



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May, 2018

Program/course: B.Tech GSE

Subject: Applied Micropaleontology

Code : GSEG 306

No. of page/s: 02

Semester – VI

Max. Marks : 100

Duration : 3 Hrs

SECTION A: Answer all the questions.

[5*4 =20 marks]

1. Which microfossil will be used for stratigraphic correlations of deep sea marine sedimentary deposits and why?
2. What are the advantages of microfossils over macrofossils with respect to hydrocarbon exploration?
3. How will you distinguish between normal regression at lowstand and highstand system tract based on micropaleontology study?
4. What happens to the microfossil assemblage during aggradation and why?
5. What do you understand by ocean anoxic events and what is its role in hydrocarbon generation?

SECTION B: Answer all the questions.

[4*10=40 marks]

6. Discuss briefly the role of following term in paleontological studies i) Geological time scale ii) Maceration technique. [5+5]
7. Describe the morphology, classification and geological history of radiolarian with the help of a well labelled diagram. Explain the applications of radiolarian in hydrocarbon exploration.[6+4]
8. Describe briefly the following terms, their classification and role in palynology ; a) Aperture b) size c) shape d) wall structure?
9. How will you distinguish between regression and transgression based on micropaleontological studies?

SECTION C: Answer all the questions.

[20*2= 40 marks]

10. During micro-paleontological field work of a Cenozoic sedimentary succession following taxons were recorded

<u>Taxon</u>	<u>FAD</u>	<u>LAD</u>
A	Pliocene	Pleistocene
B	Miocene	Pliocene
C	Paleocene	Eocene
D	Eocene	Oligocene

- a. Place the Taxons on the Cenozoic time scale using their first appearing datum and last appearing datum [08 marks]
 - b. Identify the time of biozone formed by the following: [12 marks]
 - i. Oligocene
 - ii. Miocene
 - iii. Pliocene
 - iv. Paleocene
 - v. Eocene
 - vi. Pleistocene
11. a. Write a short note on thermochroism. [05 marks]
- b. What are the applications of spores and pollens in the hydrocarbon exploration? [07 marks]
 - c. Describe the morphology, geological history and applications of Conodonts in hydrocarbon exploration. [3+2+3 marks]