

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2020

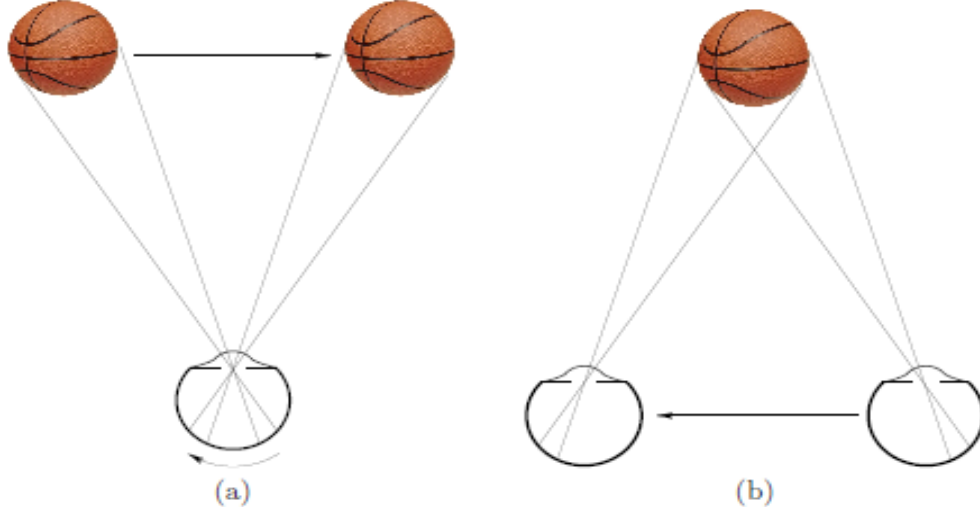
Course: Virtual Reality
Program: B.Tech. CS G&G
Course Code: CSGG4006

Semester: VII
Time 03 hrs.
Max. Marks: 100

Instructions: Answer precisely.

SECTION A

- 1. Each Question will carry 5 Marks**
2. Instruction: Complete the statement / Select the correct answer(s)

S. No.		CO
Q.1	<p>Specify the type of eye movement for a) and b)</p>  <p align="center">Two motions that cause equivalent movement of the image on the retina: (a) The eye is fixed and the object moves; (b) the eye moves while the object is fixed. Both of these are hard to achieve in practice due to eye rotations</p> <p>a).....</p> <p>b).....</p>	CO3
Q.2	<p>What are the different Game engines available in the market</p> <ol style="list-style-type: none"> 1. 2. 3. 	CO2
Q.3	<p>Three crucial factors (related to resolution) for the VR display are</p> <ol style="list-style-type: none"> a)..... b)..... 	CO1

	c.....	
Q.4	List numerous imperfections or aberrations that degrades the images formed by lenses. (Any five) 1. 2. 3. 4. 5.	CO3
Q.5	List (any five) Common symptoms of VR sickness 1. 2. 3. 4. 5.	CO4
Q 6	What are the different types of receptors that human sense organs have. 1. 2. 3. 4. 5.	CO1
SECTION B		
1. Each question will carry 10 marks 2. Instruction: Write short / brief notes		
Q 7	Virtual Reality is to advance new fields including medicine, education, design, training and maintenance. a. Give an example of the application in these fields. b. Explain how it will benefit the industry or society.	CO1
Q 8	Consider the scenario of VR headset where object is too close to the eye. Explain the formation of image of the object using proper ray diagram.	CO3
Q 9	What is rendering? Why graphic designer prefer to model in low polygon objects?	CO2
Q 10	What are the implications of depth and motion perception for VR? OR What are the factors, which affect the quality and usability of a virtual reality application? Explain briefly.	CO2
Q 11	What are the different factors needs to be addressed while creating a VR application?	CO4
SECTION-C		
1. Each Question carries 20 Marks. 2. Instruction: Write long answer.		
Q 12	Before Virtual Reality can receive widespread use, Virtual Reality system must be effective and well received by the users. a. Discuss the human factors and issues that need to be addressed to maximize VR system's effectiveness.	CO3

b. What are the factors that influence user performance in using Virtual Reality system?

OR

Write short notes on (include examples as well):

- a. Vestibulo-ocular reflex
- b. Optokinetic reflex
- c. Motion parallax
- d. Hardware components of VR system