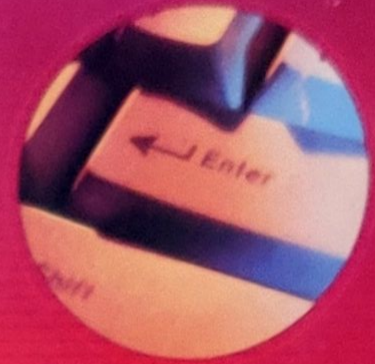
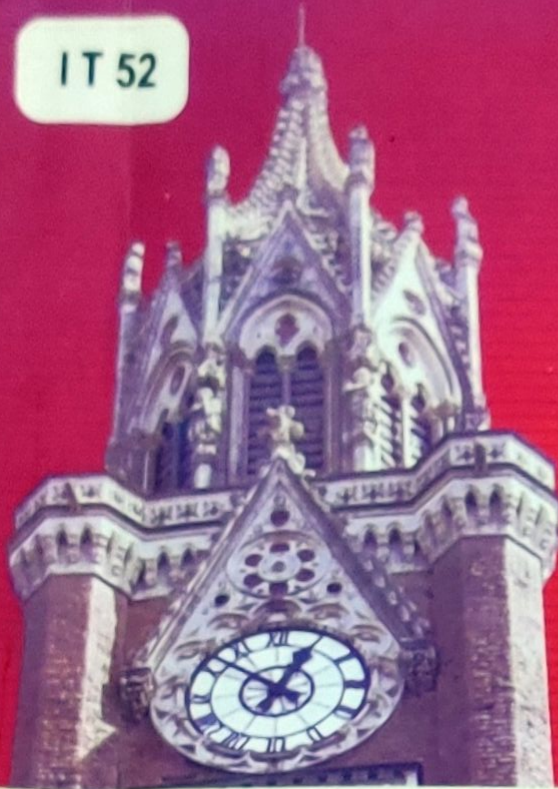


IT 52



**JAVA PROGRAMMING (PAPER I)**

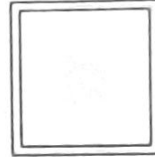
**M. C. A.**

**SEMESTER - IV**



**INSTITUTE OF DISTANCE AND OPEN LEARNING**  
**University of Mumbai**





**M.C.A.**  
**SEMESTER- IV**  
**PAPER - I**  
**JAVA PROGRAMMING**

**Dr. Dhaneswar Harichandan**  
Professor -Cum- Director IDOL  
University of Mumbai

**Programme & Course Co-ordinator** : **Mrs. R. Srivaramangai**  
Co-ordinator, Dept of I.T.  
University of Mumbai, Mumbai - 400 098.

**Course Writer** : **Mrs. Nisha Vanjari**  
K.J. Somaiya Institute of Engineering &  
Information Technology, Sion, Mumbai- 400 022

: **Shri. Umesh Shinde**  
K.J. Somaiya Institute of Engineering &  
Information Technology, Sion, Mumbai- 400 022

: **Shri. Nitin Kenjale**  
K.J. Somaiya Institute of Engineering &  
Information Technology, Sion, Mumbai- 400 022

**APRIL - 2010 M.C.A. - Semester- IV, Paper- I, JAVA PROGRAMMING**

**Published by** : **Professor cum Director**  
**Institute of Distance and Open Learning ,**  
**University of Mumbai,**  
**Vidyanagari, Mumbai - 400 098.**

**DTP Composed** : **Ashwini Arts**  
**Gurukripa Chawl, M.C. Chagla Marg, Bamanwada,**  
**Vile Parle (E), Mumbai - 400 099.**

**Printed by** : **VIBCO ART PRINTERS**  
**A/ 30 Ansa Industrial Estate, Saki - Vihar Road**  
**Sakinaka, Andheri (East), Mumbai 400 072**