



**MCQ-003-001547**

Seat No. \_\_\_\_\_

**B. Sc. (Forensic Sci.) (Sem. V) (CBCS) Examination**

**May / June - 2018**

**FS - 502 : Forensic Chemistry**

**Faculty Code : 003**

**Subject Code : 001547**

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

[Total Marks : 70

- Instructions :** (1) This question paper contains three questions. All are compulsory.  
(2) Draw neat and labelled diagrams wherever necessary.  
(3) Figure to the right indicate marks.

1 Answer the following questions : 20

- (1) Kerosene normally boils in range of \_\_\_\_\_ °C.
- (2) Gangrene is overdose effect of \_\_\_\_\_.
- (3) Phenobarbital falls in which category of Barbiturates, long acting or short acting ?
- (4) Oil orange dye of petrol give the value of  $\lambda_{\max}$  in UV spectroscopy is \_\_\_\_\_.
- (5) Diesel consists essentially of \_\_\_\_\_ hydrocarbons.
- (6) Which solvent system is used for the TLC of petrol ?
- (7) Which is used to color motor gasoline ?
- (8) Full form of BIS.
- (9) The smoke point of typical standard kerosene is \_\_\_\_\_.
- (10) Which is the highly concentrated form of cannabis resin ?
- (11) Which drug does not have any withdrawal effect ?
- (12) Which component of Opium gives Analgesic effect ?
- (13) If we take an overdose of Opium, then what is the temperature effect on our human body; temperature of body increases or decreases ?
- (14) Which is the main component in the composition of Jaggery, Sucrose or Glucose ?

- (15) Which chemical changes the color of phenolphthalein from white to pink in anticorruption cases ?
- (16) Which color is obtained at last to indicate the presence of methanol in Chromotropic Acid Test ?
- (17) Which preservative is added with any biological evidence during its preservation in glass bottles to avoid the fungal growth that may happen in plastic bottles ?
- (18) Which physical evidence can be used for analysis to determine the level of intoxication in drunk driving cases ?
- (19) Give the example of the carbamate.
- (20) By which method metallic poisons are extracted before its analysis ?

**2** Give the answers of following questions as per instructions :

(a) Write any three out of six : **6**

- (1) List out the names of petroleum product.
- (2) Give any 2-3 names of the gaseous poisons.
- (3) Name the research centers researching on Jaggery to enhance the productivity of the process.
- (4) Write about binder which is the main component of paint.
- (5) Preparation of solvent system for TLC of petrol and kerosene.
- (6) Define flash point and pour point.

(b) Write any three out of six : **9**

- (1) Give the introduction of forensic chemistry and related cases.
- (2) List out the types of cases and exhibits which come under the forensic chemistry division.
- (3) Types of heat transfer.
- (4) Write a short note on Opium.
- (5) Thin layer chromatography of petrol for the analysis of adulteration.
- (6) Reasons behind arson cases.

- (c) Write any two out of five : **10**
- (1) Forensic analysis of ethyl alcohol and methyl alcohol.
  - (2) Forensic analysis of fiber sample
  - (3) Characteristics of standard petrol and write a note on distillation of diesel.
  - (4) How to extract Cocaine Hydrochloride from dry powder of coca Leaf.
  - (5) Write a note on Arson crime scene management.

**3** Give the answers of following questions as per instructions :

- (a) Write any three out of six : **6**
- (1) What is the difference between toxic and toxin ?
  - (2) Scopes of toxicology.
  - (3) Define smoke point and give the value of smoke point of kerosene.
  - (4) Define motor spirit and kerosene as per order 1993 by section 3 of Essential Commodities Act.
  - (5) Name the chemicals used in anti-corruption cases.
  - (6) What is the difference between fire and arson ?
- (b) Write any three out of six : **9**
- (1) Write the extraction of Heroin from opium.
  - (2) Classification of fiber.
  - (3) Describe distillation of petrol.
  - (4) Write a note on types of fire.
  - (5) Classification of poisons with example.
  - (6) Give the difference between narcotic drugs and psychotropic substances and give its example.
- (c) Write any two out of five : **10**
- (1) Manufacturing of cement and forensic examination of cement.
  - (2) Write a note on main components of paint.
  - (3) Instrumental techniques used in analysis of poison.
  - (4) Write a note on toxic sample collection and preservation technique of the evidences collected from crime scene and sent to the FSI.
  - (5) Define fire triangle and fire tetrahedron and write a note on chemistry of fire.