

## Long Questions

1. What is the significance of multi-dimensional signals and systems in signal processing?
2. How does the human visual system perceive digital images and videos?
3. What role does color play in digital images and videos?
4. What distinguishes digital video from other forms of multimedia content?
5. What are the fundamental concepts of 3D video technology?
6. What are the key digital video applications across various industries?
7. How is image quality assessed in digital imaging and video technology?
8. What are the benefits of utilizing digital video in employee training and development programs?
9. How does digital video revolutionize the field of telemedicine and remote patient care?
10. What role does digital video play in enhancing safety and security in public spaces and transportation systems?
11. How does digital video contribute to enhancing customer engagement and brand storytelling in marketing?
12. What are the implications of digital video in fostering global collaboration and knowledge sharing in research and development?
13. How does digital video support effective communication and collaboration in the manufacturing and engineering sectors?
14. What are the advantages of using digital video for journalism and broadcasting purposes?
15. How does digital video transform communication and interaction on social media platforms?
16. How does digital video contribute to enhancing accessibility and inclusivity in communication and media content?
17. What role does digital video play in preserving cultural heritage and promoting cultural exchange?
18. How does digital video contribute to environmental conservation and sustainability efforts?
19. What role does digital video play in promoting social justice and human rights advocacy?

20. How does digital video contribute to disaster preparedness, response, and recovery efforts?
21. What role does digital video play in fostering creativity and artistic expression?
22. How does digital video contribute to public health education and disease prevention efforts?
23. What role does digital video play in promoting cultural diversity, equity, and inclusion in society?
24. How does digital video contribute to promoting access to education and lifelong learning opportunities worldwide?
25. What role does digital video play in promoting mental health and well-being in individuals and communities?
26. How does digital video impact the field of marketing and advertising?
27. What is motion estimation in the context of computer vision?
28. What are the fundamentals of image formation relevant to motion estimation?
29. How do motion models contribute to motion estimation algorithms?
30. What are the key components of 2D apparent motion estimation algorithms?
31. What are the challenges and techniques in 3D motion and structure estimation?
32. What are the challenges and techniques in estimating 3D motion and structure from images?
33. How do motion estimation algorithms contribute to video compression?
34. What are the applications of motion estimation in robotics and autonomous systems?
35. How does motion estimation contribute to medical imaging and diagnostic applications?
36. What are the ethical and societal implications of motion estimation technology?
37. How does motion estimation contribute to the field of augmented reality (AR)?
38. What are the challenges and techniques in motion estimation for underwater imaging?
39. How does motion estimation contribute to sports analytics and performance analysis?

40. What role does motion estimation play in facial expression recognition and emotion analysis?
41. How do motion estimation algorithms contribute to the field of traffic analysis and transportation systems?
42. What are the key challenges in motion estimation for aerial imagery and drone applications?
43. How does motion estimation contribute to human-computer interaction and gesture recognition?
44. What are the applications of motion estimation in the field of robotics and industrial automation?
45. How does motion estimation contribute to video stabilization and image enhancement?
46. What are the implications of motion estimation in environmental monitoring and earth observation?
47. What is the significance of video analytics in surveillance and security applications?
48. What are the fundamental concepts in video analytics for object detection and tracking?
49. How does adaptive background modeling and subtraction contribute to object detection in video analytics?
50. What are the challenges and techniques in pedestrian detection and tracking in video analytics?
51. How does vehicle detection and tracking contribute to traffic management and surveillance in video analytics?
52. How does video analytics contribute to scene understanding and anomaly detection?
53. What are the challenges and techniques in tracking articulated human motion in low-dimensional latent spaces?
54. How does video analytics contribute to forensic analysis and evidence gathering in law enforcement?
55. What role does video analytics play in retail analytics and customer behavior analysis?
56. How does video analytics contribute to healthcare and medical imaging applications?
57. How does video analytics contribute to urban planning and transportation management?
58. What are the applications of video analytics in industrial automation and manufacturing?

59. How does video analytics enhance educational technology and online learning platforms?
60. What role does video analytics play in environmental monitoring and conservation efforts?
61. How does video analytics contribute to sports performance analysis and athlete training?
62. How does video analytics contribute to public safety and emergency response?
63. What are the applications of video analytics in the retail industry for customer experience enhancement?
64. How does video analytics contribute to transportation infrastructure management and traffic control?
65. What are the applications of video analytics in the entertainment industry for content creation and audience engagement?
66. How does video analytics contribute to workplace safety and occupational health management?
67. How does video analytics contribute to tourism and destination management?
68. What are the applications of video analytics in agriculture and precision farming?
69. How does video analytics contribute to cultural heritage preservation and museum management?
70. What are the applications of video analytics in environmental conservation and wildlife protection?
71. How does video analytics contribute to disaster response and emergency management?
72. How does digital video impact the field of marketing and advertising?
73. How does digital video support effective communication and collaboration in the manufacturing and engineering sectors?
74. How does digital video contribute to enhancing customer engagement and brand storytelling in marketing?
75. What role does digital video play in preserving cultural heritage and promoting cultural exchange?