

2103000206030013
EXAMINATION FEBRUARY-MARCH 2024
BACHELOR OF SCIENCE (SIXTH SEMESTER)
COMPUTER ORIENTED NUMERICAL METHOD-II
(MTH-(E.G.)-6002-COMPUTER ORIENTED NUMERICAL
METHOD-II)-LEVEL 3

[Time: As Per Schedule]

[Max. Marks:50]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination : **BACHELOR OF SCIENCE (SIXTH SEMESTER)**
 - b. Name of the Subject : **COMPUTER ORIENTED NUMERICAL METHOD-II (MTH-(E.G.)-6002-COMPUTER ORIENTED NUMERICAL METHOD-II)-LEVEL 3**
 - c. Subject Code No : **2103000206030013**
2. Sketch neat and labelled diagram wherever necessary.
 3. Figures to the right indicate full marks of the question.
 4. All questions are compulsory.
 5. Follow usual notations.

Seat No:

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Student's Signature

Q.1 Answer the following questions.

10

i) Give reason for invalidity.

```
a) IF (X.GT. Y)
THEN A= B+C
ELSE A= B-C
ENDIF
```

```
b) IF (X=Y) THEN P= Q + R
ENDIF
```

ii) Check whether the following statement numbers are valid or invalid. Give the reason if they are invalid.

- | | |
|----------|------------|
| i) -3.7 | iii) +88 |
| ii) 2017 | iv) 999999 |

iii) What will be the effect of the following FORTRAN code in print?

- i) 1Hb' ii) 1H1

iv) Give the difference between $G = H$ and $G.EQ.H$.

v) Find the iteration count from $DO 23K = 1, -20, -2$.

Q.2 Answer the following (Any two).

10

a) Which are the relational operations available in FORTRAN? What do you mean by the logical expression in FORTRAN?

State reasons for invalidity are following:

i) $2.5 GT B$

ii) $20.16.LT. I$

iii) $A > 5$

iv) $X = Y$

b) Explain the Block IF statement through flow chart.

c) Write a program to find total number of even integers, total number of odd integers, sum of all even integers and sum of all odd integers from the given set of 100 integers.

Q.3 Answer the following (Any two).

10

a) Write a program to pick up largest of three number, by using Nested Block IF statement.

b) Assume that $M = 8$, $T = 12$ then what will be the final value of N after each of following statement.

i) IF $(3*M.LT.10) M=M+2, M=M+3$

ii) IF $(2*M.EQ.T) M=M+1, M=M+2$

iii) IF $(4*M-2*T) 10,20,30$

iv) IF $(2*T.LE.3*M) GO TO 10$

$M=M+1$

GO TO 20

10 $M=T$

20 $M=M+T$.

v) IF $(T.GT.M) GO TO 10$

$M=M+1$

GO TO 20

10 $M=T$

20 $M=M+T$

c) Explain the Arithmetic IF statement through flow chart.

Q.4 Answer the following (Any two).

10

- a) Explain the rules for Nested DO LOOPS.
- b) Write a program to find scalar product of two arrays.
- c) What will be printed by the following program segments?

```
i) KIR=2
DO 30 NIR=3,8
KIR=KIR + NIR
30 CONTINUE
KIR=2*KIR
PRINT*, KIR
```

```
ii) DO 10 I = 1,6,2
DO 10 J = 2, 4
PRINT*, I*J
10 CONTIUE
```

Q.5 Answer the following (Any two).

10

- a) Explain the DIMENSION Statement.
- b) Write a program to solve the equation $x^2 - 3 = 0$ by Bisection method.
- c) Find output of the following:

```
A = -.2159
B = .826435
C = 8.2645
D= 4671
PRINT 40, A, B,C,D
40 FORMAT (1X, 3X,F8.6, 2X, F8.6, 3X, F8.6, 3X,I5)
```
