ATKT Exam, Sem-I
FYBSC-IT
March-2024

FYBSC-IT

ATKT Exam

Sem-I

March-2024

Duration: $2\frac{1}{2}$ hrs Max. Marks: 75

N.B. 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume the necessary data.

Q.1. Attempt any Three of the following:

a) What is system? Explain its advantages. (5)
b) List the advantages of digital system. (5)
c) Explain numbering system with an example. (5)
d) Write a short note on 'Binary to Decimal Conversion'. (5)
e) Illustrate binary to hexadecimal conversion with an example. (5)
f) Explain the concept XS3 code with an example. (5)

Q.2. Attempt any Three of the following:

a) Write a short note on:- (5)
   I) NOT gate
   II) XNOR gate
b) Draw the truth table for OR gate with 4 inputs. (5)
c) State the de-morgan's second law with truth table. (5)
d) Simplify following Boolean expression (5)
   $(A+B)(A+C)(B+C)$
e) Convert the SOP in POS form (5)
   $Y=ABD+AB\bar{C}+BCD$
f) Represent the given expression on K-map and draw logic diagram for it. (5)
   $Y=\bar{A}\bar{B}\bar{C}+\bar{A}\bar{B}C+\bar{A}BC+\bar{A}B\bar{C}+AB\bar{C}+ABC$

Q.3. Attempt any Three of the following:

a) Write a short note on combinational logic circuit. (5)
b) Design a combinational logic circuit having 4 input variable and 1 output variable. The output of first six logic condition is logic 1 rest are 0. Draw the truth table and minimize it using K-map. (5)
c) Draw the code conversion table for binary to grey code conversion. (5)
d) Explain full adder with logic diagram. (5)
e) Explain the function of half subtractor in detail. (5)
f) Illustrate the concept of comparators. (5)

Q.4. Attempt any Three of the following:

a) Explain 16 x 1 multiplexer with a logic diagram. (5)
b) Draw combinational logic circuit whose output is high only when majority of input a, b, c are low. (5)
c) Illustrate the concept of de-multiplexer. (5)
d) Solve the following using K-map (5)
   $f(A,B,C) = \Sigma\, m(0,1,2,4,5)$
e) Write a short note on 8*1 mux. (5)
f) Convert the POS in SOP form (5)
   $Y=(A+B)(\bar{B}+C)$

P.T.O.

Q.5. Attempt any Three of the following:

a) Convert the following (5)

I) $(1965)_{10} = (?)_8$

II) $(CF8)_{16} = (?)_{10}$

b) Find the value of X (5)

I) $(E9B)_{16} = (X)_{10}$

II) $(176)_8 = (X)_2$

III) $(163)_{10} = (X)_2$

c) Solve the following: (5)

I) $(101010)_2 = (?)_{gray}$

II) $(285)_{10} = (?)_{bcd}$

III) $(16)_{10} = (?)_{XS3}$

d) Solve the following: (5)

I) $(1101011)_2 - (110101)_2 = (?)_2$

II) $(101101)_2 + (101111)_2 = (?)_2$

e) Attempt the following and find the value of Y (5)

I) $(ABE)_{16} + (95)_{16} = (Y)_{16}$

II) $(9C)_{16} - (75)_{16} = (Y)_{16}$

f) Solve the following. (5)

I) Convert the following number to BCD and add them $(59)_{10} + (76)_{10}$

II) Convert the following number to XS-3 and subtract them $(81)_{10} - (37)_{10}$

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FYBSC IT
5/3/24

Time: $2^{1/2}$ Hrs. Total Marks: 75

Sub: Fundamentals of DBMS

Note: 1) Figures to right indicate full marks.
2) Assume necessary data required.
3) All questions are compulsory.

Que. 1 **Solve the following (any three)** 15

A) Explain any five applications of the DBMS.
B) Explain different components of database environment with a neat diagram.
C) Explain the different types of database users.
D) What is Relational Algebra? Explain Project and Select relational algebra operation with an example.
E) Explain different types of keys available in Relational Model.
F) Explain the merit and demerits of Relational Model.

Que. 2 **Attempt the following (any three)** 15

A) What is Data Model? Explain its importance in DBMS.
B) Explain ER Model with an example.
C) Write a short note on 'Business Rules '.
D) What is an attribute? Explain different types of attributes used in ER model.
E) Define (i) Instance (ii) Domain (ii)Weak Entity
F) Draw an ER diagram for the Bank Account System.

Que. 3 **Solve the following (any three)** 15

A) Explain the advantages of the normalization .
B) Explain Second Normal Form with an example.
C) List out the Problems related to decompositions?
D) What is functional dependency?
E) Write a note on 'Referential Integrity'
F) Explain the rules used for implementing relational Integrity.

Que. 4 **Attempt the following (any three)** 15

A) What is a View? List and explain its different types.
B) Explain outer joining with an example.
C) Explain use of set operators with an example.
D) What is the use of group by and order by clause in SQL?
E) Explain the following SQL instruction with an example.
2) Update 2) Insert 3) Select
F) The **ACCMAST**tablehas following structure.

