

R09

**Code No: C0308**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**  
**M.Tech I Semester Examinations, March/April-2011**  
**COMPUTER APPLICATIONS & BIostatISTICS**  
**(BIOTECHNOLOGY)**

**Time: 3hours****Max. Marks: 60**

**Answer any five questions**  
**All questions carry equal marks**

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1. (a) Using 2's complement representation
  - (i) Subtract 3 from 5      (ii) Subtract (-3) from (-5)      (iii) add (-5) and (-2)
  - (b) How can I get a different header/footer on the second (and sub sequent) page(s)?
  - (c) I have a price list stored in a worksheet, and I need to increase all prices by 5 percent. Can I do this without reentering all the prices? [12]
  
2. (a) What do you understand the term batch operating system? What are the facilities provided by the batch operating system?
- (b) Draw the block diagram of a digital computer and explain each block in detail. [12]
  
3. a) There are ten chips numbered 1 to 10. Two chips are drawn. Find the probability that the sum is greater than 4.
  - i) When the selection is with replacement
  - ii) When the selection is without replacement
- b) Three machines I, II and III produce 20%, 25% and 55% of the total number of items of a factory. The percentages of defective items of these machines are 7%, 3% and 3%. An item is selected at random and found to be defective. Find the probability that it is from
  - i) Machine- I                      ii) Machine-II
  - iii) Machine-III

[12]

4. a) A random variable X has the following distribution

x	1	2	3	4	5	6
P(x)	$\frac{1}{36}$	$\frac{3}{36}$	$\frac{5}{36}$	$\frac{7}{36}$	$\frac{9}{36}$	$\frac{11}{36}$

Find

- i) The mean                      ii) variance.
  - iii)  $P(1 < x < 6)$
- b) The mean height of students in a college is 155 cms and standard deviation is 15. What is the probability that the mean height of 36 students is less than 157 cms? [12]

Contd....2

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5. a) If the mean breaking of copper wire is 505 lbs with a standard deviation of 15 lbs. The size of the sample is 49. Construct 95% confidence interval for the
- b) Assume that 50% of the Engineers are good in Mathematics. Find the probability that among 9
- i) Exactly 5                      ii) At least 6                      [12]
6. Calculate the coefficient of correlation and the two lines of regression between the variables x and y

x	65	66	67	67	68	69	70	72
y	67	68	65	68	72	72	69	71

[12]

7. (a) Write a program to convert decimal to hexadecimal number?  
(b) Define an array? What is the relation between an array name and an element number? How elements are referred using base address?                      [12]
8. (a) Write a program to demonstrate push() and pop() operations of stack.  
(b) Explain the insert and update commands in SQL with the help of relevant examples.                      [12]

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