PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017 McH L) O Q
(Sixth Semester)

Branch - **CHEMISTRY .**

INORGANIC CHEMISTRY - II

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks!

Answer **ALL** questions

ALL "questions carry **EQUAL** marks (10 x 2 = 20)

1 Why are lanthanides called inner transition elements?
2 $Ce^{3+}$is more basic than Ce^{4}*. Give reason. *
3. • Actinides form oxocation but lanthanides don't. Explain.
4 What are transuranic elements? Name any two of them.
5 What is meant by radioactivity?
6 How is disintegration constant related to half-life of a radioactive element?
7 Illustrate - Isotopes of hydrogen.
8 Define: Isotones.
9 What are protic and aprotic solvents? Give an example.
10 Give the uses of carbides in industry.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Discuss the magnetic properties of lanthanides.

OR

b Describe the separation of lanthanide elements from monozite sand. .

12 a Actinides have a greater tendency to form complexes than lanthanides. Explain. • .

OR

b Describe the general characteristic of actinides.

13 a ' Compare the properties of radioactive rays. *

OR

* b Discuss the theory of radioactive integration with suitable examples.

14 a Explain the Dempster's mass spectrograph for identification of isotopes.

OR

b What are isobars? Explain giving electronic structures.

15 a Give a detailed account of ionic carbides.

OR

' b Write the preparation, properties and uses of LiAIR}.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 1 0 = 30)

16 a Discuss lanthanide contraction giving causes and consequences. (7)
b List some important uses of lanthanides. (3)

17 Describe various steps involved in extracting uranium from its ore pitchblende.

18 a Describe a method for detection and measurement of radioactivity. (6)
b . Write a brief note on group displacement law. ' (4).

19 Give a comprehensive account on the separation methods of isotopes.