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<b>R-11 / R-13</b>
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**Code: 1G145**

II B.Tech. II Semester Supplementary Examinations Nov/Dec 2018

**Object Oriented Programming through JAVA**

( Common to CSE & IT )

Max. Marks: 70

Time: 3 Hours

Answer any **five** questions

All Questions carry equal marks ( **14 Marks each** )

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1. a) What is Object oriented paradigm? Explain any three object oriented programming features? 7M  
b) List out and explain Java Integer and Floating point data types? 7M
  
2. a) Compare and contrast java's access specifiers? 7M  
b) Explain method overloading with an example? 7M
  
3. Define package? Explain four categories of visibility for class members with simple example. 14M
  
4. Write a java program to create a thread  
i) By extending Thread class  
ii) By implementing Runnable interface. 14M
  
5. Write a Java applet program to implement following logic.  
"Applet receives an integer in one text field, and computes its factorial value and returns the result in another text field, when the button named "Compute" is clicked." 14M
  
6. a) What is applet? Explain applet life cycle. 7M  
b) Explain different types of applets. 7M
  
7. a) Explain the advantages of swing components over AWT components. 7M  
b) List out and briefly about Swing GUI components and containers. 7M
  
8. Write a short note on the following.  
a) TCP/IP client sockets  
b) URLConnection class  
c) Datagrams 7M

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<b>R-11/R-13</b>
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**Code : 1GC42**

II B.Tech. II Semester Supplementary Examinations Nov/Dec 2018

**Probability and Statistics**

( Common to CE, ME & IT )

**Max. Marks: 70**

**Time: 03 Hours**

Answer any five questions  
All Questions carry equal marks (14 Marks each)

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1. a) Find the mean, median and mode for the following distribution.

x	1	2	3	4	5	6	7	8
y	4	9	6	25	22	18	7	3

- b) Find the rank correlation for the following indices of supply and price of an article.

Supplyindex	124	100	105	112	102	93	99	115	123	104	99	113	121	103	101
Priceindex	80	100	102	91	100	111	109	100	89	104	111	102	98	111	123

2. a) State and Prove Baye's theorem.

- b) If the probability that a communication system will have high fidelity is 0.81 and the probability that it will have high fidelity and high selectivity is 0.18, what is probability that a system with high fidelity will also have high selectivity?

3. a) Check whether the following can serve as probability distributions:

(i)  $f(x) = \frac{x-2}{2}$  for  $x = 1, 2, 3, 4$

(ii)  $h(x) = \frac{x^2}{25}$  for  $x = 0, 1, 2, 3, 4$

- b) Find the value of  $k$  and the distribution function  $F(x)$  given the probability density function of a random variable  $X$  as:

$$f(x) = \frac{k}{x^2 + 1}, \quad -\infty < x < \infty.$$

4. a) Prove that the mean and the variance of the Poisson distribution are equal.

- b) Find the probabilities that a random variable having the standard normal distribution will take on a value

- (i) between 0.87 and 1.28 ;
- (ii) between -0.34 and 0.62 ;
- (iii) greater than 0.85;
- (iv) greater than -0.65.

- 5 A population consists of six numbers 4,8,12,16,20,24. Consider all samples of size two which can be drawn without replacement from this population. Find

- (a) Population mean
- (b) Population S.D
- (c) Mean of the sampling distribution of means
- (d) S.D of the sampling distribution of means.

6. a) Explain briefly the following
- (i) Point Estimation
  - (ii) Interval Estimation
- b) The average zinc concentration recovered from a sample of zinc measurements in 36 different locations is found to be 2.6 grams per millilitre. Find a 95% confidence intervals for the mean zinc concentration in the river. Assume that the population standard deviation is 0.3.
7. a) Explain the test procedure for  $Z$  – test concerning one mean when  $\sigma$  is known.
- b) A storekeeper wanted to buy a large quantity of bulbs from two brands A and B respectively. He bought 100 bulbs from each brand A and B and found by testing brand A had mean life time of 1120 hrs and the S.D of 75 hrs and brand B had mean life time 1062 hrs and S.D of 82 hrs. Examine whether the difference of means is significant. Use a 0.01 level of significance.
8. Four methods are under development for making discs of a super conducting material. Fifty discs are made by each method and they are checked for super conductivity when cooled with liquid.

	1 <sup>st</sup> Method	2 <sup>nd</sup> Method	3 <sup>rd</sup> Method	4 <sup>th</sup> Method
Super Conductors	31	42	22	25
Failures	19	8	28	25

Test the significant difference between the proportions of conductors at 0.05 level.

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