position.

on and opening a file with an open() function?

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GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

National Highway No.6, JALGAON – 425 002

Name of Examination : **Winter 2021**

Course Code & Course Name : **ET404UY - Open Elective - III- Wirless Communication Technologies**

Maximum Marks : **60** Duration : **3 Hrs**

Instructions:

1. *All questions are compulsory.*
2. *Illustrate your answer with suitable figures/sketches wherever necessary.*
3. *Assume suitable additional data; if required.*
4. *Use of logarithmic table, drawing instruments and non programmable calculators is allowed.*
5. *Figures to the right indicate full marks.*

1) Answer any two of the following:

a) Describe the differences between third and fourth generation. [6]

b) Explain WLAN and wireless local loop. [6]

c) Explain future of wireless network. [6]

2) Answer the following

a) Explain shadowing and multi-path fading. [6]

b) Describe Jake's channel model in wireless communication. [6]

3) Answer any two of the following

a) What is free space attenuation? Explain attenuation over reflecting surface. [6]

b) Explain characteristics of wireless channel. [6]

c) Write short note

1. Coherence bandwidth coherence time [3]
2. Link margin and Fade margin [3]

4) Answer the following

a) What is multiple access technique? Explain TDMA in detail. [6]

b) Draw and explain block diagram of CDMA. [6]

5) Answer any two of the following:

a) Explain the concept of frequency reuse. [6]

b) Explain wireless core network architecture in UMTS. [6]

Write short notes on

1. Bearer service [3]
2. Quality of service [3]

All the best!

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National Highway No.6, JALGAON – 425 002

PRN: _____

Name of Examination : **Winter 2021**

Course Code & Course Name : **CO403UA - Professional Elective-III Image Processing**

Maximum Marks : **60** Duration : **3 Hrs**

ctions:

All questions are compulsory.

Illustrate your answer with suitable figures/sketches wherever necessary.

Assume suitable additional data; if required.

Use of logarithmic table, drawing instruments and non programmable calculators is allowed.

Figures to the right indicate full marks.

Attempt any Two of the following.

Define Digital Image processing (DIP)? List various uses of DIP and explain any two in brief. [6]

List Different fundamental steps in Digital Image processing and explain them in brief. [6]

What is image enhancement? List and explain basic intensity transformations. [6]

mpt any Two of the following.

List and explain different zero level memory point operations. [6]

Define spatial filtering. Explain smoothing and sharpening filters. [6]

List different color models and explain RGB color model in brief. [6]

Attempt any Two of the following.

Define Hough Transform. Explain the method of edge linking using Hough transform. [6]

What is image representation? List different types of descriptors and explain boundary descriptor in brief. [6]

Explain discrete Fourier transform with its features. [6]

Attempt Both the Questions.

What is Discrete Cosine Transformation (DCT)? Why it is used in image processing. Explain working of DCT in brief. [6]

What is lossy Compression? List different lossy compression techniques and explain MPEG compression in brief. [6]

Attempt Both the Questions.

Define image compression. List different lossless techniques and explain vector quantization in brief. [6]

Explain fast Fourier transform with properties and applications. [6]

All the best!

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GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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National Highway No.6, JALGAON – 425 002

Name of Examination : **Winter 2021**

Course Code & Course Name : **CO402U - Cryptography And Network Security**

Maximum Marks : **60** Duration : **3 Hrs**

Instructions:

1. *All questions are compulsory.*
2. *Illustrate your answer with suitable figures/sketches wherever necessary.*
3. *Assume suitable additional data; if required.*
4. *Use of logarithmic table, drawing instruments and non programmable calculators is allowed.*
5. *Figures to the right indicate full marks.*

1) Solve all

a) **Explain OSI Security architecture model with neat diagram. Explain Security Mechanism.** [6]

b) **Compare Substitution cipher and Transposition cipher techniques** [6]

2) Solve all

a) **[illegible]t is the difference between public key and private key cryptosystem?** [6]

b) **State Chinese remainder theorem and find X for the given set of congruent equations using it.** [6]

3) Solve any two

a) **Explain different modes of operation in DES.** [6]

b) **What is an avalanche effect in cryptography?** [6]

c) **What is a message authentication code? Explain its various types.** [6]

4) Solve any two

a) **User A and B exchange the key using Diffie Hellman algorithm. Assume á=5 q=11 XA=2 XB=3. Find YA, YB, KA and KB.** [6]

b) **Define virus and with block diagram explain how it manages all disk activity. Specify and explain any three types of of viruses.** [6]

c) **Explain how digital signature works.**

5) Solve any two

a) **Explain Diffie-Hellman Key exchange agreement.**

b) **Draw and explain components of Kerberos.**

c) **[illegible]ain Firewall and its design considerations.**

All the best!

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Name of Examination : **Winter 2021**

Course Code & Course Name : **CO401U - Compiler Design**

Maximum Marks : **60** Duration : **3 Hrs**

tructions:

1. *All questions are compulsory.*
2. *Illustrate your answer with suitable figures/sketches wherever necessary.*
3. *Assume suitable additional data; if required.*
4. *Use of logarithmic table, drawing instruments and non programmable calculators is allowed.*
5. *Figures to the right indicate full marks.*

Attempt any Two of the following.

.) What is LR parser? Draw its block diagram and write LR parsing Algorithm in brief. [6]

.) What is the need of intermediate code forms? List various intermediate code forms used in compiler and discuss implementation of different three address code. [6]

.) What is code generator? List various issues in design of code generator and properties that a code generator should posses. [6]

Attempt any Two of the following.

.) What is Di-Acyclic Graph(DAG)? How DAG can be constructed for basic block? Also list out advantages of DAG. [6]

.) What do you mean by compilation process? Explain the analysis and synthesis model of compilation. [6]

.) What is symbol table? List data structures to implement it and explain hash table implementation in brief. [6]

Attempt any Two of the following.

.) Define top down parsing and its techniques. Explain recursive descent parsing with example. [6]

.) What are different compiler writing tools? Explain YACC with suitable example. [6]

.) What are the functions of Lexical Analyzer? Describe the input buffering technique in detail. [6]

Attempt Both the Questions.

.) What is bottom-up parsing? Explain in detail about the shift reduce parsing with an example. [6]

.) List out different error recovery strategies and explain them. [6]

Attempt Both the Questions.

.) What are different storage allocation strategies? Distinguish between static and dynamic storage allocation. [6]

.) What are various principal sources of code optimization? Point out the characteristics of peephole optimization. [6]

All the best!