

**2024**  
**B.A./B.Sc.**  
**Fourth Semester**  
 SKILL ENHANCEMENT COURSE – 2  
**COMPUTER SCIENCE**  
*Course Code: CSS 4.11*  
 (Programing in MATLAB)

*Total Mark: 35*  
*Time: 2 hours*

*Pass Mark: 14*

*Answer five questions, taking one from each unit.*

**UNIT-I**

1. (a) What are the various components of a computer system? 4  
 (b) Explain software hierarchy. 3
2. (a) Convert the following: 2×2=4  
 (i)  $(11101)_2 = (?)_{10}$   
 (ii)  $(25)_8 = (?)_{10}$   
 (b) What is number system? How do you convert binary numbers to hexa-decimal numbers? 1+2=3

**UNIT-II**

3. (a) What is MATLAB? Explain different applications of MATLAB. 1+3=4  
 (b) Explain three components of MATLAB work environment. 3
4. (a) Describe commonly used operators in MATLAB. 3  
 (b) What is a command window? How do you declare array in MATLAB program? 1+3=4

**UNIT-III**

5. (a) Describe commonly used commands for plotting graphs in results analysis in MATLAB. 5

- (b) Develop a MATLAB code to add given two row vectors [1 2 3] and [4 5 6]. 2
6. (a) Write the steps for creating function in MATLAB. 4  
 (b) Solve the set of linear system equations using the matrix method: 3  
 $-x + 2y - 3 = 0$   
 $3x + 4y - 11 = 0$

#### UNIT-IV

7. (a) Explain various for loop in MATLAB. 4  
 (b) Write a MATLAB program to find weekdays using switch statement. 3
8. (a) Mention different types of conditional statements and loop control statements in MATLAB. 4

- (b) Find the determinant of  $\begin{bmatrix} 1 & -2 & 3 \\ 2 & 0 & 3 \\ 1 & 5 & 4 \end{bmatrix}$  using normal mathematical

calculation and also write the MATLAB command for finding inverse of matrix. 2+1=3

#### UNIT-V

9. (a) How do you write a text file in MATLAB? 4  
 (b) Write a short note on sort function of MATLAB. 3
10. (a) Differentiate between  $rand(10,3)$  and  $randi(10,5,2)$ . 2  
 (b) Write the steps and code to display the sum of two values in GUI in MATLAB. 5