



## MAHATMA GANDHI UNIVERSITY, KERALA

### Abstract

Ph.D. Programme - Computer Science - Course II of Course Work - Preparation of Syllabus - Broad area of Research - Approved - Orders Issued.

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### ACADEMIC A 10 SECTION

No. 7093/AC A 10/2024/MGU

Priyadarsini Hills, Dated: 01.08.2024

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*Read:-*1. Mahatma Gandhi University Ph.D Regulations 2016

### ORDER

Sanction has been accorded by the Vice-Chancellor to the following syllabus of Course II of the Course Work Examination (Broad Area of Research) for research scholars in 'Computer Science', registered in Approved Research Centres, from 2022 Admission onwards.

### **Advanced Computing Techniques**

#### **UNIT 1**

Pattern Recognition: Pattern Recognition Systems; Data Pre-Processing Techniques; Feature Generation, Selection and Dimensionality Reduction; Classification, Prediction and Clustering; Accuracy Measures and Metrics.

#### **UNIT 2**

Digital Image Processing: Problems and Applications, Image Representation and Modeling, Image Transforms, Image Enhancement, Image Analysis and Computer Vision.

#### **UNIT 3**

Security Services and Mechanisms: Cryptography, Cryptographic Protocols and Standards; Network Security; Web and OS Security; Database Security.

#### **UNIT 4**

Data Mining: Classification, Prediction and Clustering through Frequent Itemset Mining and Association Mining, Mining using Spatial Data, Multimedia Data, Text Data and Web Data.

#### **UNIT 5**

Computing Paradigms – Parallel and Distributed Processing, Grid and Cloud Computing, Web-Based Applications, Security Objectives, Threats to Cloud Infrastructure.

### **References**

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3. Richard O. Duda, Peter E. Hart, David G. Stork, Pattern Classification, Wiley India, Second Edition, 2006.
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23. Ian Foster, Carl Kesselman (Editor), The Grid: Blueprint for a New Computing Infrastructure, Morgan Kaufmann, 2nd edition (November 2003).
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Orders are issued accordingly.

MINIMOL K ZACHARIAS

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