देवी अहिल्या विश्वविद्यालय,इन्दौर

Devi Ahilya Vishwavidyalaya, Indore

Computer Centre

Self Study Report

for

NAAC – 2013

Computer Centre
**Takshashila Parisar, Khandwa Road Indore
Ph: 0731-2461548, 2438529**

Computer Centre

1. **Name of the Center:** Computer Centre [It is one of the few centres established in the country with UGC support]

2. **Year of establishment :** Established in 1986 by UGC to execute MCA Program and research activities. [Please refer File Number: 1]

3. **Vision**

To be in forefront in the Country in building state-of-art infrastrcutre and deploying state-of-art Computers and technology to facilitate effective teaching, research and administration in the University

4. **Mission:**

Dedicated service to all computer related activities in the University.

5. **Objectives**:

*   Facilitate and develop state-of-art infrastucture in the university.
*   Assist in teaching in M. Tech. (Comp. Sc./ Network Security/ Software Engg.), MCA, M.Sc. (Comp. Sc.), M.Sc. (IT), BCA courses.
*   Integrated association with School of Computer Science and Information Technology in Teaching, Research and Laboratories.
*   Integrated association with Information Technology Centre for Campus Wide Network for university.
*   Research in Computer Science and Engineering disciplines
*   Effective running of Computer and Informaiton Technology services in University in conjuction with Information Technology Centre.
*   Timely and Error free preparation of results of University and Affiliated colleges
*   Assist in all E-Governance Intitiatives in the University.

6. **Location:** Library Building, Taksahila Campus, DAVV, Khandwa Road, Indore.

7. **Computer Center Staff Organisation and Architecture:**

UGC Staff (Teching Positions):

- Head Computer Centre (01): Professor Grade (Presently Vacant, Senior Systems Manager is currently acting as Head Computer Centre)
- System Manager (01), System Analyst(01) and System Engineer(01): Associate Professor Grade, (Presently, all the three are promoted to Professor Grade)
- Programmers (03, one post vacant), Maintanance Engineer (02, one post vacant): Assistant Professor Grade

Operation Staff:

- Senior Console Operator (01)
- Junior Console Operator (05)
- Data Entry Operator (04)

Architecture:

As shown in Fig. 1, architecture of computer center is as follows:

- Head Computer Centre, (Presently, Headed by Systems Manager)
- System Manager, Systems Analyst, System Engineer
- Programmer (One Programmer presently promoted in selection grade, Incharge of CCE (Continuous and Comprehensive Evaluation) cell)
- Maintenance Engineer (Incharge of purchase, maintainance of laboratories in Innovation center at School of Computer Science & Information Technology)
- All are also integrally associated with School of Computer Science & Information Technology in Teaching, Laboratories and Research
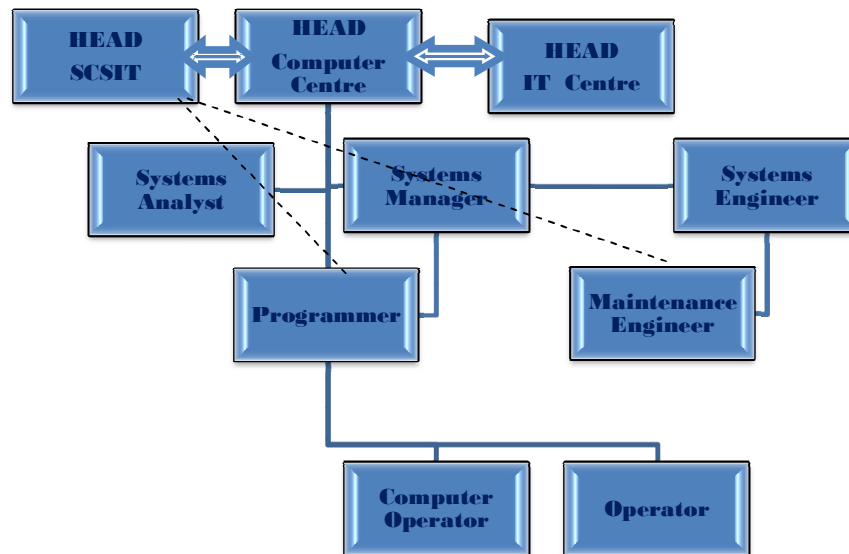
Fig. 1 Organization of Computer Center Administration and Administrative Staff

