

Dr. Babasaheb Ambedkar Open University
Term End Examination February – 2026

Course	: BCADES	Date	: 18-Feb-26
Subject Code	: BCADES-306 (Animation)	Time	: 11:30am to 01:45pm
Subject Name	: Virtual Reality	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Define Virtual Reality (VR). Explain its key characteristics and discuss how immersion and presence contribute to an effective VR experience.
2. Explain the classification of VR software into Toolkits and Authoring Systems. Compare their advantages and limitations.
3. Explain high-end professional VR software packages.
4. Explain human factors in Virtual Reality. Discuss issues related to latency, simulation sickness, eye strain, and psychological effects.
5. Describe Data Gloves as VR input devices. Explain their working principle and applications in virtual environments.

Section B

Answer the following (Attempt any four) (20)

1. Explain the concept of Telepresence and Distributed Virtual Environments.
2. Differentiate Augmented Reality from Virtual Reality with examples.
3. What is passive haptics?
4. Explain the structure and format of VRML files.
5. Explain the key features of VRML.
6. Explain the applications of VRML in brief

Section C

Part – A (Multiple Choice Questions) (10)

- 1 Virtual Reality is best described as:
A A programming language
B A computer-generated artificial environment
C A database system
D A networking protocol
- 2 Which sense is primarily used in Virtual Reality systems?
A Smell
B Taste
C Sight and sound
D Touch only
- 3 A CAVE system is an example of:
A Projected VR
B Non-immersive VR
C Desktop VR
D Text-based VR
- 4 VR toolkits are mainly designed for:
A Non-programmers
B Graphic designers only
C End users
D Skilled programmers

- 5 Rend386 is an example of:

A Freeware VR program	B High-end VR system
C Commercial VR software	D Web browser
- 6 Which VR software is widely used in professional environments?

A ACK3D	B Sense8 World Tool Kit
C Rend386	D Gossamer
- 7 Latency in VR systems mainly causes:

A Faster rendering	B Improved accuracy
C Better immersion	D User discomfort
- 8 Which device allows six degrees of freedom in VR?

A Keyboard	B Mouse
C Wand	D Monitor
- 9 VRML stands for:

A Virtual Reality Markup Language	B Visual Reality Modeling Language
C Virtual Rendering Model Language	D Visual Rendering Markup Language
- 10 VRML was later replaced by:

A HTML5	B Java
C X3D	D OpenGL

Part – B (Do as Directed)

(10)

State whether the following statements are true or false

- 1 Virtual Reality can be experienced only through head-mounted displays.
- 2 Immersion in VR depends on factors such as stereoscopic view, field of regard, and update rate.
- 3 Distributed Virtual Environments operate only on a single computer system.
- 4 VR authoring systems completely eliminate the need for any programming knowledge.
- 5 Freeware VR programs are often developed by students or research groups.
- 6 VR software priced under \$200 cannot support user-defined virtual worlds.
- 7 Poorly optimized VR models can increase latency and user discomfort.
- 8 Data gloves detect finger movements using optical, strain, or mechanical sensors.
- 9 Normal treadmills allow users to move freely in all directions within a VR environment.
- 10 Passive haptic systems actively push back against the user's movements.
