY can have NULL's.
a) True b) False
- 2) A Database Procedure is stored in the Database
a) In compiled form b) As source code
c) Both a) and b) d) None of these
- 3) Each attribute is associated with set of values called as
a) Relation b) Tuple c) Rows d) Domain
- 4) The Database administrator cannot grant or revoke privileges to users.
a) True b) False
- 5) The use of UPDATE command is to change or to modify data values in table.
a) True b) False
- 6) DDL stands for
a) Data Definition Language b) Database Definition Language
c) Data Describe Language d) Database Describe Language
- 7) Raise_Application_error is used for raising an user defined error.
a) True b) False



- 8) _____ is not the statement of Data Manipulation Language (DML).
a) Insert b) Update c) Alter d) Delete
- 9) You can Enable or Disable a Database triggers.
a) True b) False
- 10) Find the ODD data type out.
a) VARCHAR2 b) RECORD c) Number d) RAW
- 11) Which of the following is an advantage of view ?
a) To protect some of the columns of a table from other users
b) To hide complexity of a query
c) Both a) and b)
d) None of these
- 12) Which of the following is not the attribute of cursor ?
a) Open b) Close c) Fetch d) Insert
- 13) Which of the following is NOT VALID in PL/SQL ?
a) Select . . . into b) Update c) Create d) Delete
- 14) A Stored Procedure is a
a) Sequence of SQL or PL/SQL statements to perform specific function
b) Stored in compiled form in the database
c) Can be called from all client environments
d) All of the above
2. a) Discuss the various types of built-in functions available in ORACLE. **5**
b) What is the purpose of Group by clause ? Differentiate between where and having clause in SQL. **5**
c) Give any four string functions used in SQL. **4**
3. a) What is an implicit cursors ? Explain implicit cursors with example. **5**
b) What is index ? How indexes are created ? **5**
c) What do you mean by a relation ? Give one example. **4**



- 4. a) Write a PL/SQL code to find average marks of five subjects. 5
 - b) Explain different aggregate functions. 5
 - c) Differentiate between Data Definition Language and Data Manipulation Language. 4
 - 5. a) What is trigger ? Explain one application of trigger with suitable example. 7
 - b) What do you mean by RDBMS ? Explain the difference between DBMS and RDBMS. 7
 - 6. a) Explain Equi-join with suitable example. 7
 - b) What is package ? What are its advantages ? Give one example. 7
 - 7. Write note on (**any two**) : 14
 - a) Different types of operators
 - b) Sub-queries
 - c) Date Functions.
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Seat No.	
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**B.C.A. – II (Semester – IV) (New CGPA) Examination, 2016
OPERATING SYSTEM**

Time : 2 Hours 30 Minutes

Total Marks : 70

- Instructions :** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2 to Q. 4.
3) Attempt **any one** question from Q. 5 to Q. 6.

1. A) Choose correct alternatives. 7
- 1) In the blocked state the process
 - a) Waiting for I/O are found
 - b) Which is running is found
 - c) Waiting for the processor are found
 - d) None of the above
 - 2) The signal operation is performed at _____ section of process.
 - a) Entry
 - b) Critical
 - c) Exit
 - d) Reminder
 - 3) The information of process is stored in _____ and accessed by CPU during execution.
 - a) Process Control Memory
 - b) Process Control Block
 - c) Program Control Memory
 - d) Program Control Block
 - 4) The logical address is generated by
 - a) Process
 - b) Memory
 - c) User
 - d) CPU
 - 5) Switching the CPU to another process requires saving state of the old process and loading new process state is called as
 - a) Process Blocking
 - b) Context Switch
 - c) Time Sharing
 - d) None of the above
 - 6) Which of the following file name extension suggests that the file is backup copy of another file ?
 - a) TXT
 - b) COM
 - c) BAS
 - d) BAK
 - 7) The _____ scheduling algorithms has both preemptive and non-preemptive nature.
 - a) FCFS & SJF
 - b) FCFS & RR
 - c) SJF & Priority
 - d) SJF & RR

B) State whether **True** or **False** :

4

- 1) The single level directory structure implementation is used in most Operating System
 - a) True
 - b) False
- 2) The binary semaphore has only two values 0 and 1.
 - a) True
 - b) False
- 3) The degree of multiprogramming is maintained by long-term scheduler
 - a) True
 - b) False
- 4) The process is passive entity in operating system
 - a) True
 - b) False

C) Fill in the blanks :

3

- 1) The process is requesting resource for execution in resource allocation graph this edge is called as _____
- 2) CLI stands for _____
- 3) The response time is very critical in _____ system.

2. Attempt **any two** of the followings :

14

- A) What is system call ? Explain the process management system calls used in system.
- B) Define Deadlock. Write the necessary conditions to occur deadlock in system.
- C) What is PCB ? Draw and explain the structure of it.

3. Attempt **any two** of the followings :

14

- A) How disk space is allocated in file system explain with different techniques ?
- B) Write and explain the different services provided by operating system.
- C) Consider the following example. Implement the SJF and RR scheduling algorithm.

Process	Execution Time (in Sec.)
P1	11
P2	3
P3	5
P4	7

(Note : Take time slice = 3 sec.)



- i) Draw Gantt chart for above algorithm.
 - ii) Calculate the average waiting time.
 - iii) Calculate the average turnaround time.
 - iv) State which algorithm gives minimum average turnaround time.
4. Attempt **any two** of the followings : **14**
- A) Write a note on operations on process.
 - B) Explain the Reader-Writer problem in detail.
 - C) Define thread and co-operative process. Write advantages of co-operative process.
5. A) What is critical section problem ? Write it conditions. **7**
- B) Explain the use of system design and implementation. **7**
6. A) Explain and give difference between batch system and time sharing system. **7**
- B) Write a note on deadlock recovery. **7**
7. Write short note on followings (**any two**) : **14**
- 1) File types
 - 2) Scheduling criteria
 - 3) Virtual memory in detail.
-



Seat No.	
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**B.C.A. – II (Semester – IV) Examination, 2016
(New CGPA Pattern)
WEB TECHNOLOGY – II**

Time : 2 ½ Hours

Total Marks : 70

- Instructions:** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
 2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
 3) Attempt **any one** questions from Q. NO. 5 to Q. No. 6.
 4) **All** questions carry **equal** marks.

1. Choose the correct alternatives : **14**
- 1) The cookies can be accessed using the super global variable \$_COOKIE.
 a) True b) False
 - 2) PHP stands for _____
 a) Hypertext Processor b) Pre Hypertext Processor
 c) Pre Hyper Processor d) Hypertext Preprocessor
 - 3) PHP runs on different platforms.
 a) True b) False
 - 4) In PHP _____ function is used to access MySQL database.
 a) mysqlconnect () b) mysql-connect ()
 c) mysql_connect () d) sql_connect ()
 - 5) Which of the following function is used to check if a file exists or not ?
 a) file_found() b) file()
 c) file_check() d) file_exists()
 - 6) Which of the following variable cannot be used inside a static method ?
 a) \$get b) \$this c) \$data d) \$set
 - 7) Which of the following method sends input to a script via a URL ?
 a) Get b) Post
 c) Both a) and b) d) None of these

P.T.O.