8. **Organisation and Architecture of Computer Laboratories and Computerization Maps of Center and University:**

   (i)   Data Processing Centre

   (ii) Console Room

   (iii) Data Entry Room

   (iv) Innovation Center comprised of 10 state-of-art Laboratories at School of Computer Science & Information Technology are maintained by Computer Center. These laboratories include:MCA, BCA , M.Sc., M.Tech. Labs, Research Lab, Data Minning Lab (sponsored by UGC SAP), Network and Security Lab (sponsored by DST FIST), Language Lab (sponsored by UGC), E-Commerce Lab .
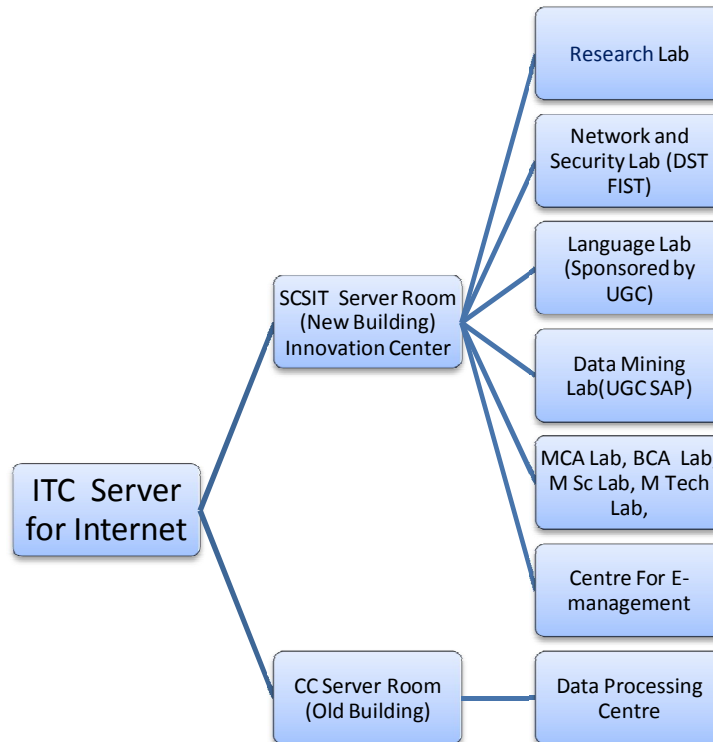
Fig. 2 Details of Innovation Centre and Data Processing Centre

9. **Operational policies (Staff Working hours, Maintenance Schedules):** [Please refer File Number: 3 & 5]

   Operations:

   Staff Working Hours: 10:00 AM to 8:00 PM. Data Entry work is performed in shifts. The centre remains open on Sundays and other holidays during peak load period.

   Maintenance:

   - Resident engineer for maintenance of computers
   - Outsourced periodic preventive maintainance of Computers, Printers and Allied equipments by the agency providing Annual Maintenance Contract .
   - Breakdown maintainance within 24 hours of breakdown.
   - Maintainence of equipments Innovation Center at School of Computer Science & Information Technology.

10. **Financial Resources:** [Please Refer File Number: 4]

   - UGC Grants: Rs. 50 Lakh grant in UGC XIth Plan

- University Budget Head "2 (16) B Others" for purchase of stationary and maintainance: Total allocation Rs. 8.35 Lakh per annum.
- Self generated from User fees in a year: NA
- Self generated from examination fees in a year: Fee is deposited in the University Registrar Account
- Self generated from consultancy in a year: NA

11. **Human Resources:** A description about required and existent operational and administrative staff along with their qualification, certifications (for example, CISCO, Microsoft or Sun Micro or Web-designer or other) and minimum experience requirements for each one.

