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Printed Pages: 02 **Sub Code: KCS057**

Paper Id: 231990 **Roll No.**

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?

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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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