R20 Regulation *Subject code: 3P6GC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular/Supplementary Examinations, July 2024

ADVANCED COMPUTER VISION

(CSE (AI & ML))

Maximum Marks: 70 Date:24.07.2024 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		CO	Bloom Tx
1	Compare linear and nonlinear filters.	1	Understanding
2	Define Global optimization.	1	Understanding
3	What is Segmentation?	2	Understanding
4	What is Pose estimation?	2	Understanding
5	Define Factorization from Motion.	3	Remembering
6	What is parametric motion?	3	Understanding
7	Define Super-resolution.	4	Evaluating
8	What is Texture analysis?	4	Understanding
9	What is Active range finding?	5	Understanding
10	Give some applications of 3D object detection.	5	Understanding

Part-B

Answer All the following questions. (5X10M=50Marks)			
11	Explain linear filtering and its methods. (10)	1	Understanding
	OR		
12	Discuss about pyramid and explain the features of pyramid in computer vision? (10)	1	Evaluating
13	A. What is mean shift mode finding? Explain mean shift in object detection. (5) B. Briefly explain main component of feature detection and matching? And write the work flow of feature detection. (5)	2	Analyzing
	OR		
14	Briefly explain the difference between 2D and 3D feature-based alignment. (10)	2	Understanding
15	Explain about the concept of triangulation, factorization and write 4 types of factorizations? (10)	3	Analyzing

	OR		
16	Briefly explain alignment in machine translation and write the motion estimation? (10)	3	Understanding
17	A. Briefly explain theory of image stitching and how much overlap is needed for image stitching? (5) B. Discuss about Photometric calibration and write the three types of calibration? (5)	4	Analyzing
	OR		
18	A. What is the difference between segmentation and matting? And write the advantages. (5) B. Write short notes on Texture analysis and synthesis with suitable example. (5)	4	Evaluating
19	What is active and passive 3D reconstruction? Discuss the active 3D technology concept. (10)	5	Understanding
	OR		
20	Briefly explain the requirements for video rendering and object detection. (10)	5	Analyzing