Existing Staff:

1. **Faculty**

S No	Name	Qualifications	Experience (June-2013)
1	Dr. D. S. Bhilare	M. Tech (Comp. Sc), Ph. D (Comp. Sc.), MBA, CCNA, CCAI	33 Years
2	Dr. (Mrs.) Maya Ingle	M. Tech (Comp. Sc), Ph. D (Comp. Sc.)	27 Years
3	Dr. Priyesh Kanungo	BE, ME (Comp. Engg.) Ph. D (Comp. Engg.) M Phil (Comp. Sc)	25 Years
4	Dr. Arvind Goyal	M. Sc., MCM, Ph D (Physics)	24 Years
5	Mr. Alok Tiwari	MCA, pursuing Ph. D in Comp. Sc.	20 Years
6	Mr. Anand More	MCA, M. Tech (Instrumentation), Pursuing Ph. D in Comp. Sc	16Years

2. Operation Staff

S No	Name	Qualifications	Experience (June-2013)
1	Mr Devilal Verma	Graduation	35 Years
2	Mr Salil Telang	Graduation	30 Years
3	Mr Jeevan Chourasia	Graduation	29 Years
4	Mr Diwakar Khanwalkar	Graduation	33 Years
5	Mr Lalit Mandloi	Graduation	30 Years
6	Mr Sanjay Shukla	Graduation	27 Years
7	Mr Sunil Pendharkar	Graduation	20 Years
8.	Mr Kishor Nargave	Graduation	23 Years
9.	Mr Pramod Jain, Lab Attendant	Graduation	25 Years

3. Staff Required:

S.No.	Designation	Qualification	Experience (June-2013)
1	Data Base Administrator	BE (CS/IT) or MCA With DBA certification	3 Years
2	System Administrator & Security Management	BE (CS/IT) or MCA MCSE or Equivalent	3 Years
3	Network Administrator	BE (CS/IT) or MCA CISCO or equivalnet	3 Years
4	Web Designer	BE (CS/IT) or MCA Relavant Web Publishing Technology Certifications	3 Years
5	Software Engineer	BE (CS/IT) or MCA Knowledge of front end development environment and relavant certifications	3 Years

12. **Computer Infrastructure and Resources:** [Please Refer File Number: 13]

- **Numbers, installation details and features of Laboratories and other systems:**
- Personal Computers: 241 Computer Systems, including Innovation Centre at School of Computer Science & Information Technology (New Building).
- Servers: Five Servers.
- Cisco Switches for connecting all the systems in a LAN
- Wi-Fi enabled administrative and academic wing.
- Internet Connectivity of 1 GBPS leased line through IT Centre.
- **Numbers, installation details and features of Administrative infrastructure**
- Twenty Personal Computers for University Result Processing and Administrative work (Payroll, Budget etc.)
- **Numbers, sources, installation details and features Software**
  The software tools and packages are used at Centre including Innovation Centre at School of Computer Science & Information Technology (New Building) as learning resources for the students.
  - Operating Systems: Windows XP, Windows Vista, Windows 2008 & Red Hat Linux
  - Application Software and Tools: SQL Server 2000, Rational Rose, Share Point Server, Web Guru 2.0, PASW Modeler Server/ Client 13.0 for 20 users, Oracle PE, English Lab modules for Language Lab, MS Office, Compilers (C,C++, COBOL), PROLOG
- **Numbers, sources, installation details and features of Peripherals**
  - Printers: Line printers: 03, Laser Printers (07), Laser Printer on Network (02)
    - Scanners: 05

- Numbers, sources, installation details and features of Power Backup and Air conditioning
  - UPS: One 7.5 KVA UPS, Twenty five 0.75 KVA UPS
  - Generator: One Generator 35 KVA (Shared with IT centre)
  - Air conditioners: 10

13.   Existence of Updating plan and Annual Maintenance Contract [Please Refer File Number: 5]

A. Comprehensive plan for regular up-dation for computer infrstructure is required. Existence of comprehensive AMC plan of all above mentioned infrastructure and should have sufficient provision in the annual budget.

  o Rs.3.00 Lakhs have been allocated for the maintenance of computers and equipment in budget Head, Computer Centre (Estt) :2 (16) B.

  o All the computers, printers and other equipments are covered under Annual Maintenance Contract.

