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V Semester Diploma Examination, February/March-2023**CYBER SECURITY****Time : 3 Hours |****[Max. Marks : 100****Instruction :** Answer **one** full questions from each Section.**SECTION – I**

1. (a) At which layer of OSI stack firewall will be placed ? Give the types and advantages of firewall in cyber security. 10
(b) You have purchased a laptop for your business purpose then what measures shall you take to protect your devices and data ? 10
2. (a) Describe the way hackers collect information from intended users/organisation. 10
(b) Think that you are the security manager for your project team, how do you apply secure SDLC in each stage of project development ? 10

SECTION – II

3. (a) Let $P = 23$ and $q = 5$, Alice picks $x = 4$ and Bob picks $y = 3$, Compute the shared secret key between Alice & Bob using Diffi-Hellman key exchange protocol. 14
(b) Give the importance of the following : 6
 - (a) Hashing
 - (b) Digital Signature
4. (a) Given an implementation of RSA, $p = 53$, $q = 59$ if encryption key is 3, what is decryption key ? 14
Encrypt and decrypt the message '6' using above keys.
(b) Find GCD for the following : 6
 - (i) $\text{gcd}(108, 144)$
 - (ii) $\text{gcd}(360, 210)$

SECTION – III

5. (a) Describe the life cycle of vulnerability management. 10
(b) Describe the shared responsibility model in cloud with advantages. 10
6. (a) Create a threat model for secure online banking. 10
(b) Describe the responsibility of Blue team and Red team. 10

SECTION – IV

7. (a) How do you find vulnerability in your Android application ? What are the common vulnerabilities ? 10
(b) What are the essential benefits we can realize with the application of DevOps principles. Describe sample tools used at various DevOps life cycle stages. 10
8. (a) Describe shared responsibility model in cloud. 10
(b) What is the need of Dynamic Code Analysis ? Which stage of secure SDLC it is applied ? 10

SECTION – V

9. (a) Describe Android Application Security architecture. 10
(b) Why Wireless Application Firewall (WAP) security is important ? Give its types and features. 10
10. (a) Give two KRI examples each for the following domains : 5 + 5 = 10
(i) Patch Management
(ii) Antivirus management
(b) Describe the IT incident management life-cycle/process flow. 10
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