



विश्वजीवनामृतं ज्ञानम्

# Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

## IT007: Advanced Machine Learning

Minor Examination (Session 2023–24)

Maximum Time: 1.5 Hours

Max Marks: 25

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*Note: Attempt all questions. Justify your answers with examples wherever possible.*

1. Define ensemble learning. Explain the difference between bagging and boosting methods. (5 Marks)
2. What is regularization in machine learning? Differentiate between L1 and L2 regularization. (5 Marks)
3. Explain the working of the Support Vector Machine (SVM) classifier with a neat diagram. (5 Marks)
4. What are kernel functions? Discuss the use of kernels in non-linear classification. (5 Marks)
5. Write short notes on: (a) Gradient Descent Variants (b) Overfitting and Underfitting (5 Marks)