B. Statistical Graphical Representation of Computer users and Computer hardware and Software Updation:

The Physical IT infrastructure like Computer systems and Servers is used for University Result Processing, Administrative work and students at   Innovation Center, School of Computer Science & Information Technology.
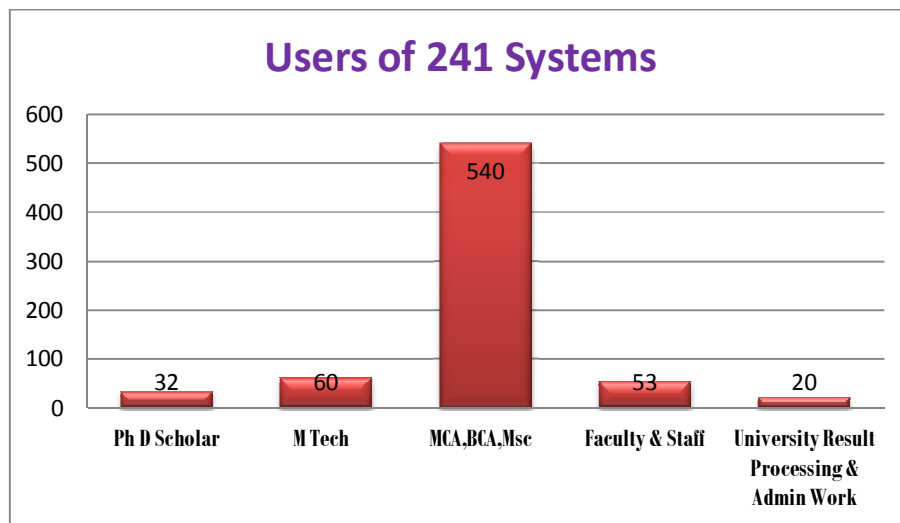
Users of 241 Systems

User	Value
Ph D Scholar	32
M Tech	60
MCA,BCA,Msc	540
Faculty & Staff	53
University Result Processing & Admin Work	20

Fig 3. Usage of IT Infrastructure by various users

The computer and Internet facility are provided to the students by IT centre. Computer centre does not directly provides computer acess to the students. However, the computer centre faculty provides their services in the laboratory of Innovation Centre at School of Computer Science. Hardware and Software are periodically updated.

C. Existence and Execution of Plans for University Automation and Governance System (UAGS).

A comprehensive Master plan is being prepared for UAGS. The plan for   the UAGS is required

for harnessing the potentials of Computers.

Data Processing Activity: Major Activity of Computer Centre is processing of Results of 1,60,000 Students. The result is prepared semester-wise as per the deadline provided by the state government.

Since 2012, Student Registratation Process, Enrollment Generation, Hall Ticket printing, Online fee and Internal mark submission have been implemented through MP Online (Since 2012). Student results and faculty/ staff Payroll is being prepared by Computer Centre (Since 1986). At present, UAGS is under implementation and monitored by IT Centre.
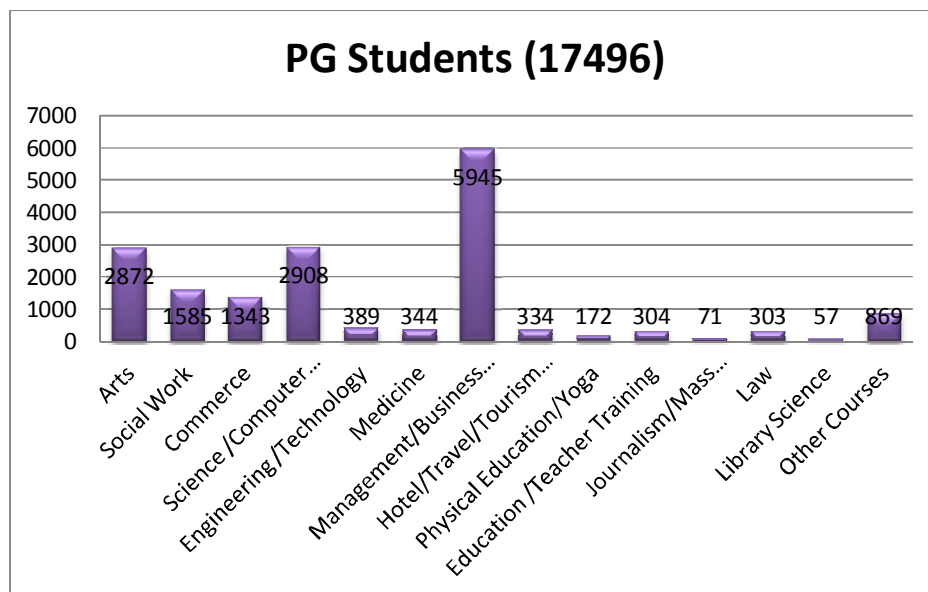