- 8) PHP supports multiple inheritance.
a) True b) False
- 9) If there is any problem in loading a file then the include() function generates a warning but the script will continue execution.
a) True b) False
- 10) Cookies are stored at _____ side.
a) Client b) Server
c) Both a) and b) d) None of these
- 11) Which of the following is the characteristic of PHP ?
a) PHP runs on various platforms
b) PHP is compatible with almost all servers
c) PHP supports a wide range of databases
d) All of these
- 12) strlen() returns the length of the string on success and _____ if the string is empty.
a) -1 b) NULL
c) Garbage value d) 0
- 13) PHP sessions are created using the _____ function.
a) session_starts() b) start_sessions ()
c) session_start() d) start_session
- 14) Which of the following statement is used to call a constructor for a base class ?
a) parent::constructor(\$value) b) base::constructor(\$value)
c) basecall:: constructor(\$value) d) super::constructor(\$value)
2. a) Explain the benefits of PHP. 5
b) Discuss different loops available in PHP. 5
c) Write note on PHP Operators. 4



- 3. a) Explain the concept of String for presentation and string for storage. 5
 - b) What is function ? Explain built in functions in PHP. 5
 - c) What is array ? Explain its types. 4
 - 4. a) Discuss any five functions of file handling. 5
 - b) What is constructor and destructors ? Write a program to overload constructor. 5
 - c) Write note on final keyword. 4
 - 5. a) What is difference between Get and Post Method ? Explain \$_GET, \$_POST, \$_REQUEST with example. 7
 - b) Write a program which uses static methods and static variables. 7
 - 6. a) How to make database connection and perform different operations on database ? 7
 - b) Explain the use of session variable in state management with example. 7
 - 7. Write short notes on **(any two)** : 14
 - i) Cookies
 - ii) Abstract classes
 - iii) MySQL architecture.
-



Seat No.	
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**B.C.A. – II (Semester – IV) (New) (CGPA) Examination, 2016
E-COMMERCE**

Time : 2½ Hours

Max. Marks : 70

- Instructions :** 1) Q. No. 1 to 7 are **compulsory**.
2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
3) Attempt **any one** question from Q. No. 5 to Q. No. 6.

1. a) Select the correct alternatives : **14**
- 1) The Internet was launched in 1969 and was originally called
a) AARNET b) CERNET c) CERN d) ARPANET
 - 2) The fastest-growing application for the Internet is
a) Going shopping
b) Conducting research
c) Playing games, reading and listening to music
d) Using e-mail
 - 3) The multimedia interface to the resources available on the net is called the
a) World Wide Web b) Internet
c) GUI interface d) Server
 - 4) A _____ program provides access to Web resources.
a) Web b) ISP c) Browser d) URL
 - 5) For a browser to connect to other resources, the location or address of the resources must be specified. These addresses are called
a) URLs b) Packets c) E-mail forms d) MSN
 - 6) The most widely used Web protocol is
a) http:// b) URL c) HTML d) ISP
 - 7) URL is an acronym for
a) Uniform Resource Locator
b) Uniform Resource Link
c) Universal Reference Locator
d) Unlimited Real-time Language



- b) 1) The _____ is the actual physical network made up of wires, cables and satellites.
- 2) While connected to the Internet, the user's computer is the _____ that requests services from the provider's computer or server.
- 3) _____ are rules for exchanging data between computers.
- 4) A programming language used to write animation for the World Wide Web is called _____.
- 5) Unwanted and unsolicited e-mail is referred to as _____.
- 6) In a directory search, also known as an _____ search, you select a category or topic that fits the information you want.
- 7) _____ is the term used to describe the buying and selling of goods over the Internet.

2. Write short notes (**any two**) : **14**
 - 1) Introduction of E-commerce.
 - 2) Scope of electronic commerce.
 - 3) What is internet commerce ?
 3. Answer the following : **14**
 - a) What is value chain management ?
 - b) Explain the airline booking system.
 4. Answer the following : **14**
 - a) Use of electronic market.
 - b) Disadvantage of electronic market.
 5. Answer the following : **14**
 - a) Explain the Electronic Newspapers.
 - b) Advantage of Internet.
 6. Answer the following : **14**
 - a) What is business to business electronic commerce ?
 - b) Introduction to E-Payment system.
 7. Short note (**any two**) : **14**
 - a) Traditional commerce
 - b) Need for E-commerce
 - c) Future of E-Payment.
-



Seat No.	
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B.C.A. II (Semester – IV) (Old) Examination, 2016
SOFTWARE ENGINEERING

Time : 3 Hours

Total Marks : 80

- Instructions :**
- 1) Q. 1 and Q. 7 are **compulsory**.
 - 2) Attempt **any 2** questions from Q. 2 to Q. 4.
 - 3) Attempt **any 1** question from Q. 5 and Q. 6.
 - 4) **All** questions carry **equal** marks.

1. Choose the correct alternatives : 16
- 1) Which of the following category in black-box testing attempts to find errors ?
a) incorrect and missing functions b) interface errors
c) performance errors d) all of the above
 - 2) The smallest unit of data which cannot be meaningfully decomposed further is called a
a) Data element b) Data structure
c) Data flows d) Data stores
 - 3) Which of the following is not related with system analyst ?
a) collection of requirement b) user training
c) creating model d) programming
 - 4) The extent to which the software can continue to operate correctly despite the introduction of invalid input is called as
a) reliability b) robustness
c) fault-tolerance d) portability
 - 5) Project risk factor is considered in
a) spiral model b) waterfall model
c) prototyping model d) iterative enhancement model
 - 6) _____ feasibility considers the cost/benefit analysis of the system.
a) Technical b) Operational c) Economic d) None of these



- 7) A graphical picture of the sequence of operations of a program or an information system is called a flowchart
- a) True b) False
- 8) An interview method is time consuming and can be very costly if the number of respondents is large and widely distributed
- a) True b) False
- 9) Software Engineering primarily aims on developing
- a) reliable software
b) cost effective software
c) reliable and cost effective software
d) none of these
- 10) The basic objectives of testing is
- a) to designing the forms b) to generating reports
c) to find out the errors d) to generate code
- 11) Waterfall model is not suitable for
- a) small project b) complex project
c) accommodating change d) none of above
- 12) The Phase-in method is the longest method of system conversion.
- a) True b) False
- 13) _____ means allocating specific hardware and software technologies to essential model of new system.
- a) Construction b) Configuration
c) Coding d) Design
- 14) Cost of testing is less if it is White Box Testing
- a) True b) False
- 15) Level 0 DFD is also known as
- a) Functional DFD b) Context level DFD
c) Logical DFD d) Physical DFD
- 16) The interconnection and interaction between the subsystems are termed as interface
- a) True b) False



- 2. a) Explain system analyst is an change agent, motivator, an organizer, an architect and an intelligent sales person. **6**
 - b) Explain prototyping model in detail. **6**
 - c) Differentiate between Deterministic and Probabilistic Systems. **4**
 - 3. a) State the principles of testing. **6**
 - b) State the advantages and disadvantages of HIPO. **6**
 - c) Write short note on Requirement investigation. **4**
 - 4. a) Explain Statistics on data store. **6**
 - b) Distinguish between System Analysis and System Design. **6**
 - c) State the principles of flowcharting. **4**
 - 5. a) Explain the various fact finding techniques in detail. **8**
 - b) What is Normalization ? Explain its types. **8**
 - 6. a) What is Software Engineering ? Explain qualities of software. **8**
 - b) Draw CLD and first level DFD for Library System. **8**
 - 7. Write short notes on : **16**
 - a) Objectives of input design
 - b) Feasibility study
 - c) Data dictionary
 - d) User transaction requirements.
-



- 6) A query within another query is called _____
 - A) Nested query
 - B) Query
 - C) Both A) and B)
 - D) None of these
- 7) _____ is virtual or logical table that allows displaying contains of one or more tables.
 - A) Index
 - B) Sequence
 - C) View
 - D) Join
- 8) _____ is temporary work area created in the system memory when SQL statement is executed.
 - A) Trigger
 - B) Cursor
 - C) Both A) and B)
 - D) None of these

B) Fill in the blanks : 4

- 1) PL/SQL stands for _____
- 2) RDBMS stands for _____
- 3) _____ function gives total count of values on particular column.
- 4) _____ function always return maximum values of the column.

C) State **True** or **False** : 4

- 1) DML commands are used to change the data in database.
- 2) The set clause is used in update command.
- 3) Foreign key is used for uniqueness.
- 4) Sub query is executed only once.

