

Course No: **MUL 4318**
Course Title: **Virtual Reality (VR)**
Date: **Tuesday 17/1/2017**
No. of Questions: (**6**)
Time: **2 Hours**
Total Grade: (**50**) Marks

University of Palestine



Final Exam
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ANSWER ALL QUESTIONS

Question 1: Identify which statement is *True* and which is *False*. You have to put your final answers in the table below. (10 Marks, 1 for each)

1	2	3	4	5	6	7	8	9	10

1. _____ Plug-ins is not required to view VRML.
2. _____ Immersive VR does not require any devices to be attached to the body.
3. _____ VR software needs to allow for navigation and interaction within the 2D/3D world.
4. _____ VR is a high-end user-computer interface include only visual, auditory, and tactile.
5. _____ With VR trainees can train by interacting with virtual materials similarly to the ways they would interact with real materials.
6. _____ Distance, size, velocity, and eccentricity are issues that very important to implement LOD.
7. _____ VRML contains a number of features such as hierarchical transformations, light sources, viewpoints, geometry, animation, fog, material properties, and texture mapping.
8. _____ Cylindrical Panorama is one of Image Based types.
9. _____ The continuous decrease of the costs and the increasing capabilities of the VR technology have slowly increased its penetration.
10. _____ Lighting is a secondary component in illuminating the VE so that users are able to see the virtual objects properly.

Question 2: Choose the correct answer of the following statements. You have to put your final answers in the table below. (10 Marks, 1 for each)

1	2	3	4	5	6	7	8	9	10

1. _____ is an important tool for maintaining a highly interaction.

- ① Level of Details
- ② Animation
- ③ Modeling
- ④ Lighting

2. _____ is a VR movies can be viewed with an Internet browser when the proper plug-in viewer has been installed.

- ① Image based
- ② Online
- ③ Answer 1 & 2
- ④ None of above

3. Consideration issues in VR image based comprises _____.

- ① Hotspots
- ② Virtual Tours
- ③ Viewers
- ④ All of above

4. _____ can provide opportunities for new kinds of experience, enabling users to interact with objects and navigate in 3D space in ways not possible in physical environments.

- ① Physical environments
- ② Virtual environments
- ③ Answer 1 & 2
- ④ None of above

5. _____ characteristic of virtual reality enhances the engagement of the user in the virtual environment by acting and reacting users in the virtual world.

- ① Interactive
- ② Modeling
- ③ Answer 1 & 2
- ④ Lighting

6. _____ VR benefits comprises.

- ① What-if scenarios
- ② Improved quality of life
- ③ Answer 1 & 2
- ④ None of above

7. _____ are programming libraries that provide a set of VR functions and scripts.

- ① VRML
- ② VR SDKs
- ③ Answer 1 & 2
- ④ None of above

8. _____ are programming libraries that provide a set of common VR functions.

- ① VRML
- ② VR SDKs
- ③ Quest 3D
- ④ Answer 1 & 3

9. Virtual _____ is the use of VR techniques to reconstruct historical monuments, prehistoric settlements, early military fortifications, and medieval cities.

- ① Training
- ② Heritage
- ③ Online tourism
- ④ None of above

10. VR sensation is referred to as _____.

- ① Engagement
- ② Immersion
- ③ Presence
- ④ All of above

Question 3: Answer the following Questions: (13 Marks)

(a) List six (6) appropriate areas for developing VR applications: (3 Marks, ½ for each)

(b) List 5 of the VR's advantages/benefits. (5 Marks)

(c) There are three kinds of relationship between Virtual Environments and Physical Environments. List them and give an example for each. (3 Marks, 1 for each)

(d) What is Augmented Reality? (2Marks)

Question 4: There are several components of a virtual environment which include: Virtual Objects, Virtual Lights, Animation, Physical Simulation, Level of detail, and Collision Detection. **Discuss with examples THREE of them only.** (6 Marks, 2 for each),

1.

2.

3.

Question 5: Explain the following virtual reality issues: (6 Marks, 3 for each)

1. Image Based

2. Fully-immersive

Question 6: Explain the utilizing VR in training. (5 Marks)

===== BEST WISHES =====