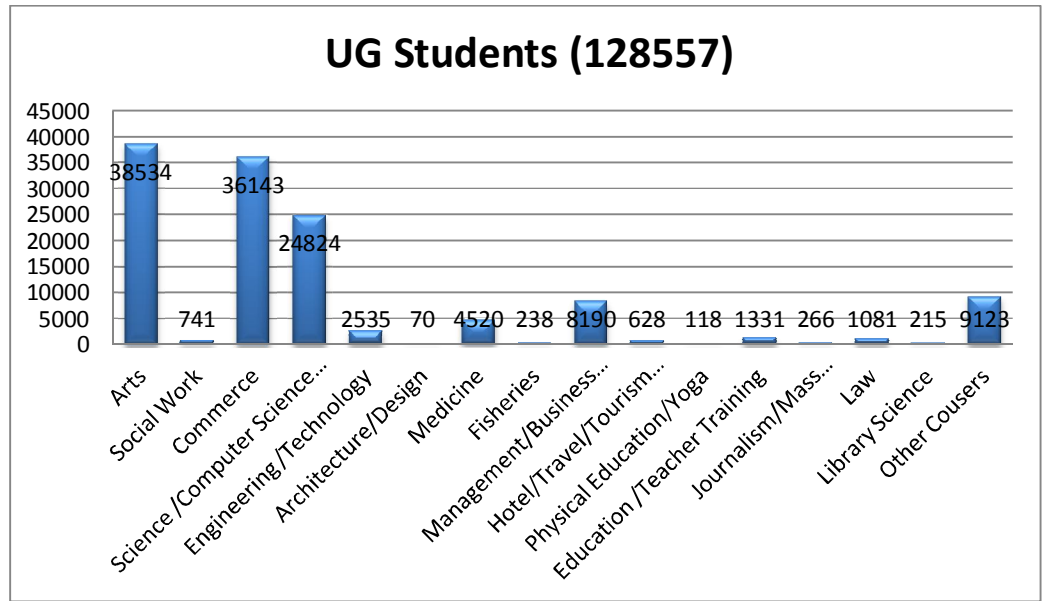**Fig. 4: Details of PG Students (2011-12)**

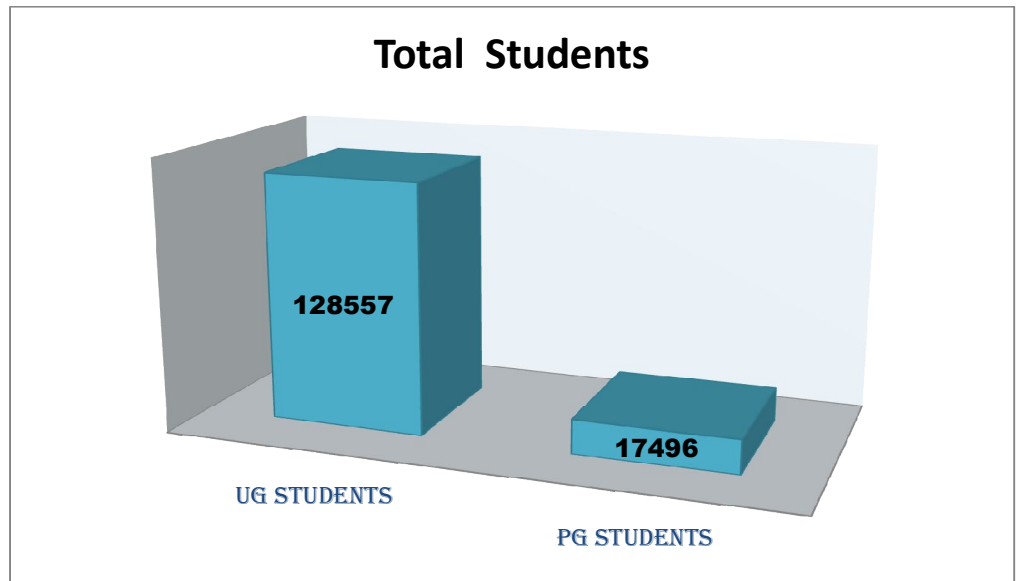**Fig. 5: Faculty wise details of UG Studetns (2011-12)**

