



Name:

Enrolment No:

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2022

Course: MBA OG

Semester: II

Program: Advance IT Applications in Oil & Gas

Time: 03 hrs.

Course Code: OGIT 7010

Max. Marks:100

Instructions:

SECTION A
10Qx2M=20Marks

S. No.		Marks	CO
Q 1	Expand the followings Terms a. W3C b. OASIS c. HTML d. OGA	2	CO1
Q 2	Remote sensing techniques make use of the properties ofemitted, reflected or diffracted by the sensed objects, a. Electric waves b. Sound waves c. Electromagnetic waves d. Wind waves	2	CO1
Q 3	Explain <i>Crowdsourcing platforms</i>	2	CO1
Q 4	What is HDFS and YARN? in big data solutions	2	CO1
Q 5	What is the relevance of PIDX (Petroleum Information Data Exchange)?	2	CO1
Q 6	What is HPC layer 5 system?	2	CO1
Q 7	Define Service Oriented Architecture (SOA)	2	CO1
Q 8	Image of 1.0 cubic cm of rock core =..... GB and 1000 mt. of core section can exceed..... Exabyte data size	2	CO1
Q 9	Define OCR and NLP	2	CO1
Q 10	Define LWD/ MWD techniques in drilling wells	2	CO1

SECTION B
4Qx5M= 20 Marks

Q 1	Describe Multiclient data services- Seismic, FTG, EM, Satellite Imaginary used in oil and gas sector.	5	CO2
Q 2	Describe use of drones in pipelines and flare stack monitoring	5	CO2

Q 4	Describe the benefits of Digital Twins in Oil & Gas Industry	5	CO2
SECTION-C 3Qx10M=30 Marks			
Q 1	Describe Innovations and new technologies in the Upstream Oil & Gas Industry driven by IIOT.	10	CO3
Q 2	Describe SAP as ERP system for Oil & Gas Industry. Describe the SAP Modules -MM, SD and IS- Oil & Gas used by oil companies	10	CO3
Q 3	Define the six characteristics of <i>Big data</i> . Define the following data structures with examples across oil and gas industry, a) Structured data b) Semi structured data c) Unstructured data	10	CO3
SECTION-D 2Qx15M= 30 Marks			
Q 1	Explain the Smart field “value loop” and the size of the digital prize in oil & gas sector. How the “digital oil fields” help operators to achieve cost and efficiency gains. Give two cases of digital oil fields implementation.	15	CO4
Q 2	Attempt any one of the two. a. Describe the <i>Distributed Acoustic Sensing (DAS)</i> technology and how it is being used in oil fields for downhole monitoring and production surveillance. Site a case study for unconventional shale resource field. b. Describe the five industry segments of the American Petroleum Institute (API). Describe the following codes and their relevance to petroleum sector, API SPECIFICATION 6A API SPECIFICATION 6A, 21 st EDITION	15	CO4