CODE NO: RR222304

# JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-2008

II B.TECH II SEMESTER SUPPLIMENTARY EXAMINATIONS
INSTRUMENTATION METHODS OF ANALYSIS
(BIO-TECHNOLOGY)

AUG/SEP 2008

TIME:3HOUR
MARK:80

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**ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS.**

**MARK [16*5=80]**

1. (a) How is relative error expressed?

(b) Define the term mean and median. Under what condition does the median become equal to the mean?

(c) What is the difference between atomic and molecular spectroscopy?

(d) What is the effect of determinate error on normal error curve?

2. Write short notes on:

(a) Requirements of a UV radiation source

(b) Hydrogen discharge lamp

(c) Deuterium lamps

(d) Xenon discharge lamps.

3. (a) Discuss the origin of color in organic compounds. What are chromophores and auxochromes?

(b) Explain with suitable examples ,the meaning of blue and red shifts.

4. (a) Write the advantages of atomic absorption spectroscopy over flame emission spectroscopy?

(b) What is a single beam and a double beam atomic absorption spectrophotometer and explain the instrumentation involved?

(c) Define sensitivity and detection limits in atomic absorption spectroscopy.

5. Explain briefly

(a) Qualititative analysis

(b) Line reversal

(c) Matrix effects

(d) Preburn time.

6. Draw and discuss the nmr spectrum of ethanol

7. Describe TLC technique with suitable examples.

8. Discuss the principles and applications of Gas chromatography