0201E947   Candidate's Seat No : _____

MCA Sem.-3 Examination
Computer Vision
January-2024

Time : 3-00 Hours]   [Max. Marks : 50

SECTION I

Q1.(a)   i.   Explain computer vision system. List examples of vision using   [09]
              different bands of electro magnetic spectrum

Q2.(a)   Explain image smoothing. Write effects and convolution masks for   [08]
         following filters:

     i.   Mean

     ii. Weighted mean

     iii. Median

     iv. Max

     v. Min

OR
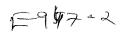
Q2.   With an example . Explain different types of edges   [08]

Q3.   Define segmentation. Give difference between **(any two)**   [08]
         i.   Region based and boundary based segmentation
         ii.   Structural and stochastic segmentation
         iii. Simple and adaptive thresholding
         iv.   Region growing and region splitting and merging

SECTION II

Q4.(a)   Define morphological image processing. Explain using the following: [09]
         i.   Structuring element
         ii.   Types with examples of structuring elements
         iii. Hits and fits

         Give difference between dilation and erosion . What effects do they have
         on image? For the given image and structuring element S, find the erosion
         and dilation image

P.T.o

Q5. Explain image negation, bit plane slicing and contrast streching   [08]

OR

Q5. Write application of histogram equalisation . What are its effects?   [08]

Q6. Explain different arithmetic and logical operations on images   [08]

OR

Q6. Explain image transformations. Write the 3-D matrices and effects of rotation, translation, scaling and perspective transformation.   [08]

MCA Sem.-3 Examination

Web Security

January-2024

Time : 3-00 Hours]   [Max. Marks : 50

Instructions:

- Write both the Sections in the separate answer book.
- Both Sections having equal weightage.
- Draw Diagrams wherever necessary.
- Make Assumptions wherever necessary.

SECTION – I

Q-1   Answer the following   **6**

1. During a penetration test, what kind of attack is identified if JavaScript is injected into a web application's comment section?
a) Stored XSS
b) SQL Injection
c) Reflected XSS
d) CSRF Attack

2. A company's website allows file uploads but fails to check the file type server-side. What security control was bypassed?
a) Encryption
b) Server-side validation
c) Firewall
d) Intrusion Detection System

Q-2   Answer in brief   **10**

1. Describe the steps to perform a penetration test on a web application's login form suspected of SQL injection.

2. What steps would you take to determine if a web application is vulnerable to Command Injection via a form input?

Q-3   Attempt the following   **9**

Discuss the methodology for conducting a comprehensive security assessment on a web application, focusing on common vulnerabilities like SQL injection, XSS, and Command Injection.

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SECTION – II

Q-4   **Answer the following**   6

1. A security analyst notices unusual activity on a server. What type of attack is most likely being executed?

a) DDoS Attack
b) SQL Injection
c) Command Injection
d) Phishing Attack

2. While conducting a network audit, you discover that entering a specific SQL query in the search field returns the entire customer database. What type of vulnerability is this?

a) SQL Injection
b) Buffer Overflow
c) Cross-Site Request Forgery
d) Insecure Cryptographic Storage

Q-5   **Attempt the following:**   10

1. Describe the various HTTP status codes and their significance.

2. Differentiate between TCP, HTTP and HTTPS.

Q-6   **Attempt the following:**   9

What is Burp proxy? How is it different from web browser's developer tools? Explain how to get started with Burp proxy.

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