Fig. 6: Total Number of Students

Online degree and marksheet verification: This work is under progress in association with MP Government, Higher Education Department.

There is a plan to completely automate the examination process, which includes question paper setting using question bank, online distribution of papers to centres, smart digital degree and online

verification. Some agencies have given demonstration of their products in this regard, which are under consideration.

Faculty/Staff salary, Budget Information & Tax Calculation : Payroll of 750 employees is prepared by the computer centre.

14. Timeliness and records of user satisfaction level of the data processing activities such as Computer up-dations, result processing, payroll, accounts and other automation and governance services. [Please Refer File Number: 6]

15. Provisioning and Conducting Computer Literacy, Education and Training Programmes: about a general awareness of the user and benefits of Computers in University operations.

Computer training is concerned with the generation of a continuous Computer manpower who will design, develop, implement and manage the computer based governance and automation Systems.

Faculty assists in training of around 600 students of School of Computer Science and Information Technology in Various courses like MCA, MSc (Compute Sc, Information Tchnology, M. Tech. (Computer Sc, Network Security, Software Engineering) and Guiding PhD.

Faculty of Computer Centre is also engagged in conducting Ph D Coursework classes in Computer Sc and Mechanical Engineering, Electronics Engineering etc.

IT Centre conducts computer awareness courses for University Staff. [Please Refer File Number: 7]

16. The number and description of consultancy assignments obtained and the money value of each assignment:

As the existing infrastrcuter and human resources are fully engaged in result processsing and implementation of semester system, at present additional consultancy assignments are not taken.

A1. Training programmes: Short Term & Certificate Courses in Computer Center offered by the department at present, in 2008, 2009, 2010, 2011 and 2012:

Computer Centre is involved in teaching various subjects of PG Courses (such as MCA/ M.Tech/ M.Sc. (CS&IT) /MBA (CM).

Apart from this activity, computer is also proactively involved in research and administrative activities of SCHOOL OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY, DAVV, Indore.

[Please Refer File Number: 7]

A2. Number of working days during the last five years:

S.No.	Year	No. of working days
1	2012	345
2	2011	338
3	2010	343
4	2009	332
5	2008	271

[Please Refer **Staff Attendance Register]**

A3. Number of positions in the Department, their appointment letters, joining reports and sanctions of each: [Please Refer File Number: 8 & 22]

Positions	Computer Center Office/Faculty			Support ing staff	Technical staff
	Professor Scale	Associat e Professo r Scale	Assistant Professor Scale		
Sanctioned by the UGC /University /State Government	01	03	05		09
Recruited	00	03	03		08
Yet to recruit	01	00	02		01
Number of persons working on contract basis	-	-	-	02	02

A4. Qualifications of the Officers and Staff: Refer point number 11.

A5. Copies of Latest Bio-data of Officers in positions in the Department: [Please Refer File Number: 8]

A6. Copies of Yearly Performance Records of Officers in positions in the Department: [Please Refer File Number: 9]

A7. Officers and Staff recharging strategies: Participates and organizes the Workshops and Conferences.

A8. Awards/ recognitions received at the national and international level:

Dr. D.S. Bhilare:

- Appreciation by Executive Council for implementation of VoIP in the Campus Network.

- Founder Head, Information Technology Centre [2001-2011]. Head, Computer Centre [Since 2010]

- Invited as a conference chair in 2nd IEEE International Conference on educational and Information Technology, held during 17-19 September, 2010 [ICEIT – 2010] in Chongquing, China.