2. A) Explain different data types used in RDBMS. 6

B) Explain any two DDL commands with syntax and example. 6

C) Explain select command in detail. 4

3. A) Explain order by clause and group by clause in detail. 6

B) What is view ? Explain different types of views. 6

C) Write a note on primary key and foreign key. 4



- 4. A) Explain differentiate between SQL and PL/SQL. 6
 - B) What is join ? Explain outer join in detail. 6
 - C) Explain different aggregate functions. 4

 - 5. A) Write a PL/SQL block for calculating factorial of given number. 8
 - B) What is trigger ? Explain different types of trigger in detail. 8

 - 6. A) What is cursor ? Explain cursor in detail. 8
 - B) Write a PL/SQL block for printing Fibonacci series of given number. 8

 - 7. Write short notes on following **(any 4)** : 16
 - 1) Operators in SQL.
 - 2) Stored procedure.
 - 3) Index.
 - 4) LIKE operator.
 - 5) Advantages of PL/SQL.
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Seat No.	
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**B.C.A. – II (Semester – IV) (Old) Examination, 2016
OPERATING SYSTEM**

Time : 3 Hours

Max. Marks : 80

- Note :**
- 1) Q. 1 and Q. 7 is **compulsory**.
 - 2) Solve **any two** questions from Q. 2 to Q. 4.
 - 3) Solve **any one** question from Q. 5 and Q. 6.
 - 4) Figures to the **right** indicate **full** marks.

1. A) Choose the correct alternative : 10
- 1) A set of processes is deadlock if
 - a) each process is blocked and will remain so forever
 - b) each process is terminated
 - c) all processes are trying to kill each other
 - d) none of the mentioned
 - 2) _____ algorithm has lowest page fault rate.
 - a) FIFO
 - b) LRU
 - c) Optimal page replacement
 - d) None of the above
 - 3) Which scheduling algorithm allocates the CPU first to the process that requests the CPU first ?
 - a) first-come, first-served scheduling
 - b) shortest job scheduling
 - c) priority scheduling
 - d) none of the above
 - 4) A process can be terminated due to
 - a) normal exit
 - b) fatal error
 - c) killed by another process
 - d) all of the mentioned



- 5) Virtual memory is implemented using
- a) Demand paging
 - b) Swapping
 - c) Fragmentation
 - d) None
- 6) Which directory implementation is used in most Operating System ?
- a) Single level directory structure
 - b) Two level directory structure
 - c) Three directory structure
 - d) Acyclic directory structure
- 7) A direct method of deadlock prevention is to prevent the occurrence of
- a) Mutual exclusion
 - b) Hold and Wait
 - c) Circular wait
 - d) All of the above
- 8) Which of the following memory management scheme loads all pages of a program from disk into main memory ?
- a) Paging
 - b) Demand paging
 - c) Segmentation
 - d) Demand segmentation
- 9) File type can be represented by
- a) File name
 - b) File extension
 - c) File identifier
 - d) None of the above
- 10) In a segmentation scheme the logical memory will be divided into
- a) Pages
 - b) Frames
 - c) Blocks
 - d) Segments

B) State **true** or **false** :

6

- 1) Text file is a sequence of characters organized into lines.
- 2) A time sharing system is always a multiprogramming system.
- 3) The long-term scheduler controls the degree of multiprogramming.
- 4) Semaphore doesn't require busy waiting.
- 5) An unsafe state always leads to a deadlocked state.
- 6) Starvation is solved by priority scheduling algorithm.



- 2. A) What do you mean by an Operating System ? Explain any 3 components of an Operating System ? 6
 - B) What is swapping ? Why does one need to swap areas of memory ? 6
 - C) Which are the basic file operations ? 4
 - 3. A) What are the requirements to solve the critical section problem ? 6
 - B) Explain round robin scheduling algorithm with example. 6
 - C) Explain inter process communication. 4
 - 4. A) What is deadlock ? Explain 4 necessary conditions of deadlock. 6
 - B) Explain various operating system services. 6
 - C) Explain demand paging in short. 4
 - 5. A) Calculate the total number of page fault using First Come First Serve (FCFS) and LRU Page replacement algorithm on following reference string having maximum 03 frames – 1, 7, 0, 1, 2, 0, 3, 0, 4, 2, 3, 0, 3, 2, 1, 2, 0, 1, 7, 0, 1. 8
 - B) Explain contiguous allocation method for allocating disk space. 8
 - 6. A) Discuss the Banker’s Algorithm for deadlock-avoidance in detail. 8
 - B) State and explain various directory structures. 8
 - 7. Write short notes (**any four**) : 16
 - 1) Process Control Block
 - 2) Semaphore
 - 3) Overlays
 - 4) Real time O.S.
 - 5) System Call
 - 6) Priority Scheduling.
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Seat No.	
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**B.C.A. – II (Semester – IV) (Old) Examination, 2016
WEB TECHNOLOGY – II**

Time : 3 Hours

Total Marks : 80

- Instructions:** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
3) Attempt **any one** question from Q. No. 5 to Q. No. 6.
4) **All** questions carry **equal** marks.

1. Choose the correct alternatives :

16

- 1) PHP is a client-side scripting language designed for web development.
a) True b) False
- 2) Which of the following is the characteristic of PHP ?
a) PHP is a open source
b) Fast execution of scripts
c) Supported by most web servers
d) All of these
- 3) If a variable is created without a value is assigned _____ value.
a) Zero b) NULL c) One d) Garbage
- 4) The _____ loop works only on arrays.
a) foreach b) for c) while d) do..while
- 5) fgets() is used to read a file one line at a time.
a) True b) False
- 6) PHP files can contain _____
a) HTML code b) JavaScript code
c) PHP code d) All of these
- 7) Which one of these variables has an illegal name ?
a) \$2myVar b) \$myVar c) \$my_Var d) \$_myVar



- 8) _____ is a special variable, which can hold more than one value at a time.
a) Structure b) Class c) Array d) Interface
- 9) Variables are case sensitive in PHP.
a) True b) False
- 10) Data for a cookie stored in _____ in PHP.
a) Server Computer b) Client Computer
c) Both a) and b) d) None of these
- 11) _____ can redefines a base class method in a derived class.
a) Override b) Overload
c) Property d) Index
- 12) Which of following function return 1 when output is successful ?
a) echo() b) print ()
c) both a) and b) d) none of these
- 13) Which of the following is not the PHP data type ?
a) String b) Integer c) Array d) Character
- 14) The cookies can be accessed using the super global variable COOKIE_\$.
a) True b) False
- 15) Local variables are destroyed when you exit the function.
a) True b) False
- 16) PHP files have a default extension is _____
a) .html b) .php c) .ph d) .htm
2. a) Explain different string library functions. **6**
b) What is session ? Explain the concept of session variables. **6**
c) Write note on multidimensional array. **4**
3. a) What is PHP ? Explain the benefits of PHP. **6**
b) Explain the concept of abstract class with suitable example. **6**
c) Write note on super global array. **4**



- 4. a) What is constructor ? Explain in detail. **6**
 - b) Explain different operators in PHP. **6**
 - c) How PHP works with the web server. **4**

 - 5. a) Explain the term : **8**
 - i) Create a function
 - ii) Return value from a function
 - iii) Default arguments.
 - b) Write a program to copy the content of one file into another. **8**

 - 6. a) Design a web application to perform the following operations on student table. **8**
 - i) Add a new record
 - ii) Modify a record.
 - b) What is data validation ? Explain client-side validations. **8**

 - 7. Write short note on the following : **16**
 - a) History of PHP
 - b) Variable scope
 - c) Final keyword
 - d) fopen().
-



- C) State **true** or **false** : **8**
- 1) Filter programs allow only pre-selected words or images to appear on your browser.
 - 2) Copying files from your computer to another computer on the Internet is called uploading.
 - 3) FTP allows you to connect to another computer and run programs there.
 - 4) A plug-in is an independent program that can be executed by the browser to add capabilities.
 - 5) Cyber cash is a medium of exchange on the Internet.
 - 6) Web store fronts are virtual stores for B2C electronic commerce.
 - 7) B2B involves the sale of a product or service from one business to another.
 - 8) C2C involves the sale of product or service to the general public.
2. A) Explain e-commerce perspectives. **6**
 B) Define trade cycle. **5**
 C) What is E-visibility. **5**
3. A) Explain intel organizational value chains. **6**
 B) Define business strategy. **5**
 C) Explain B2C e-commerce. **5**
4. A) Define electronic newspapers. **6**
 B) Explain uses of internet banking. **5**
 C) Explain B2B electronic commerce. **5**
5. A) Explain benefits of EDI. **8**
 B) Explain internet bookshops and e-shops. **8**
6. A) Explain credit transactions trade cycle. **8**
 B) Define gambling on the net. **8**
7. What do you mean by electronic markets ? Explain uses of electronic markets and advantages and disadvantages of electronic market. **16**
-



Seat No.	
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**B.C.A. – III (Semester – V) (New CGPA) Examination, 2016
ADVANCED JAVA – I**

Time : 2 Hours 30 Minutes

Total Marks : 70

- Instructions :** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2 to Q. 4.
3) Attempt **any one** question from Q. 5 to Q. 6.

