



UNIVERSITY OF THE PUNJAB

Seventh Semester – 2019

Examination: B.S. 4 Years Program

Roll No. in Fig.

Roll No. in Words.

PAPER: Applied Chemistry (Sp. Theory-I)
Course Code: CHEM-415 Part-I (Compulsory)

MAX. TIME: 15 Min.

MAX. MARKS: 10

Signature of Supdt.:

Attempt this Paper on this Question Sheet only.

Please encircle the correct option. Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

Q.1. Encircle the right answer, cutting and overwriting is not allowed. (1x10=10)

- Which one of following is fraction of petroleum?
(a) Anthracite (b) Gasoline
(c) Lignite (d) Peat
- Which of the following is acidic digestion process?
(a) Sulfito (b) Sulfate
(c) Soda process (d) None of these
- Which of the following is micronutrient for plants?
(a) Nitrogen (b) Sulfur
(c) Zinc (d) Phosphorous
- Formation of Cartons form pulp can be successfully done in
(a) Cylindrical machine (b) Fourdriener machine
(c) Both a and b (d) Vibrational machine
- Which of the following process was developed in order to avoid the use of TEL
(a) Catalytic cracking (b) Catalytic reforming
(c) MEL addition (d) TML addition
- Among following, in which form, plants can incorporate Nitrogen?
(a) NO_2^{-1} (b) NO_3^{-1}
(c) N_2 (d) Urea
- Which of the following solid fertilizer contains highest contents of Nitrogen?
(a) Ammonium nitrate (b) Ammonia
(c) Calcium cyanide (d) Urea
- Which process is used for converting straight chain hydrocarbons into branched hydrocarbons?
(a) Cracking (b) Reforming
(c) Aromatization (d) Nitration
- Newspaper can be recycled maximum
(a) Two times (b) four times
(c) Three times (d) Five times
- Which parameter is indicative of fuel quality?
(a) Iodine number (b) Octane number
(c) Saponification number (d) Cetane number



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Course Code: CHEM-415 Part – II

MAX. TIME: 2 Hrs. 45 Min.

MAX. MARKS: 50

ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Explain the short questions.

(10 x 2 = 20)

1. Name any four fractions with carbon range obtained from fractional distillation of petroleum.
2. Explain the term isomerization.
3. Mention different unit processes in treatment of crude oil.
4. Briefly explain urea assimilation in soil?
5. Name four raw materials for paper industry.
6. What is the role of sweetening process in crude oil refining?
7. Write down the temperature and catalyst conditions for Haber's process?
8. What do you understand about migration?
9. Differentiate between micro and macro nutrients.
10. Why desalting of crude oil is important?

Q.3. Explain the detailed questions.

(3 x 10 = 30)

1. (a) Discuss C4 alkylation process with the help of flow sheet diagram 6
(b) What is Octane number and how it can be improved. 4
2. (a) Explain Kraft process for manufacturing of pulp with flow sheet diagram. 6
(b) Explain paper making in Fourdrinier machine. 4
3. (a) Write down urea synthesis with chemical equations and flow sheet diagram. 5
(b) Differentiate between calcium superphosphate and triple super phosphate, give examples and their important properties. 5