| Name:<br>Enrolment No: | UPES |
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# UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

## End Semester Examination, May 2019

**Programme Name: B.Tech. GSE** **Semester: 6th**
**Course Name: Applied Micropaleontology** **Time 03 hrs.**
**Course Code: GSEG 306** **Max. Marks: 100**
**Nos. of page(s) 2**

### SECTION A

**Attempt all questions** **Maximum 60 words for each answer**

| S. No. | | Marks | CO |
|---|---|---|---|
| Q 1 | Define fossil assemblage and why is this more accurate than index fossil to define biostratigraphy. | 4 | CO2 |
| Q.2 | Describe morphometric and particle analysis. | 4 | CO6 |
| Q.3 | Define Palynology and write short notes on spores and pollens. | 4 | CO4 |
| Q.4 | Write short note on utility of Diatoms for environmental and earth sciences. | 4 | CO3 |
| Q.5 | What is Acritarch? Write short note on it. | 4 | CO4 |

### SECTION B

**Attempt all questions** **Maximum 200words for each answer**

| | | | |
|---|---|---|---|
| Q.5 | What is thermal maturation of fossils? Describe different types of maturation indexes with respective scales. | 10 (5+5) | CO4 |
| Q.6 | What is quantitative biostratigraphy? Explain it with the help of different quantitative methods those define biostratigraphic events. | 10 (4+6) | CO5 |
| | Write short notes on-<br>A. Ostrocoda<br>B. Conodonts | 10 (5+5) | CO4 |
| Q.7 | Define palynofacies. Explain Palynofacies and Kerogen analysis with their applications in oil industry.<br>Or<br>Describe stable isotope stratigraphy with applications in micro-paleontology | 10 (4+6) | CO3 |

### SECTION-C

**Attempt two questions, question 9 is compulsory** **Maximum 500 words**

| | | | |
|---|---|---|---|
| Q.9 | What are the Dinoflagellate? Explain ecology, paleoecology and stratigraphic application of Dinoflagellates fossils groups. | 20 (5+5+5+5) | CO3 |
| Q.10 | What is Vitrinite? Explain vitrinite reflectance with misleading data, caution and recommendations required to gather accurate data for interpretation. | 20 (5+5+5+5) | CO5 |
| Q.11 | Explain the workflow of source rock evaluation; and write about Thermal Alteration Index. How can we estimate organic thermal maturation and tendency to generate | 20 (5+7+8) | CO5 |

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|---|---|---|---|
| | hydrocarbon? | | |