1. A) Choose correct alternatives.

7

- 1) Which of the following class/interface manages a list of database drivers in JDBC ?
 - a) DriverManager
 - b) JDBC driver
 - c) Connection
 - d) Statement
- 2) _____ method can be used to access the ServletConfig object.
 - a) getServletInfo()
 - b) getServletConfig()
 - c) both a) and b)
 - d) none of these
- 3) Which of these functions is called to display the output of an applet ?
 - a) display()
 - b) paint()
 - c) displayApplet()
 - d) PrintApplet()
- 4) Which type of driver converts JDBC calls into the network protocol used by the database management system directly ?
 - a) Type 1 driver
 - b) Type 2 driver
 - c) Type 3 driver
 - d) Type 4 driver
- 5) By default, the type of ResultSet is _____.
 - a) TYPE_SCROLL_SENSITIVE
 - b) TYPE_SCROLL_INSENSITIVE
 - c) TYPE_FORWARD_ONLY
 - d) CONCUR_READ_ONLY



- 6) Which object can be used to get configuration information from web.xml file ?
- a) ServletConfig
 - b) ServletContext
 - c) Both a) and b)
 - d) None of these
- 7) _____ Statement executes parameterized SQL statement that invoke DB procedure or function.
- a) Statement
 - b) PreparedStatement
 - c) SQLStatement
 - d) CallableStatement

B) State whether **True** or **False** : **4**

- 1) XML is case sensitive language.
- 2) Servlet is executed at both side client and server.
- 3) Applet must be run under an applet viewer or a java compatible browser.
- 4) The return type of executeUpdate() method of JDBC statement is boolean.

C) Fill in the blanks : **3**

- 1) XML stands for _____
- 2) DSN stands for _____
- 3) A _____ is a small piece of information that is persisted between the multiple client requests.

2. Attempt **any two** of the followings : **14**

- A) Explain use of ServletContext Interface with suitable example.
- B) Write a program that will demonstrate use of 'CallableStatement'.
- C) What is servlet ? Explain servlet life cycle with suitable example.

3. Attempt **any two** of the followings : **14**

- A) Write a program that use of 'Cookies' in servlet.
- B) Explain all types of JDBC Statement and Methods of JDBC Statement.
- C) Write a program to design an applet that check entered number is Prime or not.



4. Attempt **any two** of the followings : 14
- A) Differentiate between GenericServlet and HttpServlet.
 - B) What is Applet ? Explain initialization and termination of Applet.
 - C) Write a program that store the product record such as p_id, p_name, m_date, exp_date, price, etc. into product table (Use type-4 driver and oracle database).
5. A) What is XML ? Explain use and attribute of XML in detail. 7
- B) Write a program that will demonstrates use of include () and forward ().
method of RequestDispatcher interface. 7
6. A) What is session ? Explain use of HttpSession with suitable example. 7
- B) What is JDBC ? Explain all components and features of JDBC. 7
7. Write short note on followings (**any two**) : 14
- 1) XML Elements.
 - 2) Applet HTML tags.
 - 3) Servlet API.
-



- 8) To implement delegate the necessary condition is _____
- a) Class declaration b) Inheritance
c) Runtime polymorphism d) Exceptions
- 9) _____ is not a namespace in the .NET framework class library.
- a) System.Process b) System.Security
c) System.Threading d) System.Data
- 10) _____ bytes are stored by 'Long' datatype in c#.net.
- a) 8 b) 4 c) 2 d) 1
- 11) An event has _____ as default return type.
- a) No return type b) Double c) Integer d) String
- 12) JIT stands for just in Time compiler.
- a) True b) False
- 13) Which of the following is not .Net Exception Class ?
- a) DivideByZeroException b) StackMemoryException
c) OutOfMemoryException d) Exception
- 14) _____ is read only, forward only stream of data from database.
- a) DataReader b) DataAdapter
c) Dataset d) None of above

2. Write the answer of the following questions (**any two**) : **14**

- A) What is Array ? Explain its different types with example.
B) What is Interface ? How to implement interface explain with example ?
C) What are components of Microsoft Dot Net framework ? Explain in detail.

3. Write the answer of the following questions (**any two**) : **14**

- A) What is Exception ? Explain importance of finally block.
B) Explain different types of delegates.
C) What is visibility control ? List out visibility controls in C#.



4. Write the answer of the following questions (**any two**) : **14**
- A) Describe different types of Assemblies.
 - B) What is reference type and value types explain in detail ?
 - C) What is Indexer ? Give one example.
5. A) Explain ListBox and ComboBox controls with their main properties. **7**
B) Write a windows program to insert records. **7**
6. A) Illustrate DataReader and DataAdapter with their main differences. **7**
B) What is Stream ? Explain console I/O streams. **7**
7. Write short note on **any two** of the following : **14**
- a) Static members and Static Methods
 - b) Enumeration
 - c) MultiThreading.
-



Seat No.	
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B.C.A. – III (Semester – V) (New CGPA) Examination, 2016
COMPUTER SCIENCE
Linux and Shell Programming

Time : 2½ Hours

Marks : 70

- Instructions:** 1) Q. 1 and Q. 7 are **compulsory**.
2) Solve **any two** questions from Q. 2 to Q. 4.
3) Solve **any one** question from Q. 5 and Q. 6.
4) **All** questions carry **equal** marks.

1. Choose correct alternatives.

14

- 1) Which of the following command is used to access an SMB share on a Linux system ?
A) NFS B) SMD C) Smbclient D) Smclient
- 2) Which can be used to check if the connection to a host is fine ?
A) ping B) netstat C) arp D) route
- 3) What command is used to remove jobs from the print queue ?
A) lprm B) lpr C) lpq D) rm
- 4) In what file can you specify which users are not allowed to access a system via FTP ?
A) /etc/ftpusers B) /etc/hosts.deny
C) /etc/ftpaccess D) /etc/users
- 5) The location of some system configuration and system administrator executable files is
A) /home B) /proc C) /sbin D) bin
- 6) Which command is used to locate all the 'profile' files in the system ?
A) ls profile B) find/-name profile-print
C) cd/.profile D) none of these

P.T.O.



