



**UNIVERSITY OF THE PUNJAB**  
**B.A. / B.Sc. (Composite) Annual Exam – 2019**

Roll No. ....

Subject: Computer Studies  
PAPER: A

MAX. TIME: 2 Hrs.  
MAX. MARKS: 50

**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

*Note: Attempt any FOUR Questions. All Questions carry equal marks.*

**Q.3.** Differentiate between the following:

- a) Application software and System software
- b) Trackball and Touchpad
- c) LCD monitor and CRT monitor
- d) Magnetic and Optical storage
- e) LAN and WAN

**Q.4.**

- a) Describe the basic operations of machine cycle.
- b) What is cache memory? Discuss its working and usefulness.

**Q.5.**

Explain the working of Internet. Discuss the use of computer and Internet in our daily life planning and decision making.

**Q# 6:** Write a VB 6 program to prepare the salary sheet of an employee. The program should input the monthly salary, over time (in hours) and number of leaves. Using these inputs, compute the net monthly salary of the employee on the basis of the following calculations:

- Compute hourly pay of the employee (assume 200 working hours in a month)
- Add over time payment
- Deduct leaves payment for the leaves exceeding 2 (for 1 or 2 leaves - no deduction)
- Add 15% of the monthly salary as an allowance
- Deduct 12% tax after adding / deducting the above amounts

**Q# 7:**

a) Water can be in three possible states, i.e., liquid, steam or ice depending on the temperature as given in the following table:

Temperature	Water state
Below 0	Ice
Between 0 and 100	Liquid
Above 100	Steam

Write a VB 6 program that asks the user to enter temperature and determines the state of water.

b) What is syntax error, logical error and run time error?

**Q# 8:** Write a program that computes the number of all the even integers and sum of all the even integers between two integers N1 and N2 provided by the user. For examples,

If N1 = 5 and N2 = 12, then the number of even integers between N1 and N2 is 4 and the sum is  $6+8+10+12 = 36$ .

If N1 = 4 and N2 = 13, then the number of even integers between N1 and N2 is 5 and the sum is  $4+6+8+10+12 = 40$ .



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Roll No. in Fig. ....

Roll No. in Words. ....

Signature of Supdt. ....

**Attempt this Paper on this Question Sheet only.**

**Please encircle the correct option. Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

**Q.1. Encircle the right answer cutting and overwriting is not allowed. (1x10=10)**

- The process of interpreting an instruction is called \_\_\_\_\_.  
(A) Fetch (B) Translate (C) Decode (D) Execute
- IBM stands for \_\_\_\_\_.  
(A) Internal Business Management (C) International Business Management  
(B) International Business Machines (D) Internal Business Machines
- Which of the following is not part of CPU?  
(A) ALU (B) Control Unit (C) Main Memory (D) Registers
- Data becomes \_\_\_\_\_ when it is presented in a format that people can understand and use.  
(A) processed (B) graphs (C) information (D) presentation
- Select the Odd one.  
(A) Operating system (B) Interpreter (C) Compiler (D) Assembler
- \_\_\_\_\_ attempts to produce machines that display the same type of intelligence that humans do.  
(A) Nanoscience (B) Nanotechnology (C) Simulation (D) Artificial Intelligence (AI)
- Which of the following is not a binary number?  
(A) 001 (B) 101 (C) 202 (D) 110
- \_\_\_\_\_ resides in active memory and replicates itself over a network to infect computers.  
(A) Time bomb (B) Worm (C) Melissa virus (D) Macro virus
- \_\_\_\_\_ computers are of large size.  
(A) Micro (B) Mainframe (C) Super (D) Mini
- Which of the following is the fastest memory?  
(A) Cache (B) Register (C) RAM (D) Hard Disk

**Q.2. Encircle the right answer cutting and overwriting is not allowed. (1x10=10)**

- What is the value of integer variable x after the statement  $x = 20 \text{ MOD } 3 * 5$  is executed?  
(A) 5 (B) 20 (C) 5 (D) 300
- Let  $A = 10$  and  $B = \text{True}$ , then the expression  $(A <= 10) \text{ AND } B$  evaluates to \_\_\_\_\_.  
(A) True (B) False
- An Integer type variable is assigned the following default value.  
(A) 0 (B) 1 (C) -1 (D) 255
- Relational operators allow you to \_\_\_\_\_ numbers.  
(A) Add (B) Multiply (C) Compare (D) Categorize
- Which of the following properties determines the number of elements in an array?  
(A) Size (B) Elements (C) Length (D) NumberOfElements
- Dynamic arrays can be declared when the user may not know the \_\_\_\_\_ of the array at design time.  
(A) exact column (B) exact variable (C) exact value (D) exact size
- \_\_\_\_\_ box provides a set of choices to the user.  
(A) List (B) Command (C) Message (D) Text
- The \_\_\_\_\_ is a tool used for both input and output purpose.  
(A) command button (B) text box (C) label (D) list box
- \_\_\_\_\_ is shortcut key used for execution of a VB program.  
(A) F7 (B) F2 (C) F5 (D) F9
- \_\_\_\_\_ property is used to hide the tool at runtime by setting its value to False.  
(A) visible (B) enabled (C) hide (D) delete



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**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

*Note: Attempt any FOUR Questions. All Questions carry equal marks.*

**Q3)** Define Entity, attribute and relationship and also discuss briefly their types.  
 (Marks:12.5)

**Q4)** (Marks: 3.5+9=12.5)

a) Differentiate Specialization and Generalization

b) Normalize the following "Customer\_Order" Relation up to 3<sup>rd</sup> Normal form but step by step, show each intermediate resultant table with its data.

