



RAN-1191

Third Year B. Sc. (Mathematics) (Sem. VI) Examination

March / April - 2019

Computer Oriented Numerical Methods - II (E.G)

Time: 2 Hours]

[Total Marks: 50

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

Third Year B. Sc. (Mathematics) (Sem. VI)

Name of the Subject :

Computer Oriented Numerical Methods - II (E.G)

Subject Code No.: 1 1 9 1

Seat No.:

--	--	--	--	--	--

Student's Signature

- (2) All questions are compulsory.
- (3) Figures to the right indicate marks of the questions.
- (4) Follow usual notations.

1. Answer the following questions.

(10)

1. Give reason for invalidity:
 - (i) A(2I)
 - (ii) DIMENSION S(N,K), JNS(L)
 - (iii) DO 100 I=1.2, 2.3, 3.4
 - (iv) GO TO, 25
2. Write a general form of Block IF Statement. Why GO TO Statement is not extensively used FORTRAN 77?
3. Explain the difference between DO statement and Implied DO statement.
4. Find values of K from (i) DO 16 K= 1,26,3 (ii) DO 23 K= 1,-20,-2

5. Find output of following numbers whose format are given,

Number	FORMAT
2.456207	E _{8,2}

2. **Answer the following (Any two).** (10)

1. What is statement number? Explain the GO TO statement with illustration.
2. Write a program to find average height of female and male separately in certain class.
3. Assume that: N = 10, J = 5 then what will be the final value of N after each of following statement.

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

(ii) IF (2 * N.EQ.J) N=N+1, N=N+2

(iii) IF (4*N - 2* J) 10,20,30

10 N = J

20 N = N + J

30 N = N * J

3. **Answer the following (Any two).** (10)

1. Explain the rules for Nested DO loops.
2. Write a program to find sum of following series:

$$-x + \frac{x^2}{2!} - \frac{x^3}{3!} + \frac{x^4}{4!} - \dots - \frac{x^{13}}{13!}$$

3. (a) Analyze following program segment and find out what is printed by PRINT statement?

(i) DO 10 I = 1,6,2

DO 10 J = 2,4

PRINT*, I*J

10 CONTINUE

(ii) I = 0

DO 99 J = 5,1,-1

I = I+J

99 CONTINUE

PRINT*, I

- (b) Find the iteration count from DO 23 K = 1,-20,-2

4. Answer the following (Any two). (10)

1. Explain the DIMENSION statement with illustration.
2. Write a program to find scalar product of two array.
3. Mention the order in which the input values are assigned to A(I,J,K) by the following input statement:

(i) DIMENSION A(5,3,2)

```
DO 10 K = 1,2
DO 20 J = 1,3
DO 30 I = 1,5
READ*, A(I,J,K)
30 CONTINUE
20 CONTINUE
10 CONTINUE
```

(ii) DIMENSION A(50)
READ*, (A(I), I = 1,50,2)

5. Answer the following (Any two). (10)

1. Explain the real in exponent form of FORMAT description.
2. Find output of the following:

```
A = -239.4587
B = 0.4589
C = -.008868
PRINT 50, A,B,C
50 FORMAT (1X, E15.8, E11.4, E12.4)
```

3. Find output of the following:

```
A = 1.25 × 10-2
B = - 4.5549423 × 1010
C = 4859448.5
PRINT 10, A,B,C
10 FORMAT (1X, 3E17.8)
```