- 7) The command `chmod 452` letter is equivalent to
- A) `chmod u = 4, g = 5, o = 2` letter
 - B) `chmo a = 452` letter
 - C) `schmod u = r, g = rx, o = w` letter
 - D) `chmod ugo = 452` letter
- 8) What command is used with `vi` editor to move forward to the end of a word ?
- A) `c` B) `d` C) `b` D) `f`
- 9) After you have compiled your kernel, what do you have to edit to boot your new kernel image ?
- A) `/boot/lilo.conf` B) `/etc/conf.modules`
 - C) `/dev/lilo.conf` D) `/etc/lilo.conf`
- 10) Which command sends the word count of the file 'infile' to the 'newfile' ?
- A) `wc infile > newfile` B) `wc newfile`
 - C) `wc infile | newfile` D) `wc infile < newfile`
- 11) Which symbol is used to separate more than one command in the same command line ?
- A) `$` B) `#` C) `;` D) `|`
- 12) In `vi` editor, forward search is performed using the command.
- A) `:pat` B) `?pat` C) `/pat` D) `\pat\`
- 13) Which of the following command addresses all users who are currently hooked on ?
- A) `write` B) `mail` C) `wall` D) None of these
- 14) Which of the following commands is used to copy a file 'web' from the "programs" directory into a file called 'aspx' in the "misc" directory ?
- A) `copy programs/web misc.aspx` B) `cp programs/web misc.aspx`
 - C) `tar programs/web misc.aspx` D) `mv programs/web misc.aspx`
2. A) Explain 'ls' commands with different options. 5
- B) What do you mean by mounting and unmounting ? Explain one example. 5
- C) Write note any two shells present in Linux. 4



- 3. A) Explain sort commands with suitable example. 5
 - B) How do you change file access permission ? How will you set permissions for a file ? Explain with example. 5
 - C) Differentiate between the block and character devices ? Also specify the example. 4
 - 4. A) Write a group management commands. 5
 - B) Explain commands for comparing files. 5
 - C) Explain the usage of the following variables : 4
 - i) \$# ii) \$*
 - iii) \$\$ iv) \$?
 - 5. A) Give the role and responsibilities of system administrator. 7
 - B) Write a shell script to generate the series 1, 5, 2, 10, 3, 15,...50. 7
 - 6. A) Explain various commands available in Linux for networking. Discuss suitable examples. 7
 - B) Write a shell script to calculate sum of all even numbers between 1 to n. 7
 - 7. Write note on (**any two**) : 14
 - A) i) LILO
 - ii) GRUB
 - B) Features of vim
 - C) DHCP.
-



Seat No.	
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B.C.A. (Part – III) (Semester – V) (New CGPA) Examination, 2016
COMPUTER SCIENCE
Introduction to Data Mining and Warehousing

Time : 2 Hours 30 Minutes

Total Marks : 70

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

1. Choose the correct alternative. 14

- 1) _____ is the partition of overall data warehouse.
 - a) Operational Data
 - b) Database
 - c) Data Mart
 - d) Data Cube
- 2) _____ technique is useful to the process data and generates high-quality information from unstructured data like text.
 - a) Text mining
 - b) Web mining
 - c) Spatial mining
 - d) Multimedia mining
- 3) The basic structure of data warehouse doesn't containing _____ rule.
 - a) integrated
 - b) subject oriented
 - c) volatile
 - d) time dependent
- 4) The star schema consists of _____ fact table.
 - a) one
 - b) two
 - c) three
 - d) many
- 5) KDD describes the process of
 - a) information exchange
 - b) extraction of knowledge
 - c) data acquisition
 - d) visualization
- 6) The data is stored, retrieved and updated in
 - a) OLAP
 - b) OLTP
 - c) FTP
 - d) HTTP

P.T.O.



4. Attempt **any one**. 14

- a) Differentiate OLAP and OLTP in detail. What is multidimensional data modelling ? Explain schemas and operations used in multidimensional data.
- b) Why data pre-processing required ? Explain data reduction and data cleaning technique in detail.

5. Attempt **any one** : 14

- a) Explain different significant trends used in data warehousing.
- b) Explain Apriori algorithm in detail. Find strong association from following table (Min_support=2 and min_confidence=70%)

Tr. ID	List of Items
T1	A, B, E
T2	B, D
T3	B, C
T4	A, B, D
T5	A, C
T6	B, C
T7	A, C
T8	A, B, C, E
T9	A, B, C



Seat No.	
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**B.C.A. – III (Semester – V) (New) (CGPA Pattern) Examination, 2016
COMPUTER SCIENCE
Management Information System**

Time : 2¹/₂ Hours

Max. Marks : 70

- Instructions :** 1) Q. 1 and Q. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2, Q. 3 and Q. 4.
3) Attempt **any one** question from Q. 5 and Q. 6.

1. A) Solve multiple choice questions : 5
- 1) Long form of KMS _____
 - a) Knowledge Measurement System
 - b) Knowledge Management System
 - c) Knowledge Message System
 - d) Knowledge Movement System
 - 2) The backbone of any organization is _____
 - a) Information
 - b) Employee
 - c) Management
 - d) Capital
 - 3) ESS stands for _____
 - a) Export Support System
 - b) Easy Support System
 - c) Executive Support System
 - d) None of above
 - 4) The complements of DSS are _____
 - a) Database
 - b) Model Management System
 - c) Support tools
 - d) All above
 - 5) Which of the following is not a class of information system application ?
 - a) Database management system
 - b) Decision support system
 - c) Expert system
 - d) Management information system



B) Fill in the blanks :

5

- 1) _____ is the raw material of information.
- 2) _____ covers the planning, control and administration of the operation of the concern.
- 3) ERP is the short form of _____
- 4) The role of _____ is to control access to internal network sought by the user.
- 5) Long form of OLAP _____

C) State **true** or **false** :

4

- 1) Service being Tangible can be stored like goods.
- 2) A plan is determined, pre-determined course of action to be taken into future.
- 3) Middle level management is responsible for monitoring the firm's daily activities.
- 4) SCM means Supply Chain Management.

2. Answer the following (**any two**) :

14

- A) Explain the characteristics of BIS.
- B) Write down security management system.
- C) Explain role of manager in an organization.

3. Answer the following (**any two**) :

14

- a) Explain the needs and importance of information system.
- b) Explain objectives and characteristics of MIS.
- c) Write down the features of organization.



4. Write a short note on **(any two)** : **14**
- A) Characteristics of computerized MIS.
 - B) Advantages and disadvantages of ERP.
 - C) Characteristics and attributes of DSS.
5. A) What is DSS ? Explain the components of DSS and its types. **7**
- B) Explain the application in Hotel Management System. **7**
6. A) Explain application in Hospital Management System. **7**
- B) Explain the advantages and disadvantages of ESS. **7**
7. Write a short notes on **(any two)** : **14**
- 1) Decision Making Process
 - 2) Benefits and approach of BIS
 - 3) MIS Development Process.
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Seat No.	
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B.C.A. (Part – III) (Semester – V) (Old) Examination, 2016
COMPUTER SCIENCE
Advanced Java – I

Time : 3 Hours

Total Marks : 80

- Instructions :** 1) Q. 1 and Q. 7 are **compulsory**.
2) Solve **any two** questions from Q. 2 to Q. 4.
3) Solve **any one** question from Q. 5 and Q. 6.
4) Figures to the **right** indicate **full** marks.

1. A) Choose the correct alternatives :

8

- 1) How many JDBC technology-based drivers are exist ?
A) 2 B) 3 C) 4 D) 5
- 2) Which method is used for an SQL statement that is executed frequently ?
A) preparedStatement B) prepareCall
C) createStatement D) none of the above
- 3) Which method is called only once during the run time of your applet ?
A) stop() B) paint() C) init() D) destroy()
- 4) The applet class is in _____ package.
A) java.awt B) java.applet C) java.io D) java.sql
- 5) Which of the following XML fragments are well-formed ?
A) <?xml?>
B) <?xml version="A.0"?>
C) <?xml encoding="JIS"?>
D) <?xml encoding="JIS" version="A.0"?>
- 6) To add the attribute named Type to the <customer> tag the syntax will be
A) <customer attribute Type="exelent">
B) <customer Type attribute="exelent">
C) <customer Type attribute_type="exelent">
D) <customer Type="exelent">

P.T.O.



- 7) Which packages represent interfaces and classes for servlet API ?
 - A) javax.servlet B) javax.sql
 - C) both A and B D) none of the above
- 8) Which methods are used to bind the objects on HttpSession instance and get the objects ?
 - A) setAttribute B) getAttribute
 - C) both A and B D) none of the above

B) Fill in the blanks : 4

- 1) _____ method is used to perform DML statements in JDBC.
- 2) _____ is an optional attribute of an applet tag.
- 3) Servlet technology is used to create _____ type of Applications.
- 4) In _____ file we define a servlet mapping.

