

**CONFIDENTIAL**



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2015/2016**

**COURSE NAME : FUNDAMENTALS OF FORENSIC  
SCIENCE**

**COURSE CODE : DAU 10102**

**PROGRAMME : 2 DAU**

**EXAMINATION DATE : DECEMBER 2015/ JANUARY 2016**

**DURATION : 2 HOURS**

**INSTRUCTION : SECTION A ) ANSWER ALL  
QUESTIONS**

**SECTION B) ANSWER TWO (2)  
QUESTIONS ONLY**

**THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES**

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**SECTION A**

- Q1**
- (a) Describe **six (6)** methods that can be used to identify and compare fibers. (18 marks)
  - (b) Explain the limitation for fibers identification. (4 marks)
  - (c) Identify how hair evidence can be collected from crime scene. (3 marks)
- Q2**
- (a) Describes focuses of subject in Forensic Polymer Engineering. (3 marks)
  - (b) Point out why Microtomy is preferable during forensic analysis. (2 marks)
  - (c) Relate all the following with the Forensic Polymer Engineering.
    - (i) Ozone cracking. (5 marks)
    - (ii) Chlorine-induced cracking. (5 marks)
    - (iii) Hydrolysis. (5 marks)
    - (iv) UV degradation. (5 marks)

**SECTION B**

- Q3** (a) Relate how chemical analysis on forensic drug performed in the laboratory helps law enforcement. (3 marks)
- (b) Compare presumptive tests and confirmatory tests. (6 marks)
- (c) Forensic chemists are routinely required to serve as expert witnesses during criminal procedures for cases in which they have performed confirmatory testing. Recall basic questions about suspect materials will be questioned in the court. (3 marks)
- (d) (i) Define Chain of Custody. (4 marks)
- (ii) Relate **two (2)** importance of Chain of Custody. (4 marks)
- (e) Describe destructive testing. (5 marks)
- Q4** (a) Identification of drugs may be qualitative or quantitative. Describe the meaning of qualitative or quantitative identification. (4 marks)
- (b) Explain how the following test is being performed.
- (i) Color Test. (2 marks)
- (ii) Microcrystalline Test. (4 marks)
- (iii) Thin Layer Chromatography (TLC). (5 marks)
- (c) Compare UV-Visible Spectrophotometry, Infrared Spectrophotometry and Mass Spectrometry in terms of result analysis. (10 marks)

- Q5** (a) Explain about fire dynamics. (11 marks)
- (b) Point out the limitation of Forensic Analysis of Fire Debris. (10 marks)
- (c) Distinguish the primary characteristic which differ gun firing and pipe bomb. (4 marks)
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- Q6** (a) Paint is a suspension of pigment in a film former.
- (i) Compare paint chip and paint smears. (4 marks)
- (ii) Explain rule of Color layer analysis. (4 marks)
- (b) (i) Define Questioned Documents. (1 marks)
- (ii) A signature from ten years ago will be different from one today where this fact can be used to fix the date of a document or a forgery. Analyse these phenomena. (3 marks)
- (iii) Discover two methods used by forensic document examiners: (9 marks)
- (iv) Point out thing that scientific analysis can determine from a question document. (4 marks)

- END OF QUESTION -