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**Question Paper Code: U8402**

B.E./B.Tech. DEGREE EXAMINATION, APRIL / MAY 2025

Professional Elective

21ITV402– DIGITAL AND MOBILE FORENSICS

(Regulations 2021)

(Common to CSE, IT, CSD, AI&DS & CSE(AIML) Engineering branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

- |                                                                                |        |
|--------------------------------------------------------------------------------|--------|
| 1. Compare Forensic Science and Digital Forensics.                             | CO1- U |
| 2. Summarize the information required in a final report of presentation phase. | CO1- U |
| 3. Outline on content related offenses with example.                           | CO1- U |
| 4. Outline on narrowing the focus during the investigation.                    | CO1- U |
| 5. Compare law enforcement versus enterprise digital forensic readiness.       | CO1- U |
| 6. Infer, code of conduct in digital forensic readiness and example.           | CO1- U |
| 7. List out the rules to follow for seizing the evidence from mobile device.   | CO1- U |
| 8. Outline on Ultdata                                                          | CO1- U |
| 9. Outline on ADB in android OS.                                               | CO1- U |
| 10. Summarize the purpose of the dual use tools.                               | CO1- U |

PART – B (5 x 16= 80 Marks)

- |                                                                                                         |        |      |
|---------------------------------------------------------------------------------------------------------|--------|------|
| 11. (a) (i) Outline on history of forensic science.                                                     | CO1- U | (8)  |
| (ii) Outline on crime reconstruction in digital forensics.                                              | CO1- U | (8)  |
| Or                                                                                                      |        |      |
| (b) Explain the identification and collection phase of digital forensics process with suitable example. | CO1- U | (16) |

12. (a) A law enforcement agency is investigating a kidnapping case where the suspect's mobile phone was recovered from the crime scene. The phone is locked with a fingerprint scanner, and the suspect is refusing to provide access. The investigators need to retrieve crucial evidence such as text messages, call logs, GPS location data, and media files to link the suspect to the crime. The phone is running a newer operating system, and the law enforcement team does not have the tools or expertise to bypass the security mechanisms in place. Identify the legal and ethical considerations the investigators must consider before attempting to access the suspect's mobile phone, and how they should address potential challenges in obtaining a warrant or consent. CO2- App (16)
- Or
- (b) Given a scenario where you are tasked with collecting digital evidence from a suspect's computer, how would you ensure that the seizure of data follows both proper forensic procedures and the legal rules of search and seizure? CO2- App (16)
13. (a) Explain the standardization bodies and List out the standards that relate to the digital forensic investigation process. CO1- U (16)
- Or
- (b) Explain the people roles and responsibilities of investigation in enterprise digital forensic readiness. CO1- U (16)
14. (a) A scenario where a user has jailbroken their iOS device, how would you assess the potential security risks and recommend appropriate measures to mitigate those risks while ensuring the device remains functional? CO2- App (16)
- Or
- (b) In a case where an individual's iPhone is suspected to contain evidence of criminal activity, how would you use iCloud backup data to recover relevant information, while ensuring that all actions comply with legal and ethical standards? CO2- App (16)
15. (a) Explain in detail about how the understanding of file systems plays a crucial role in mobile forensics. CO1- U (16)
- Or
- (b) Explain the various tools available on android forensics with example. CO1- U (16)