C) State **True** or **False** : 4

- 1) The JDBC API is used to invoke SQL commands directly.
- 2) Applet runs inside the browser and works at client side.
- 3) XML tags are case insensitive.
- 4) In HTTP Request method get request is secured because data is exposed in URL bar.

2. A) Explain different types of drivers used for JDBC. 6

B) What is Applet ? Explain the different types of Applet. 6

C) Explain the use of html applet tag with its attributes. 4

3. A) Explain the different steps within life cycle of servlet. 6

B) Explain session tracking in servlet with example. 6

C) Explain the XML attributes with example. 4

4. A) Explain the use of prepared statement with example. 6

B) Explain the different steps within the development of applet. 6

C) What is the difference between GenericServlet and HttpServlet ? 4



5. A) Write a JDBC program to insert information of a student (rollno, name, marks, grade) and display the inserted information. **8**
B) Write a Servlet program for handling cookies. **8**
6. A) Design an applet to display the rectangle, circle and arc on the screen. **8**
B) Write a program for handling doPost () method. **8**
7. Write a short note on the following (**any 4**) : **16**
- A) ResultSet interface
 - B) Applications of Applet
 - C) XML Elements
 - D) Advantages of Servlet over CGI
 - E) DriverManager in JDBC.
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Seat No.	
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**B.C.A. – III (Semester – V) (Old) Examination, 2016
VISUAL PROGRAMMING**

Time : 3 Hours

Max. Marks : 80

- Instructions :** 1) *Que. No. 1 and Que. No. 7 are compulsory.*
2) *Solve **any two** questions from Q. 2 to Q. 4.*
3) *Solve **any one** question from Q. 5 and Q. 6.*

1. Choose the correct alternatives :

16

- 1) The activated event is found only in _____ object.
 - A) Button
 - B) Form
 - C) Label
 - D) TextBox
- 2) _____ to be declared as abstract.
 - A) Classes
 - B) Functions
 - C) Both A) and B)
 - D) None of these
- 3) The enum enumerates a list of words by assigning the value starting from one.
 - A) True
 - B) False
- 4) By default priority of thread is
 - A) Highest
 - B) Below normal
 - C) Normal
 - D) Above normal
- 5) Value type data is stored in
 - A) Stack
 - B) Queue
 - C) Heap
 - D) Hash
- 6) Try block has one or more catch blocks.
 - A) True
 - B) False



- 7) A _____ is used by a single .Net application.
- A) Private assembly B) Shared assembly
C) Protected assembly D) Public assembly
- 8) Delegates are value type.
- A) True B) False
- 9) Which of the following is the property of exception class ?
- A) Message B) StackTrace
C) TargetSite D) All of these
- 10) The _____ accessor takes no parameter and must return the same types as the declared property.
- A) get B) set
C) read D) write
- 11) Abstract class cannot be sealed.
- A) True B) False
- 12) Which of the following define the rules for .Net languages ?
- A) CLR B) CTS
C) CLS D) GAC
- 13) Base keyword used to restrict your class from being inherited.
- A) True B) False
- 14) _____ method is used to write single byte to a file.
- A) ByteWrite() B) WriteByte()
C) Write() D) StoreByte()
- 15) _____ modifier used to hide the base class method.
- A) Sealed B) Override
C) New D) Private
- 16) The method that will be invoked by a delegate at
- A) Run-time B) Compile-time
C) Load-time D) Link-time



- 2. A) Explain main properties and events of TextBox control. 6
 - B) What is interface ? Explain with suitable example. 6
 - C) Write note on Lambda expression. 4
 - 3. A) Explain different functions of CLR. 6
 - B) What is thread synchronization ? Explain in detail. 6
 - C) Write note on base keyword. 4
 - 4. A) Explain multicast delegate with suitable example. 6
 - B) Explain ArrayList class with different methods. 6
 - C) Give the use of foreach statement. 4
 - 5. A) What is custom exception ? Give one example. 8
 - B) What are assemblies ? Explain types of assemblies. 8
 - 6. A) Write a program to copy a data from one file into another file. 8
 - B) Explain the term : 8
 - i) DataSet
 - ii) DataReader
 - iii) DataAdapter
 - 7. Write short note on (**any four**) 16
 - A) Enumeration
 - B) Ref and out parameters
 - C) Virtual and override keyword
 - D) Method Overloading
 - E) Windows service.
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Seat No.	
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**B.C.A. – III (Semester – V) (Old) Examination, 2016
LINUX AND SHELL PROGRAMMING**

Time : 3 Hours

Max. Marks : 80

- Instructions:** 1) Q. 1 and Q. 7 are compulsory.
2) Solve **any two** questions from Q. 2 to Q. 4.
3) Solve **any one** question from Q. 5 to Q. 6.
4) **All** questions carry **equal** marks.

1. Choose correct alternative :

16

- 1) A file with permission status of `rwxr-xr--` indicates
 - A) The owner has all permission; the group has only Read permissions
 - B) The owner has only Read and Execute permissions
 - C) The owner has all permissions; the group has only Read and Execute permissions and others has read permission
 - D) The group has all permissions; the owner has only Read and Execute permissions
- 2) The default file manager of GNOME is _____
 - A) Nautilus
 - B) Konqueror
 - C) FileMan
 - D) None of these
- 3) Which symbol will be used with `grep` command to match the pattern **pat** at the beginning of a line ?
 - A) `pat^`
 - B) `$pat`
 - C) `pat$`
 - D) `^pat`
- 4) Which of the following server need to configure in order to access windows network ?
 - A) Web Server
 - B) Samba Server
 - C) DNS
 - D) FTP Server
- 5) Which of the following command is used to access the network in secured way ?
 - A) `ssh`
 - B) `telnet`
 - C) `tail`
 - D) `grep`
- 6) The path of home directory is set by variable _____
 - A) `HOME`
 - B) `HOME`
 - C) `PATH`
 - D) None of these



- 7) What is the full path for grub's configuration file ?
- A) /boot/grub/lsf.conf B) /boot/grub/menu.lst
C) /etc/grub/grub.conf D) /etc/grub/grub.txt
- 8) Which of the following tool is used to partition your hard drive ?
- A) mkfs B) fsck C) fdisk D) mount
- 9) How can find a file named gust, created by user mats in the file system ?
- A) ls -l | grep gust | grep mats
B) find /* -type f -name gust -user mats
C) find /* -type f | grep gust
D) find /* -type d -name gust -user mats
- 10) Which are the two types of device files ?
- A) Character and Block B) I/O and socket
C) Block and FIFO D) None of these
- 11) Any file's attribute information is stored in _____ file system on the disk.
- A) Inode B) Data blocks
C) File blocks D) Directory file
- 12) Which of the following command is used to display duplicate lines from file 1 ?
- A) uniq -d file1 B) sort -d file1
C) sort file 1 | uniq -d D) dup file1
- 13) Which daemon is used for the Apache server ?
- A) apached B) httpd C) html D) shttp
- 14) Which of the following command is useful to job and process management ?
- A) jobs B) ps C) kill D) all of the above
- 15) Which of the following is not a component of a user account ?
- A) Home directory B) Password
C) Kernel D) Group ID
- 16) Command substitution takes the output of a command and uses it as an argument for another command.
- A) True B) False



- 2. A) List the basic Linux commands for managing files and directories. **6**
 - B) What is a shell ? How does it work with the Kernel and the user ? **6**
 - C) What is meant by command substitution ? Explain with the help of an example. **4**
 - 3. A) What does DHCP stand for ? Explain how it works. **6**
 - B) Define Editor ? What is the use of three different modes in VI editor ? Give the features of VI editor in Linux. **6**
 - C) What is piping with example ? What are the advantages of piping ? **4**
 - 4. A) Explain any three management tools commands. **6**
 - B) Explain Security enhanced Linux. **6**
 - C) What is device directory ? Differentiate between the block and character devices ? **4**
 - 5. A) Explain the job control facilities in Linux and write the commands for each facility with example. **8**
 - B) Write a shell script to count word length of user input string. **8**
 - 6. A) Write a menu driven shell script : **8**
 - 1) Redirect the output from the directory listing to a printer.
 - 2) Add the file efg.txt to the end of the file abc.txt.
 - 3) Observe the contents of the file called xyz.txt using more command.
 - 4) Create soft link to a file or directory instead of copying.
 - B) What does the command “grep” do ? What are the various options with example ? **8**
 - 7. Write short note on (**any four**) : **16**
 - a) chmod command
 - b) FTP
 - c) Xface4
 - d) Hierarchy of File system
 - e) NIS.
-



