

**University of Mumbai**  
**Online Examination 2020**

Program: BE Chemical Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: CHDE7033

**Course Name: Department Elective III - Petroleum Refining Technology**

Time: 1 hour

Max. Marks: 50

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**NOTE: 1. All questions are compulsory**

**2. All questions carry equal marks.**

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- 1     What is the primary component of crude oil?  
(A)     Sulfur  
(B)     Carbon  
(C)     Hydrogen  
(D)     Nitrogen
  
- 2     Waxes present in petroleum products  
(A)     Can be separated out by distillation  
(B)     Are not soluble in them  
(C)     Crystallise out at low temperature  
(D)     Decrease their viscosity
  
- 3     Sour crude means the \_\_\_\_\_ bearing crude.  
(A)     Asphalt  
(B)     Sulphur compounds  
(C)     Wax  
(D)     Nitrogen compounds
  
- 4     Which of the following has the highest viscosity of all (at a given temperature)?  
  
(A)     Naphtha  
(B)     Fuel oil  
(C)     Light diesel oil  
(D)     Petrol

- 5 For paraffinic base Co-relation Index is
- (A) 0
  - (B) 100
  - (C)  $38^0$
  - (D) Indefinite
- 6 Correlation index is related to
- (A) specific gravity and boiling point
  - (B) Vapor pressure
  - (C) Heat sensitivity
  - (D) Flash point
- 7 “True Boiling Point (TBP)” analysis Provides information about
- (A) Viscosity Index
  - (B) Reid Vapour pressure
  - (C) Octane Number
  - (D) % of fraction, base of crude
- 8 High boiling stock is prone to degrade at temperature above  $370^0\text{ C}$  therefore these are further processed by
- (A) Simple Distillation
  - (B) Vacuum Distillation
  - (C) Steam Distillation
  - (D) Extractive Distillation
09. The terminology used for the bottom most product from the vacuum crude distillation unit is
- (A) Residual crude
  - (B) Residuum
  - (C) Reduced crude
  - (D) Petrolatum

10. Vacuum maintained in the vacuum distillation tower of the crude distillation plant is about \_\_\_\_\_ mm Hg (absolute).

- (A) 5-10
- (B) 30-80
- (C) 150-250
- (D) 350-400

11. Salt content (measured as sodium chloride) in electrically desalted crude oil comes down to a level of about \_\_\_\_\_ ptb (pounds per thousand barrel).

- (A) 0.03
- (B) 3
- (C) 35
- (D) 70

12. Crude topping column operates at \_\_\_\_\_ pressure.

- (A) Atmospheric
- (B) 10 atm
- (C) Vacuum
- (D) 3 atm.

13. Which is the most undesirable component in kerosene?

- (A) Aromatics
- (B) i-paraffins
- (C) n-paraffins
- (D) Naphthenes

14. Dearomatisation of kerosene (by liquid sulfur dioxide extraction) is done to \_\_\_\_\_ .

- (A) Increase its smoke point
- (B) Improve its oxidation stability
- (C) Decrease the breathing loss

- (D) Decolourize it
15. \_\_\_\_\_ treated lubes have better oxidation stability.
- (A) Phenol
  - (B) Furfural
  - (C) Mixtures of Cresols
  - (D) Propane
16. Doctor's solution used for the sweetening of petroleum products is \_\_\_\_\_ .
- A. Sodium plumbite
  - B. Sodium sulphite
  - C. Sodium thiosulphate
  - D. Lead sulphate
17. \_\_\_\_\_ is not an important refinery process for upgrading the quality of lubricating oil.
- A. Deoiling
  - B. Solvent refining
  - C. Clay treatment
  - D. Hydrotreatment
18. The solvent used in duo-sol extraction for lube oil up-gradation is a mixture of \_\_\_\_\_
- A. Propane & phenol-cresol mixture
  - B. Methyl ethyl ketone & glycol
  - C. Phenol & furfural
  - D. Propane & liquid sulfur dioxide

19. Isomerisation converts the \_\_\_\_\_ tot-paraffins.

- (A) Paraffins
- (B) Olefins
- (C) Naphthenes
- (D) Pentene

20. The catalyst used in the alkylation process is

- (A) Sulphuric acid
- (B) Nickel
- (C) Silica gel
- (D) Alumina

21. Which is the most effective catalyst used in catalytic cracking of petroleum products?

- (A) Iron oxide
- (B) Nickel
- (C) Vanadium pentoxide
- (D) Zeolite

22 Alkylation

- (A) Causes olefins to combine with each other
- (B) Causes olefins to combine with iso-paraffins
- (C) Converts iso-paraffin into olefin
- (D) Converts olefin into paraffin

23. Which of the following reactions is undesirable in the production of catalytically reformed gasoline?

- (A) Dehydrogenation of naphthene
- (B) Dehydrogenation of lower paraffins
- (C) Dehydrocyclization of higher paraffins
- (D) Isomerization of paraffins

24. The important property of bitumen which judges the quality of bitumen is

- A. Viscosity Index
- B. pour point
- C. Aniline point
- D. Penetration Index

25. Asphalts obtained from vacuum distillation unit shall have ..... Pour point and asphalts obtained from deasphalting operations have a ..... pour point.

- A. low, low
- B. high, high
- C. high, low
- D. low, high



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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	C
Q3.	B
Q4	B
Q5	A
Q6	A
Q7	D
Q8.	B
Q9.	B
Q10.	B
Q11.	B
Q12.	A
Q13.	A
Q14.	B
Q15.	A
Q16.	A
Q17.	A
Q18.	A
Q19.	A
Q20.	A
Q21.	D
Q22.	B
Q23.	B
Q24.	D
Q25.	D