Reg. No. : ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Question Paper Code:U2505

M.E. DEGREE EXAMINATION, APRIL 2024

Professional Elective

Communication Systems

21PCM505- COMMUNICATION NETWORK SECURITY

(Regulations 2021)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Convert "MEET ME" using Hill cipher with the key matrix   CO3- App   (20)
       Convert the cipher text back to plaintext

       $$\begin{bmatrix} 17 & 17 & 5 \\ 21 & 18 & 21 \\ 2 & 2 & 19 \end{bmatrix}$$

       Or

   (b) Encrypt the following using play fair cipher using the keyword   CO3- App   (20)
       MONARCHY. "SWARAJ IS MY BIRTH RIGHT". Use X as
       blank space.

2. (a) Apply the RSA algorithm and explain the RSA with p=7, q=11,   CO3- App   (20)
       e=17, M=8. Discuss its merit.

       Or

   (b) Perform encryption and decryption using RSA Algorithm for the   CO3- App   (20)
       following.
       i) P=17; q=11; e=7; M=88.
       ii) P=7; q=11; e=17; M=8.

3. (a) Explain about Digital signatures and Digital signature Standards.   CO1- U   (20)

       Or

   (b) Describe about Hash Function. How its algorithm is designed?   CO1- U   (20)
       Explain its features & properties.

4.   (a) Explain in detail about firewalls.   CO2- U   (20)

<div align="center">Or</div>

    (b) Explain about authentication Header.   CO2- U   (20)

5.   (a) Explain about security in Ad-hoc network.   CO2- U   (20)

<div align="center">Or</div>

    (b) Explain about Worm hole attack in wireless system.   CO2- U   (20)

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