- 6) Online analytical processing can be performed in data warehouses/marts using
- A) Hierarchical data model
 - B) Multidimensional data model
 - C) Relational model
 - D) Partial materialization
- 7) _____ is a data cube that stores only those cube cells that have an aggregate value above some minimum support threshold.
- A) Snowflakes
 - B) Unicube
 - C) Iceberg cube
 - D) Multidimensional cube
- 8) OLAP servers may adopt
- A) A relational OLAP (ROLAP)
 - B) A multidimensional OLAP (MOLAP)
 - C) A hybrid OLAP (HOLAP)
 - D) All of these
- 9) _____ is the process of discovering interesting patterns from massive amounts of data.
- A) Data Analysis
 - B) Data Mining
 - C) Data Warehousing
 - D) Data Discovery
- 10) _____ is defined in terms of accuracy, completeness, consistency, timeliness, believability and interpretability.
- A) Data Quality
 - B) Data Measurement
 - C) Data Control
 - D) Data Mining
- 11) _____ routines attempt to fill in missing values, smooth out noise while identifying outliers and correct inconsistencies in the data.
- A) Data Clustering
 - B) Data Removal
 - C) Data Cleaning
 - D) Data Normalization
- 12) _____ combines data from multiple sources to form a coherent data store.
- A) Data integration
 - B) Data binding
 - C) Data analysis
 - D) Data collection



- 13) Data _____ routines convert the data into appropriate forms for mining.
 - A) Conversion
 - B) Binding
 - C) Transformation
 - D) Service

- 14) _____ techniques obtain a condensed representation of the data while minimizing the loss of information content.
 - A) Data Cleaning
 - B) Data Reduction
 - C) Data Warehousing
 - D) Data Clustering

- 15) _____ is a method of mining frequent itemsets without candidate generation.
 - A) Frequent pattern growth
 - B) Frequent pattern reduction
 - C) Frequent pattern enhancement
 - D) Frequent pattern measurement

- 16) _____ transforms numeric data by mapping values to interval or concept labels.
 - A) Data discretization
 - B) Data transformation
 - C) Data mining
 - D) Data warehousing

- 2. a) Discuss issues to consider during data integration. **6**
b) Explain Data Mining Functionalities. **6**
c) Give some recent trends in enhancement to browser tools. **4**

- 3. a) Explain APriory algorithm. **6**
b) What are the trends in data mining ? Explain. **6**
c) What is noise ? Explain data smoothing techniques. **4**

- 4. a) What is Data Cube Technology ? Explain. **6**
b) What are the benefits of data mining ? Explain. **6**
c) Give the functions of query tools. **4**

- 5. a) Explain four different methods for generation of concept hierarchies for nominal data with example. **8**
b) Explain the term data visualization with major visualization trends and its types. **8**



- 6. a) Explain multidimensional association rule mining. 8
 - b) Explain Data Warehousing Components in detail. 8
 - 7. Write a short note on (**any four**) : 16
 - 1) Star Schema.
 - 2) Need of data mining.
 - 3) Multiple data types.
 - 4) OLAP operations.
 - 5) Iterative sequence of KDD.
 - 6) Text Data Mining.
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Seat No.	
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**B.C.A. – III (Semester – V) Examination, 2016
MANAGEMENT INFORMATION SYSTEM (Old)**

Time : 3 Hours

Max. Marks : 80

- Instructions:** 1) Q. 1 and Q. 7 are **compulsory**.
2) Solve **two** questions from Q. 2 to Q. 4.
3) Solve **one** question from Q. 5 to Q. 6.

1. A) Choose correct alternatives : 12
- 1) _____ is various modules in ERP.
a) HRM b) DSS c) MIS d) ESS
 - 2) API Long form of
a) Application Programming Interface
b) Attitude Project Interchange
c) Application Procedure Interface
d) Application Personal Information
 - 3) _____ is a Component of Information System.
a) Hardware b) Attitude c) TPS d) OIS
 - 4) _____ is key elements of CRM.
a) Money b) Product
c) Customer Service d) Manufacture
 - 5) Information is a _____ of any Organisation.
a) Lifeblood b) Essential
c) Powerful d) System
 - 6) BIS stands for
a) Business Interest System
b) Business Intelligence System
c) Business Information System
d) Business Improvement System



- 7) _____ is a features of SCM.
- a) Integrated Behavior
 - b) Individual Behavior
 - c) Global Behavior
 - d) National Behavior
- 8) KMS long form of
- a) Knowledge Measurement System
 - b) Knowledge Management System
 - c) Knowledge Message System
 - d) Knowledge Movement System
- 9) _____ is Characteristics of Information System.
- a) Relevant
 - b) Environmental
 - c) Uncomplete
 - d) Unavailable
- 10) The most experience business owners can learn from their
- a) Guides
 - b) Servant
 - c) Owner
 - d) Mistake
- 11) ES stands for
- a) Expert System
 - b) Executive System
 - c) Easy System
 - d) Essential System
- 12) A manager has _____ over all allocation and distribution of sections.
- a) Command
 - b) Power
 - c) Rules
 - d) Lead

B) Choose **True** or **False** :

4

- i) MIS is use of Information and Communication Technologies.
- ii) ERP is not helpful to Critical Decision-making.
- iii) Organization is a Social Entity.
- iv) Information is needed to survive in the modern Competitive World.

2. a) Write the features of Organization.

6

b) Write down needs and objectives of Information System.

6

c) Write short note on Feedback Control.

4



- | | |
|--|----|
| 3. a) Write down advantages and disadvantages of ESS. | 6 |
| b) Explain characteristics of Management. | 6 |
| c) Write down Accounting System. | 4 |
| 4. a) Write down the characteristics of Good Information. | 6 |
| b) Explain the scope and objectives of CRM. | 6 |
| c) Write short note on knowledge Management. | 4 |
| 5. a) Explain the Application of MIS in Hospitals. | 8 |
| b) Explain the advantage and disadvantage of Executive Support System. | 8 |
| 6. a) Explain the characteristics of MIS. | 8 |
| b) Explain application of MIS in Manufacturing. | 8 |
| 7. Write short notes on : | 16 |
| a) Benefits of DSS. | |
| b) System vulnerability. | |
| c) Supply Chain Management. | |
| d) Approaches of BIS. | |
| e) Role of Manager in Organization. | |
-



- 4. a) Explain constructor injection. 6
 - b) Explain JSP life cycle with suitable example. 6
 - c) What are the advantages and disadvantages of JavaBean ? 4

 - 5. a) Write a program to display product records (pid,pname,mdate, exp_date,price).
 from product table. (Use JSTL SQL Tags and oracle database). 8
 - b) Explain the Architecture of spring. 8

 - 6. a) What are the steps for creating first Spring Application and explain its suitable
 example ? 8
 - b) Write a program to insert student records (rollno, sname, contact, etc.)
 in student table in HB (Assume oracle database). 8

 - 7. Write short note on following (**any four**) : 16
 - a) Explain ResultSetExtractor Interface.
 - b) Difference between JSP and Servlet.
 - c) Setter injection in spring.
 - d) WAP key feature.
 - e) Hibernate Annotation.
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Seat No.	
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**B.C.A. – III (Semester – VI) Examination, 2016
CYBER LAWS AND SECURITY CONTROL**

Time : 3 Hours

Total Marks : 80

- Instructions :** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q. 2 , Q. 3 and Q. 4.
3) Attempt **any one** question from Q. 5 and Q. 6.
4) Figures to the **right** indicate **full** marks.

