Reg. No. : | | | | | | | | | | |

Question Paper Code: 59516

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Elective

Electronics and Instrumentation Engineering

15UEI916 - INSTRUMENTATION AND CONTROL FOR PETROCHEMICAL INDUSTRIES

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which is called Black Gold? (R)
   (a) crude oil (b) lube oil (c) diesel oil (d) fuel oil
2. Hydrogen percentage (by weight) in crude petroleum may be about (R)
   (a) 5 (b) 15 (c) 25 (d) 35
3. Petrol is also known as
   (a) Gasoline (b) LPG (c) Petroleum (d) Crude oil
4. The Thermally enhanced oil recovery is _____ injection.
   (a) Microbial (b) Steam (c) Gas (d) Chemical
5. Which of the following is almost pure Carbon?
   (a) Asphalt (b) Residual fuel (c) Coke (d) Distillate fuel
6. The process used to convert paraffins into isoparaffins is
   (a) Cracking (b) Isomerisation
   (c) Polymerisation (d) Alkylation

7. The important raw material used for the production of Poly Vinyl Chloride is

(a) Methane (b) Ethane
(c) Ethylene oxide (d) VCM

8. High Density Polyethylene (HDPE) is produced under _____ pressure.

(a) High (b) Low (c) Very high (d) Constant

9. Coking is a method of

(a) Thermal Cracking (b) Catalytic Cracking
(c) Reforming (d) Alkylation

10. The _____ is used for preventing the error rather than it is corrected.

(a) Feedback control (b) Feedforward control
(c) Ratio control (d) Selective control

PART - B (5 x 2 = 10 Marks)

11. What is adsorption?

12. Define catalytic cracking.

13. State the properties of VCM,

14. State about enriching section in a distillation column.

15. How hazardous areas are classified?

PART - C (5 x 16 = 80 Marks)

16. (a) Justify the need for petroleum recovery and Enumerate the various recovery techniques in petroleum processing (16)

Or

(b) Explain the various recovery techniques in the petroleum plant. (16)

17. (a) Write short notes on the different polymerization techniques in petrochemical industries with examples. (16)

Or

(b) Explain the steps involved in polymerization. (16)

18. (a) Explain the best production route available for the production of benzene (16)

Or

(b) Write down the physical and chemical properties of polypropylene. (16)

19. (a) With the help of neat sketches describe the lead compensation in temperature sensor placed in a process environment. (16)

Or

(b) Describe the common methods of density measurement inpetroleum evaporator station with the aid of neat sketch. (16)

20. (a) Tabulate the material classification in Hazardous area as per Electro Technical Commission. (16)

Or

(b) Demonstrate the methods followed in mechanical isolation in petrochemical industries. (16)