Exam Date & Time: 26-Sep-2020 (10:00 AM - 01:30 PM)

PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

BSc.DEGREE EXAMINATION MAY 2020
(Sixth Semester)

Branch - CHEMISTRY

ANALYTICAL CHEMISTRY AND INSTRUMENTAL METHODS OF ANALYSIS [14CHU21]

Marks: 75 **Duration: 210 mins.**

SECTION - A

Answer all the questions.

1) Define the term Precision and Accuracy. (2)

2) Give the principle of TGA and DTA. (2)

3) What is Fingerprint region? (2)

4) State the rule of Mutual exclusion. (2)

5) Write Beer-Lambert's law. (2)

6) What are called Bathochromic and Hypsochromic shift? (2)

7) Define the term Chemical shift. (2)

8) What is hyperfine splitting? (2)

9) Give the principle of Polarography. (2)

10) Write Ilkovic equation and the terms involved in it. (2)

SECTION - B

Answer all the questions.

11) Discuss about classification of Errors. (5)

a)

[OR]

b) Sketch and explain the TGA curve of $Ca(C_2O_4).H_2O$. (5)

12) a) With the neat sketch explain the instrumentation involved in IR Spectroscopy. (5)

[OR]

12) b) Compare IR and Raman Spectroscopy. (5)

13) a) Write notes on Standard Series method. (5)

[OR]

13) b) Explain the instrumentation of UV-Visible spectroscopy. (5)

14) a) Give the principle of NMR and discuss the factors that influencing chemical shift. (5)

[OR]

14) b) How does local diamagnetism affect the chemical shift in nmr? Explain. (5)

15) a) Describe various currents involved in polarography? Discuss in detail. (5)

[OR]

15) b) Write the advantages of Dropping Mercury Electrode. (5)

SECTION - C

Answer 3 out of 5 questions.

16) a) Write notes on Scatter diagram and Correlation coefficient. (5)

16) b) Discuss in detail about Thermometric titrations. (5)

17) a) Explain the applications of IR Spectroscopy. (5)

17) b) Discuss about the instrumentation of Raman Spectroscopy. (5)

18) a) Give an account on Duboseq colorimeter method. (5)

18) b) State and explain Frank – Condon principle. (5)

19) a) Explain the instrumentation and applications of NMR spectroscopy. (5)

19) b) Discuss any two applications of ESR. (5)

20) What are the characteristics of current voltage curve in polarography? (5)

a)

b) Discuss about pulse polarography. (5)

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