GL BAJAJ
Institute of Management & Research
Approved by A.I.C.T.E., Ministry of HRD, Govt. of India

Roll No……

Plot No. 2, Knowledge Park-III, Greater Noida (U.P.)–201306

POST GRADUATE DIPLOMA IN MANAGEMENT (2020 -22)

MID TERM EXAMINATIONS (TERM -III)

Academic Session- 2020-21

Subject Name :	**Artificial Intelligence for Managers**	Time: 01.30 hrs
Sub. Code:	**Code: PG-35**	Max Marks: 20

Note:

1. Writing anything except Roll Number on question paper will be deemed as an act of indulging in unfair means and action shall be taken as per rules.

2. All questions are compulsory in Section A, B & C. Section A carries 1 Case Study of 8 marks. Section B carries 3 questions of 2 marks each and Section C carries 2questions of 3 marks each.

SECTION – A

04+04 = 08 Marks

Q. 1: Case Study:

Understanding in-store customer behavior

Solution built for brick-and-mortar retailers aiming to turn video content into actionable insights.

Results

- Accumulating valuable customer data.
- Understanding customers' behavioral patterns.
- **Optimizing store layouts, storefronts, and in-store promotions based on real data.**

Approach

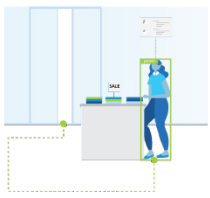
Create a computer vision **algorithm able to detect, track, and count people in videos** recorded by regular in-store cameras.

Before

Brick-and-mortar retailers have ideas about how customers behave inside a store, but lack metrics to back-up their assumptions. **Store layouts and in-store marketing campaigns aren't data-driven** and, therefore, aren't optimized.

After

Using **cameras only**, a solution is developed that reveals **insights** into customer behavior, enabling retailers to understand in-store navigation routes, hotspots, and the storefront's effectiveness.



Technical details

Experiment with various combinations of Person ReID, object tracking, pose detection, and object detection.

Notable algorithms used:

- Custom PersonLab pose detector implementation.
- Custom SORT object tracker with added EANet Person ReId for the appearance model.
- Luminoth's (a deep learning computer vision toolkit built by Tryolabs) Faster R-CNN object detector, modified for generating appearance models for objects from embeddings.

Creation of person-attention model for window fronts of retail stores. Provide accurate information, such as the number of people walking by the store, the attention they pay to the storefront, how many people enter the store, the correlation between time spent looking at the storefront and entering the store, and so on.

(A) The customer behavior analysis is being done by the businesses using AI. Discuss the possible Weaknesses and Opportunities for the business with such a solution.

(B) Identify the challenges of Customer Behaviour Analysis in the Brick and Mortar businesses vis-à-vis online environment.

SECTION – B

02×03 = 06 Marks

Q. 2: Discuss the importance of Cyborg Technology. How it could be beneficial to the society?

Q. 3: Explain the role of Artificial Intelligence in the Healthcare Sector.

Q. 4: Discuss the growing demand for the Big Data Analytics solutions. Which AI technologies are being used in the Big Data Analysis?

SECTION – C **03×02 = 06 Marks**

Q.5. What are the Artificial Intelligence Agents? Discuss the functioning of Learning Agent.
Q. 6. Discuss the role of AI in IoT solutions. Explain with examples.

Mapping of Questions with Course Learning Outcome

COs	**Question Number(s)**	**Total Marks Allocated to the CO**
CO1	5, 6	**6**
CO2	2, 3, 4	**6**
CO3	1(a)	**4**
CO4	1(b)	**4**
CO5		

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