**Customer\_Order**

Ord ID	Ord Date	Cust ID	Cust name	Cust Address	Item no	Item Name	Item Price	Qty	Bill	Tax	Bill with Tax
1	10 Feb 2014	1	Gohar	Lahore	1	Camera	5000	1	8000	800	8800
2	10 Feb 2014	2	Junaid	Karachi	2	Shirt	1000	3	7000	700	7700
					3	Suit	4000	1			
					4	Tie	500	2			
3	11 Feb 2014	1	Gohar	Lahore	4	Tie	500	2	1000	100	1100
4	11 Feb 2014	3	Sidra	Quetta	1	Camera	5000	1	5000	500	5500
5	12 Feb 2014	2	Junaid	Karachi	2	Shirt	1000	2	2000	200	2200

**Q5)** (Marks:5+7.5=12.5)

Note: use the following EMP table for answers of part a and part b.

EMP (empno, empname, job, salary, Hiredate, commission, deptno)

d) Write a SQL statement on EMP table, which displays empname, job, salary and revised salary of all employees. For revised salary calculation, please use the following criteria:

Job	Revised Salary Criteria
Clerk	40% increase in their salary
Salesman	30% increase in their salary
Manager	20% increase in their salary
Analyst	10% increase in their salary
Chairman	0% increase in their salary

**P.T.O.**



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**Q.1. Encircle the right answer cutting and overwriting is not allowed. (1x10=10)**

1. The language used to INSERT, UPDATE and DELETE data in a database is called the.....

- A) Structure Manipulation Language      B) Data Definition Language  
C) Data Manipulation Language      D) Data Control Language

2. More than one PRIMARY Key can be created for each table in a relational database.

- A) True      B) False      C) Statement is not clear

3. Column of a relation in relational database is called

- A) Attribute      B) Relational column      C) Entity      D) Record

4. In entity relationship diagram, many to many relationship is represented by M:M instead of M:N

- A) True      B) False      C) Statement is not clear

5. The number of entities in a relationship is called the .....of relationship

- A) Cardinality      B) Degree      C) Domain      D)None of them

6. If STUDENT and COURSE participate in a relationship, this is an example of a(n):

- A) Unary relationship.      B) Binary relationship.  
C) Ternary relationship.      D) Coupled relationship.

7. A .....entity is one whose existence depends on another entity.

- A) Weak      B) Strong      C) Structured      D) Independent

8. More than one Foreign Keys can be created for each table in a relational database.

- A) True      B) False      C) Statement is not clear

9. In an E-R diagram attributes are represented by

- A) Lines      B) Rectangles      C) Diamond shaped box      D) Ellipse

10. The sub-language of a SQL used to describe the structure of a database is called the Data Definition Language.

- A) True      B) False      C) Statement is not clear

**P.T.O.**

**Q2) Choose the most appropriate option for the following statements**  
**(Please write only correct options, no need to write whole Answer). (Marks:10)**

1. In ..... transmission, the channel capacity is shared by both communicating devices at all times.

- A) Simplex            B) Half-duplex            C) Full-duplex            D) Half-simplex

2. Which of the following scheduler is invoked on an I/O interrupt

- A) Long term scheduler            B) Medium term scheduler  
C) Short term scheduler            D) None of them

3. One method for reducing internal fragmentation is to use partitions of different sizes.

- A) True            B) False            C) Statement is not clear

4. On interactive systems, the average time it takes the system to start responding to user inputs is called.....

- A) Response time            B) Turnaround time            C) Wait time            D) None of them

5. When a process is created, the operating system must create a PCB for that process.

- A) True            B) False            C) Statement is not clear

6. A .....process is one that shares information with or controls the sequence of instructions executed by another process.

- A) Shared            B) Integrating            C) Cooperating            D) Binding

7. An interrupt is an event generated by the CPU and control goes to the Operating System

- A) True            B) False            C) Statement is not clear

8. Multipoint Line configuration is also called.....

- A) Point to Point Line configuration            B) Multi-drop Line configuration  
C) Multi-Attribute Line configuration            D) Multi-Connection Line configuration

9.....is made of glass or plastic and transmits signals in form of light.

- A) Optical Fiber            B) Coaxial Cable            C) Optical Fiber            D) All of them

10.A ..... is a data communication system covering an area the size of a town or city.

- A) Local Area Network (LAN)            B) Metropolitan Area Network (MAN)  
C) Wide Area Network (WAN)            D) None of them