Roll No.											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING

TEST - 2

Even Semester: 2018-19
Course Code: PET 213
Course Name: Petroleum Production Engineering
Program & Sem: B. Tech & VI Sem

Date: 13 April 2019
Time: 1 Hour
Max Marks: 40
Weightage: 20%

Instructions:
(i) ***Answer all questions***

Part A

Answer **all** the Questions. **Each** question carries **three** marks. (4Qx3M=12)

1. Why are artificial lift methods employed in the oil industry?
2. List out three conditions that arise due to pressure decline in a vertical tube?
3. "In a tubing performance relationship curve, the maximum rate of flow of the well will always lie to the left of the Absolute Open Flow Potential." Give reasons.
4. Mention three models of SRP in common use in the industry? How they are different from each other?

Part B

Answer **all** the Questions. **Each** question carries **six** marks. (3Qx6M=18)

5. Explain the working of rotary positive chokes and adjustable chokes with diagrams.
6. Illustrate the steps involved in determining vertical lift performance by Gilbert's method.
7. Derive the equation for future IPR's.

Part C

Answer the Question. The Question carries **ten** marks. (1Qx10M=10)

8. Draw a schematic diagram of SRP and label the parts accordingly. What is the utility of crank arm and pitman arm?

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BENGALURU

SCHOOL OF ENGINEERING

END TERM FINAL EXAMINATION

Even Semester: 2018-19 | **Date**: 22 May 2019

Course Code: PET 213 | **Time**: 3 Hours

Course Name: Petroleum Production Engineering | **Max Marks**: 80

Program & Sem: B.Tech & VI Sem | **Weightage**: 40%

Instructions:

(i) ***Attempt all questions***

Part A

Answer the Questions. **Each** question carries **ten** marks. (2Qx10M=20M)

1. State true or false
   i. Casing heads are used to control fluid flow rate.
   ii. Right wing valve is used for production.
   iii. In rotary positive chokes, a needle valve is utilized to control flow rate.
   iv. Mist flow occurs for high fluid velocities and GOR only.
   v. Separated flow models are more realistic than homogeneous flow models.

2. Fill in the blanks appropriately
   i. Pressure loss due to expansion and contraction of fluid which leads to acceleration and deceleration of fluid is called _____.
   ii. In _____ SRPs, counter balance and horse head are on opposite sides of Sampson post.
   iii. The type of gas lift utilized for low reservoir pressure is _____.
   iv. The _____ regulates the speed of the crank shaft thereby controlling the SRP pumping rate.
   v. In the first field of API designation of SRP units, "A" stands for _____.

Part B

Answer the Questions. **Each** question carries **ten** marks. (3Qx10M=30M)

3. What are the utilities of the four main parts of an ESP? Briefly explain it's working procedure.
4. Write about the thermal and mechanical methods of paraffin mitigation.
5. What are asphaltenes? What are the different methods of scale mitigation?

Part C

Answer the Questions. **Each** question carries **fifteen** marks. (2Qx15M=30M)

6. Briefly explain the six types of gas lift completion.
7. With neat diagrams explain the working of a sucker rod pump.

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SCHOOL OF ENGINEERING

SUMMER TERM / MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019
Course Code: PET 213
Course Name: Petroleum Production Engineering
Program & Sem: B. Tech & VI Sem (2015 Batch)

Date: 24 July 2019
Time: 2 Hours
Max Marks: 80
Weightage: 40%

Instructions:

(i) Read the question properly and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **both** the questions. **Each** question carries **four** marks. (2Qx4M=8)

1. What is the highest temperature below which wax particles start accumulating?
2. If a Progressive Cavity Pump has 6 rotors, how many stators will it have?

Part B

Answer **all** the questions. **Each** question carries **eight** marks. (4Qx8M=32)

3. Explain the working of a progressive cavity pump in brief.
4. Write about the chemical remediation methods of wax deposition.
5. What are the two types of gas lift valve? Explain its working procedure.
6. Briefly explain the three types of reservoir flow regime.

Part C

Answer **both** the questions. **Each** question carries **twenty** marks. (2Qx20M=40)

7. Briefly explain the six types of gas lift completions.
8. With neat diagrams explain the working of a Sucker Rod Pump.