

(Time: 2<sup>1/2</sup> Hours)

[Total Marks: 75]

- N. B.: (1) All questions are compulsory.  
 (2) Make suitable assumptions wherever necessary and state the assumptions made.  
 (3) Answers to the same question must be written together.  
 (4) Numbers to the right indicate marks.  
 (5) Draw neat labeled diagrams wherever necessary.  
 (6) Use of Non-programmable calculators is allowed.

1. **Attempt any three of the following:** 15
  - a. Explain the steps in risk management process
  - b. What are Different levels of fault tolerance in Cloud computing?
  - c. What is vulnerability assessment? List its types
  - d. Explain Media Access Control address filtering Z
  - e. What are Security Issues in Cellular Networks?
2. **Attempt any three of the following:** 15
  - a. Define and explain different types of Social Engineering.
  - b. What are the types of Disaster Recovery?
  - c. Explain Metasploit framework?
  - d. What are the benefits of disaster recovery software?
  - e. Explain what is impact assessment and recovery
3. **Attempt any three of the following:** 15
  - a. List & explain various tools used for Metasploit.
  - b. What is Variables in Metasploit?
  - c. Explain the structure of Metasploit
  - d. Differentiate between vulnerability assessment & penetration testing
  - e. What are the phases of penetration testing?
4. **Attempt any three of the following:** 15
  - a. Explain client-side attacks with Metasploit
  - b. Explain in detail shellcode
  - c. Explain meterpreter in brief
  - d. Write a note on NMAP scanning approach
  - e. Explain msfvenom utility
5. **Attempt any three of the following:** 15
  - a. What is the process to clear all logs after penetration testing?
  - b. Explain the process to write exploits for DEP bypass
  - c. Explain the phases of penetration Testing.
  - d. Explain all basic commands of metasploit
  - e. Explain the process for exploiting stack based buffer overflow.