



NCF-003-045404 Seat No. _____

**B. Voc. (Chemical Technology) (Sem. IV)
(CBCS) Examination**

April / May - 2017

BVCT - 404 : Petroleum Analysis

Faculty Code : 003

Subject Code : 045404

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory & carry equal marks.
(2) Draw diagram and/or scheme wherever necessary.

1 (A) Answer the following questions: 10

- (1) Enlist the Classification of petroleum analysis.
- (2) In ASTM D 1298 method _____ thermometer is used to measure the temperature.
- (3) Which types of detectors & films are used into ASTM D 4294 method?
- (4) Enlist the classification of TAN by ASTM no. and mode of titration.
- (5) Give the ASTM method no. of (1) Smoke point
(2) Raid Vapor Pressure
- (6) Which ASTM method is used to analyzed salt content and give its working principle.
- (7) How much volume of sample kept in U-tube for density measure by ASTM D 4052?
- (8) Define : (1) Density (2) Accuracy
- (9) Give the full form of (1) Bs & W (2) TAN
- (10) UOP46-85 is an analysis method for _____ measurement.

(B) Answer the following questions : 20

- (1) Explain how method validation is necessary for laboratories.
- (2) What is Repeatability & Reproducibility?

- (3) Describe the signification of color measurement by ASTM D 1500.
- (4) Write the test summary of ASTM D 3230.
- (5) Explain the Scope of ASTM D 2500.
- (6) Give the short explanation about petroleum analysis.
- (7) Describe "Accuracy and Precision" in petroleum analysis.
- (8) Explain the process to prepare alkaline and acidic titration solvent for ASTM D 3227.
- (9) Write the equation to calculate carbon residue and TAN by ASTM D 4530 & 664.
- (10) Explain the concept of "measurement" in sample.

2 Answer any 4 out of the following 6 questions : **20**

- (1) Give brief introduction about sampling procedure.
- (2) Explain ASTM D 445 in detail
- (3) Describe the test method for pour point in detail.
- (4) Explain ASTM D 93 in detail.
- (5) Write the scope & procedure of UOP46-85.
- (6) Explain ASTM D 4007 in detail.

3 Answer any 4 out of the following 6 questions : **20**

- (1) Explain ASTM D 1298 in detail.
- (2) Write the scope, signification & procedure of ASTM D 6560.
- (3) Explain IP-170 in detail.
- (4) Describe the test method for Ramsbottom carbon residue in detail.
- (5) Explain ASTM D 5191 in detail.
- (6) Give brief introduction about Smoke point measurement method.