

B. TECH
(SEM V) THEORY EXAMINATION 2022-23
AUGMENTED AND VIRTUAL REALITY

Time: 3 Hours**Total Marks: 100****Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- a. What do you understand by virtual reality?
- b. Explain Flight simulation.
- c. What is the purpose of augmented reality?
- d. What are tracking devices?
- e. Define GUI.
- f. What are VR toolkits.
- g. What are gestural commands.
- h. What are 3D manipulation tasks.
- i. Write a short note on wireless display.
- j. Explain mixed reality?

SECTION B

2. Attempt any three of the following: 10x3=30

- a. Explain the hardware technologies used in 3D user interface?
- b. List characteristics of input device. Brief about choosing Input Devices for 3D Interfaces.
- c. Explain in brief LODs. What do you understand by Cullers and Occluders?
- d. What is the application of VR in Education? How VR helps in making education more interactive.
- e. What do you know about enhancing interactivity in AR environment.

SECTION C

3. Attempt any one part of the following: 10x1=10

- a. Briefly explain the working of VR technology.
- b. Differentiate between virtual reality applications and multimedia applications.

4. Attempt any one part of the following: 10x1=10

- a. Write short notes on: -
 - i. Desktop input devices
 - ii. Hand gestures
- b. What is Direct Human Input? What do you understand by Special Purpose Input Devices?

5. Attempt any *one* part of the following: **10x1=10**
- a. Explain with examples different VR software's available in market with their advantages.
 - b. Explain the following: -
 - i. 2D Controls,
 - ii. Hardware Controls
 - iii. Control Panel
6. Attempt any *one* part of the following: **10x1=10**
- a. Explain the strategies for designing and developing 3D user interfaces.
 - b. What are the applications of virtual reality in area of engineering and agriculture. Explain with example.
7. Attempt any *one* part of the following: **10x1=10**
- a. Differentiate between AR and VR. What are the challenges with AR?
 - b. Explain technology and features of augmented reality in detail.

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