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**C16-CM-505****6629**

**BOARD DIPLOMA EXAMINATION, (C-16)**  
**OCTOBER/NOVEMBER—2023**  
**DCME - FIFTH SEMESTER EXAMINATION**  
**ADVANCES IN COMPUTER TECHNOLOGY**

*Time : 3 Hours ]**[ Total Marks : 80***PART—A****3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write any four goals of UML.
2. Write the purpose of class diagram.
3. Write any five symbols used in UML notation.
4. What is big data analytics? Why is it needed?
5. Classify the structures of big data.
- \* 6. Write any three advantages and disadvantages of virtual reality.
7. List any five applications of machine learning.
8. Define the term clustering in machine learning.
9. List any five roles and responsibilities of ethical hackers.
10. List any three types of hackers.

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**PART—B**

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** List and explain the building blocks of UML. 10
- 12.** List and explain different types of interaction diagrams with necessary examples. 10
- 13.** Explain the need of big data and sources of big data. 10
- 14.** Differentiate virtual reality, augmented reality and mixed reality. 10
- 15.** Explain the following :  $2\frac{1}{2}\times 4=10$   
(a) Haptics  
(b) HCI (Human Computer Interaction)  
(c) Telepresence  
(d) Teliexistence
- 16.** Explain all types of machine learning in detail. 10
- 17.** (a) What is ethical hacking? Explain different phases of ethical hacking. 5  
(b) Write any five comparisons among information security and cyber security. 5
- 18.** (a) Write about cyber security principles. 5  
(b) List and explain any five ethical hacking tools. 5

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