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UG/3rd Sem/ELCT(G)/Pr/19

2019

3rd Semester Examination
ELECTRONICS (General)

Paper - SEC 1P

(Practical)

Programming in Java Lab

Full Marks : 15

Time : 3 Hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Answer any one selecting it by a lucky draw.

10×1=10

1. Write a program in Java to print half pyramid using*

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* * * * *  
* * * *  
* * *  
* *  
*
```

2. Write a program in Java to check whether a number is prime or not.

[Turn Over]

3. Write a program in Java to find the largest number among 'n' input numbers.
4. Write a program in Java to convert a decimal number to a binary number.
5. Write a program in Java to find the Sum of 'N' input Numbers.
6. Write a program in Java to show method overloading.
7. Write a program in Java to find factorial of a given number.
8. Write a program in Java to find Armstrong number between 1 and 500.
9. Write a program in Java to show the use of super keyword.
10. Write a program in Java to show the use of constructor.

Distribution of Marks :

Experiment	:	10 marks
Laboratory Note Book	:	02 marks
Viva-voce	:	03 marks
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Total	:	15 marks
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Programming in MATLAB/SCILAB

Answer any one selecting it by a lucky draw.

10×1=10

1. Write a program in MATLAB to print a number from 1 to 100 using for loop at a step of 3. 10
2. Use MATLAB to create a variable, myage, and store your age in it. Subtract one from the value of the variable. Add two to the value of the variable. 10
3. Use MATLAB to create a variable, pound, to store a weight in pounds. Convert this to kilograms and assign the result to variable kilos. The conversion factor is 1 kilogram = 2.2 pounds. 10
4. A vector can be represented by its rectangular coordinates x and y or by its polar coordinates r and Q . The relationship between them is given by the equations:

$$x = r * \cos(\theta)$$

$$y = r * \sin(\theta)$$

Assign values for the polar coordinates to variables r

[Turn Over]

and θ . Then, using these values, assign the corresponding rectangular coordinates to variables x and y . Use MATLAB. 10

5. Create a variable, `myend`, which stores a random integer in the range from 8 to 12. Using the colon operator, create a vector that iterates from 1 to `myend` in steps of 3. 10
6. Create a 4×2 matrix of all zeros and store it in a variable. Then, replace the second row in the matrix with 3 and 6. 10
7. Write a script that will prompt the user for an angle in degrees. It will then calculate the angle in radians, and then print the result. Note : radians = 180 degree. 10
8. On average, people in a region, spend 8 to 10% of their income on food. Write a script that will prompt the user for an annual income. It will then print the range that would typically be spent on food annually. Also, print a monthly range. 10
9. For a project, some biomedical engineering students are designing a device that will monitor a person's

heart rate while on a treadmill. The device will let the subject know when the target heart rate has been reached. A simple calculation of the target heart rate (THR) for a moderately active person is $THR = (220 - A) * .6$ where 'A' is the person's age. Write a function that will calculate and return the THR. 10

10. Write an input statement that will prompt the user for a string. Then, find the length of the string. 10

Distribution of Marks :

Experiment	:	10 marks
Laboratory Note Book	:	02 marks
Viva-voce	:	03 marks
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Total	:	15 marks
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