1. A) Choose correct alternatives. 12
- I) _____ provides legal recognition of transaction carried out by means of Electronic commerce.
a) Cyber Law b) Cyber Crime c) IT Act d) Fairuse
- II) Ethical principal based on _____ value.
a) Information b) Moral c) Law d) Justice
- III) _____ is not a victimless crime.
a) Murdur b) Software Piracy
c) Copy right d) Law
- IV) As per IT act _____ cannot be in electronic form.
a) form b) license c) cheques d) records
- V) _____ means authentication of any electronic records by a subscriber by means of electronic method.
a) digital signature b) addressee
c) access d) E-commerce
- VI) Private Software means
a) software with license b) duplicate software
c) software without license d) copied software



- 4. a) Write down Theft of information. **6**
 - b) Explain the UNCITRAL Objectives and Scope. **6**
 - c) Short note on Security Audit. **4**
 - 5. a) Write down difference between Traditional Commerce and E-Commerce. **8**
 - b) Write down Information Technology Act 2000. **8**
 - 6. a) What is Cyber Law ? Explain the Intellectual Property aspects. **8**
 - b) What is E-Commerce ? Explain the scope of E-Commerce. **8**
 - 7. Write a short note on : **16**
 - a) Authentication Protocols
 - b) Prevention of Crime
 - c) Security Control
 - d) E-Commerce Application
 - e) E-Market.
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Seat No.	
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B.C.A. – III (Semester – VI) Examination, 2016
SOFTWARE PROJECT MANAGEMENT

Time : 3 Hours

Total Marks : 80

- Instructions:** 1) Q. No. 1 and Q. No. 7 are **compulsory**.
2) Attempt **any two** questions from Q. No. 2 to Q. No. 4.
3) Attempt **any one** question from Q. No. 5 to Q. No. 6.
4) **All** questions carry **equal** marks.

1. Choose the correct alternatives :

16

- 1) Which is not a size metric ?
 - a) LOC
 - b) Function count
 - c) Program length
 - d) Cyclomatic complexity
- 2) Developers are the people who have external stakeholders in the project.
 - a) True
 - b) False
- 3) Which of the following is the software quality specification ?
 - a) Functional
 - b) Quality
 - c) Resource
 - d) All of these
- 4) Project evaluation is carried out at the end of the project planning.
 - a) True
 - b) False
- 5) Which of the following is the goal of project management ?
 - a) Keeping overall costs within budget
 - b) Delivering the software to the customer at the agreed time
 - c) Maintaining well-functioning development team
 - d) All of the above
- 6) Group of methods or techniques are often referred as
 - a) Activities
 - b) Group plans
 - c) Methodologies
 - d) None of these



- 7) At _____ stage the overall quality aspects of the project plan are reviewed.
- a) Publicize plan
 - b) Allocate resources
 - c) Execute plan
 - d) Identify activity risk
- 8) The overall responsibility for ensuring satisfactory progress on a project often the role of the team leader.
- a) True
 - b) False
- 9) 10 KLOC = _____ LOC.
- a) 1000
 - b) 10000
 - c) 100000
 - d) 1000000
- 10) _____ related to the ability of the software to be transformed to a different environment.
- a) Functionality
 - b) Efficiency
 - c) Portability
 - d) Reliability
- 11) To create a schedule _____ tool used for project management.
- a) Gantt charts
 - b) Network-scheduling techniques
 - c) PERT
 - d) All of these
- 12) _____ is based on the idea of some kind of authority or power.
- a) Decision making
 - b) Motivation
 - c) Leadership
 - d) Organisational behavior
- 13) PBS stands for Process Breakdown Structure.
- a) True
 - b) False
- 14) Which of the following is not level of the CMM ?
- a) Optimizing
 - b) Testing
 - c) Repeatable
 - d) Managed
- 15) Which of the following is not objective of project ?
- a) Deliver after deadline
 - b) Stay within budget
 - c) Meet to the specified quality
 - d) Deliver on schedule
- 16) Same styles of leadership are needed in different situation.
- a) True
 - b) False



2. a) Explain Albrecht function point analysis.	6
b) Explain the importance of software quality to end users and developers.	6
c) Difference between Gantt chart and Ball chart.	4
3. a) Explain different services provided in terms of contract.	6
b) Differentiate between risk planning, risk avoidance, risk reduction, risk acceptance.	6
c) Difference between spiral model and waterfall model.	4
4. a) Explain backward pass with suitable example.	6
b) Explain RAD Model with its advantages.	6
c) List the different stakeholders of company payroll system.	4
5. a) Explain Hazard Identification in detail.	8
b) Explain ROI and NPV with suitable example.	8
6. a) Explain stepwise overview of project planning.	8
b) Explain scheduling resources and cost schedule.	8
7. Write short notes on (any four) :	16
a) Software project verses other types of project.	
b) Health and safety.	
c) V-process Model.	
d) Role of Project Manager.	
e) Quality plans.	



Seat No.	
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**B.C.A. – III (Semester – VI) Examination, 2016
WEB TECHNOLOGY – III**

Time : 3 Hours

Total Marks : 80

- Instructions:** 1) Q. 1 and Q. 7 are **compulsory**.
2) Solve **any two** questions from Q. 2 to Q. 4.
3) Solve **any one** question from Q. 5 to Q. 6.

1. A) Choose the correct alternatives : 8
- 1) ASP.NET works on _____ of the HTTP Protocol.
a) Top b) Bottom c) Policies d) Both a) and b)
 - 2) Assemblies are files that have the file name extension _____
a) .exe b) .dll c) .com d) None of the above
 - 3) Gets or sets the text for previous month navigation control.
The default value is _____
a) < = b) < c) > d) > =
 - 4) The best way to delimit ASP.NET code from HTML code in your Pages is by using _____ tags.
a) <body> b) Head> c) <script> d) All of the above
 - 5) The ASP.NET server control, which provides an alternative way of displaying text on web pages is _____
a) <asp:label> b) <asp:listitem>
c) <asp:buttons> d) None of the above
 - 6) Can a dll run as stand alone application.
a) No b) Yes
 - 7) There can be more than one machine.config file in a system.
a) True b) False
 - 8) What is the extension of a web user control file ?
a) .Asmx b) .Ascx c) .Aspx d) None of the above
- B) Fill in the blanks : 8
- 1) To turn off view state for a single control, set the _____ property of that control to false.
 - 2) All HTML server controls must be within a _____ tag with the run at="server" attribute.



- 3) By default _____ validation is performed when a Button, Imagebutton or linkbutton control is clicked.
- 4) WSDL stands for _____
- 5) _____ is a process of converting an object into a stream of data.
- 6) Web services use xml to code and to decode data and _____ to transport it.
- 7) Master page is an _____ file with the extension .master.
- 8) A skin file has the file name extension _____
2. a) Explain common properties of list box and drop down lists and write basic syntax of list box and drop down list control. **8**
- b) Write a note on file upload controls. **8**
3. a) What is validation in ASP.Net ? Explain Required Filed Validator control and Range Validator control with syntax. **8**
- b) What is navigation in ASP.NET ? Explain types of navigation. **8**
4. a) Why you need master pages in ASP.NET ? Explain. **8**
- b) Write a note on Role management in ASP.Net ? **8**
5. a) Explain state management in ASP.NET. **8**
- b) What is ASP.NET web parts ? What are the uses of web parts ? **8**
6. a) Write an ASP.NET programme using RangeValidator control to validate whether the value entered in a text box is between one and ten. **8**
- b) Design a web page to accept Item Name, Quantity and Rate to Calculate Net bill, give 10 percent discount if total bill is more than 100 rupees. Use appropriate ASP.NET controls to design above web page. **8**
7. Write short notes on the followings : **16**
- 1) Web.config file
 - 2) Treeview control
 - 3) Personalization in ASP.NET
 - 4) AJAX.
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