

Dr. Vijay Kumar (190) 8/12/2022
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Roll Number: _____

National Institute of Technology, Hamirpur (H.P.)
Department of Computer Science and Engineering

B. Tech. (Dual Degree): Semester- IX (COE)	Course Code: CS-715
December 08, 2022	Course Name: Biometric Security
Time: 3 hours, M. Marks: 50	Thursday, 09:30 AM - 12:30 PM
	Name Of Faculty: VIK

Note: Attempt all questions in proper sequence. Assume missing data, if any, suitably.

1	(A) Will cut or scraped fingers cause identification issues with biometric systems? (B) Do biometric systems store images of fingerprint? (C) Can the stored fingerprint templates be used by law enforcement? (D) How are biometric technologies being deployed?	10
2	(A) What should enterprises keep in mind when considering biometric technologies? (B) What should biometric vendors do to accelerate the deployment of biometric technologies? (C) What do you mean by false minutiae? How do we remove false minutiae and why?	10
3	(A) Draw a basic structure of face recognition system and explain various processes involved in recognition system. (B) What are the practical challenges in face, iris, and vein recognition systems? (C) How can you reduce the processing time of feature extraction in IFS-based face recognition system?	10
4	(A) What do you mean by pupil dilation and pupil region removal? What are the various advantages and limitations of pupil dilation and region removal techniques? (B) Iris Recognition uses the red component of RGB or Y component of YCbCr color space or directly a ray scale image. Justify your answer. (C) How can you reduce the processing time of feature extraction in IFS-based face recognition system?	10
5	(A) How is fusion achieved in multiple biometric data-based biometrics? (B) Draw the basic block diagram of multimodal biometrics and explain the various components of the system. (C) How does AADHAAR help in MNREGA applications? (D) AADHAAR is a good example of multimodal biometrics. Justify this statement.	10