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Question Paper Code: 59052

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

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. The _____ unit washes out salt from Crude oil.
(a) Fractionation (b) Distillation (c) Desalter (d) Evaporator
2. Example of Middle Distillate is
(a) Kerosene (b) Gasoline
(c) LPG (d) Fuel oil
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 reforming.
13. Give the products obtained from methane.
14. What is octane number?
15. What is meant by LEL and UEL?

PART - C (5 x 16 = 80 Marks)

16. (a) Discuss the various techniques used to discover the petroleum resources. (16)
- Or
- (b) Explain the various recovery techniques in the petroleum plant. (16)
17. (a) Describe thermal cracking process with a neat sketch. (16)
- Or
- (b) Explain the steps involved in polymerization. (16)
18. (a) Describe the chemicals obtained from ethylene with its applications. (16)
- Or
- (b) Describe the process involved in the manufacturing process of methanol. (16)

19. (a) Illustrate the Basic controls involved in Binary distillation column. (16)

Or

(b) Discuss the procedure involved in controlling the quality of the products in a distillation column. (16)

20. (a) Describe the area classification as per National Electric Code (NEC). (16)

Or

(b) Explain the general safety precautions to be followed in petroleum industry. (16)
