



Symbiosis University of Applied Sciences

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Enrollment Number:

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Name of Program: B. TECH

Year/Semester: 3RD YEAR/5TH SEMESTER

Name of Paper: Cryptography & Cyber Security

Paper Code: BTCS0501

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Time: 10:30 AM – 11:30 AM

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Instructions for Examinees

1. Fill up all entries required in this page.
2. Merge this doc page with your scanned answer sheets as a first page in a single PDF file.
3. Write your answers on A4 Ruled Sheets/Register Pages.
4. Write End after the last attempted question.
5. Write the page number on every page and mentioned Total No. of Pages on front Page.
6. **If the content in the Answer Book of two students or more has found similar, in that case all copied answer will stand cancelled.**

PRACTICAL ACTIVITY

Q1. What do you mean by DNA Computing?

Ans1: DNA stands for [Deoxyribonucleic Acid]

DNA Computing is a integrated branch of computer science and biology sciences that uses a computer (which uses DNA) to store information & perform complex ~~xxx~~ calculations. The main benefit of using DNA computers to solve complex problems is that different possible solutions are created all at once. K/W as Parallel Processing.

Need of DNA Computing: Due to big data (extremely dense information storage)

And computing this much chunk of data Requires \rightarrow unlimited space, energy, selectivity

also storage as Backup.

Eg: 1 gram of DNA $\xrightarrow{\text{HOLD}}$ 1×10^9 MB

Q2. What is Cipher Feedback Mode? Application of CFB.

Ans2: In this mode, the cipher is given as feedback to next block of encryption with same new applications. First an initial vector IV is used for first encryption & output bits are divided as a set of Round, 'b-s' bits. The left hand side 's' bits are related & one applied. on XOR application with plaintext bits. The result is given as Input to shift Register & process continues.

Q3. What is Output Feedback Mode? Application of OFB.

Ans3: The output Feedback Mode follows Nearly the same process as cipher feedback mode, except that it sends the encrypted output as feedback. Instead of actual cipher which is XOR O/P. In this mode all bits are sent instead of reading selected 's'-bits.

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