Attribute	Data type	Constraints
ACCNO	Integer	Primary Key.
NAME	Char	
CITY	Char	
BALANCE	Integer	Minimum 1000/-
BDATE	Date	
MOB	Char	Unique
AcType	Char	Saving / Current

Write the Queries in a SQL for the following:
1) For creating **ACCMAST** table
2) To display customer details whose balance is less than 10000/-
3) To display List of Customer from Chiplun city, Who born after 1-10-2001
4) To display City wise average balance.
5) Sort the list on ACCNO.

Cont..

Que. 5 **Attempt the following (any three)**

A) Explain the ACID properties of a transaction.
B) What is a dead lock? Explain basic techniques to control deadlocks
C) Write a note on 'Transaction Management States '
D) Explain concurrency control with locking method
E) Discuss the Procedure to test Serializability?
F) Write a note on 'Timestamp Based Protocols'.

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D.B.J. College, Chiplun
ATKT Exam March 2024
Sem I
FYBSC. (IT)
Sub: Computational Logic and discrete Structure

FYBSC IT
6/3/24

Duration: 2.30 Hrs. **Max. Marks: 75**

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Instructions: (1) All questions are compulsory.
(2) Numbers to the right indicate marks.

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Q.1) **Attempt any three of the following:** **15**

A) Write a note on language as tool of communication.
B) Explain different levels of communication.
C) Write a short note on noise.
D) 'Gestures are observed actions'- Elaborate.
E) Write a short note on barriers in communication.
F) Explain different facial expressions in non-verbal communication.

Q.2) **Attempt any three of the following:** **15**

A) Define teleconference. Explain all the types of teleconference.
B) Explain the terms 1) concrete 2) correct
C) What is an email? Write its advantages.
D) Write all benefits of group discussion.
E) Write a note on team presentation.
F) What is conversation? Write importance of business conversation.

Q.3) **Attempt any three of the following:** **15**

A) Write and explain all types of listening.
B) How can you organize your presentation?
C) Write all the types of an interview.
D) Explain the terms 1) Active listening 2) Passive listening
E) What is an interview? Explain in detail.
F) Write a short note on traits of good listener.

Q.4) **Attempt any three of the following:** **15**

A) List all strategies of writing body of the letter.
B) Write a resignation letter of your post.
C) Write your resume for a job.
D) Write a note on online recruitment process.
E) Write and explain all common components of business letter.
F) What is a report? Explain all the types of corporate reports.

Q.5) **Attempt any three of the following:** **15**

A) Write all ethical issues in business.
B) Write a note on management information system.
C) Write and explain all ethics in business communication.
D) Write all strategic approaches to corporate ethics.
E) Write a note on values.
F) Write tips for creating visual aids.

FY IT
11/3/24

D.B.J. COLLEGE, CHIPLUN

Second Term End Examination Oct./Nov. 2023

Class: F.Y.B.Sc. (Information Technology) Semester: I

Subject: Technical Communication Skills (USIT105) Paper: V

Duration: 2.30 Hrs. Max. Marks: 75

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Instructions: (1) All questions are compulsory.

(2) Numbers to the right indicate marks.

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FYBSc-IT

2/3/24

D.B.J College, Chiplun

ATKT Exam Mar. 2024

FYBSC. (IT)

Sub. Prog. Prin. with 'C'

Duration: 2.30 Hrs. **Max. Marks: 75**

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Instructions: (1) All questions are compulsory.

(2) Numbers to the right indicate marks.

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Q.1) Attempt any three of the following: 15

A) Explain steps for execution of C Program.

B) List and explain the rules for writing Pseudocode.

C) Write an algorithm and draw flowchart for Area of circle.

D) List and explain the different types of constants used in c.

E) Describe the structure of C program.

F) What is Character Set? Explain various types of Character Set.

Q.2) Attempt any three of the following: 15

A) List and explain the Logical and Relational operators in C Language.

B) Write a C program to print following pattern

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***
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*
```

C) With an example explain special operators in C.

D) Write a note on preprocessor directives in C.

E) What will be the output from following statements where
a=10,b=5,c=10.5,ch='y',y=20.2,z=80

1. printf ("A=%d\n B=%d\nC=%f",a,b,c);
2. printf("x=%c,y=%f,z=%d",ch,y,z);

F) With an example explain while statement in C.

Q.3) Attempt any three of the following: 15

A) List and explain any two categories of user-defined functions.

B) Write a C program to find factorial of a number using recursive function.

C) Define the following functions
i) isDigit() ii) sqrt() iii) time() iv) srand() v)strcpy()

D) Explain call by value and call by reference method in C.

E) With an example explain printf() function.

F) Write a C program to check whether the entered number is Palindrome or not.

Q.4) Attempt any three of the following: 15

A) Explain the gets() and puts() functions used in C programming language.

B) What is the pointer? Explain the benefits of pointer.

C) Write a short note on pointer address operator.

D) Explain Single dimension array with an example.

E) List and explain the different string handling functions.

F) Write a short note on Dynamic memory allocation in C.

Q.5) Attempt any three of the following: 15

A) Write short note on C structure.

B) Explain array of structure.

C) What is error handling in C?

D) Brief about Unions in C languages?

E) How to write a file in C?

F) What are the various ways to initialize the structure?

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