## CONFIDENTIAL




|  | If first number is greater than second, then print first number else print second number <br> A. Sequence <br> C. Loop <br> B. Decision <br> D. Nested |  |  |
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| $\begin{gathered} \text { SECTION B } \\ 4 \mathrm{Q} \times \mathrm{M}=20 \text { Marks } \\ \hline \end{gathered}$ |  |  |  |
| Q11 | What is computer Software? Explain system software and application software with examples. | 5 | CO1 |
| Q12 | Write a short note on Microsoft Word? List any five functions. | 5 | CO1 |
| Q13 | Explain network topology with diagram? Differentiate between ring and bus topology. | 5 | CO 2 |
| Q14 | Discuss the main features of SPSS. | 5 | CO1 |
| $\begin{gathered} \text { SECTION-C } \\ \text { 3Qx10M=30 Marks } \end{gathered}$ |  |  |  |
| Q15 | Compute the hexadecimal equivalent of the given binary numbers: <br> a) 1011010101001 <br> b) 1100101100001 | 10 | CO 2 |
| Q16 | Discuss the role of an operating system with respect to following functions: <br> a) Memory Management <br> b) Device Management | 10 | CO1 |
| Q17 | Compute ciphertext using Vigenere Cipher technique, if the plaintext is "we are discovered save yourself" and key is "deceptive". <br> OR <br> In a public key system, perform encryption and decryption using the RSA algorithm for $\mathrm{p}=7 ; \mathrm{q}=17 ; \mathrm{e}=11 ; \mathrm{M}=11$. | 10 | CO 3 |
| $\begin{gathered} \text { SECTION-D } \\ \text { 2Qx15M=30 Marks } \end{gathered}$ |  |  |  |
| Q18 | Suppose that you have trained a robot to carry a box of 40 tapes. If each tape contains 7 gigabits data and the speed of robot is $18 \mathrm{~km} / \mathrm{hour}$, then for what range of distances does robot can have a higher data rate than a transmission line whose data rate is 14 megabytes per second? What would be the effect on the range of distances if: <br> a) The capacity of each tape is doubled. <br> b) The speed of robot is doubled; and <br> c) The data rate of the transmission line is doubled. | 15 | CO 2 |


| Q19 | Design an algorithm which generates even numbers between 1000 and <br> 2000 and then prints them in the standard output. It should also print total <br> sum. <br> OR | Draw a flowchart for the problem of printing odd numbers less than 100. It <br> should also calculate their sum and count. | $\mathbf{1 5}$ |
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