- Nominated as Programme Committee Chair: ICICN 2012 International Conference on Information and Computer Networks Singapore , 26-28 February 2012.

- Presented paper in SIGUCCS 2009 , 11-14 Oct 2009, St louis, Missouri, USA

- Member of core committee for computerization of Pt. Sunderlal Sharma Open University Chattisgarh. September 2008.

- Member of selection committee for selection of Chief Information Officer, Vyapam, M.P. Government, 2009.

- Course Coordinator: Academic Staff College Orientation course on Computer Science, 20 Aug 2010 – 9 Sep 2010.

- Technical Advisor to Indore Development Authority for implementation of ERP [2011-12].

- Initiated establishment of ICT Centre for visually challenged persons in association with NTPC Foundation.

- Delivered an expert lecture "Issue and Reforms in examination system" in a one day workshop on "Quality Issues in Academics, Paper Setting & Evaluation", conducted by School of Computer Science and IT on September 26, 2012.

- Member of committee to assess design document submitted by CDAC Pune, for computerization of MP road development corporation.

- Written a chapter in the book published by SIGeGOV, CSI in 2008, "Emerging Technologies in e Government", edited by Dr. G.P. Sahu, IIT Delhi. http://www.csi-sigegov.org/emerging.php

- Invited to deliver a live lecture on "Information Security" for EDUSAT multicast on10/4/2013.
- Course Coordinator: Academic Staff College orientation course on computer science 20 Aug 2010 - 9 Sep 2010.
- Visited many institutions for accreditation of Engineering and MCA Programmes at National Level by National Board of Accreditation (NBA), New Delhi.
- Programme Committee Chair: IEEE, International Conference on Information and Computer Networks ICICN 2011, International Conference on Information and Education Technology ICIET 2011 January 26-28, Guiyang, China.
- First Rank in M.Phil. (Computer Science).

Mr. Alok Tiwari

- Received the best teaching award [2010]
- Worked as a visiting faculty in IIM Indore [2011-12]
- Worked as a visiting faculty in IIT Indore & MCTE Mhow [2011-13]

Dr. Priyesh Kanungo

- Received best paper award of the conference, "On Trust Management and Reliability Issues in Distributed Scheduling Algorithms," International Conference on Advance Computing and Utility and Cloud Computing (ICoAC), Anna University, Chennai in Association with IEEE Chennai section, 14-16 December, 2010.(Paper available in IEEE Xplore)

- Received best paper award of the session, "Dynamic Load Balancing Algorithm for Scalable Heterogeneous Web Server Cluster with Content Awareness," 2nd International Conference on Trendz in Information Sciences & Computing, (TISC) 2010, Satyabhama University, Chennai, India, pp. 143-148 (Print

ISBN: 978-1-4244-9007-3, Paper available on IEEE Xplore, Digital Object Identifier: 10.1109/TISC.2010.5714626.

- Awarded NIXI (National Internet Exchange of India) Fellowship to the Mr Hemant Mehta, Ph D student of Dr. P. Kanungo on "Performance Enhancement of Scheduling Algorithms in Clusters and Grids using Improved Dynamic Load Balancing Techniques," in 20th International World Wide Web Conference 2011 (Ph.D Symposium), Hosted by IIIT, Banglore at Hyderabad, 28 March-01 April 2011.

- Elected as Vice President (2013-14) and President (Elect) for 2014-15 of Computer society of India, Indore Chapter.
- Technical program committee co-chair of COSEG 2012, CSI 6th International Conference of Software Engineering.
- Invited as Resource Person on 02 Nov, 2011 in Workshop (31 Oct – to 04 Nov., 2011) on Reliability and Maintainability organized by Department of Mathematics, Holkar Science Autonomous College, Indore and Sponsored by UGC and DST, Bhopal.
- Invited as a Resource Person in Refresher Course in Computer Applications (Sept 2011) Conducted by Academic Staff College, Devi Ahilya Vishwavidyalaya, Indore.
- Invited in One Week Work Shop Organized by UGC, New Delhi at South Campus, Delhi University, from 05-09-2011 to 10-09-2011 as an Expert in Computer Science and Application.
- Panelist in Panel Discussion on IT Education in Indore, The Computing and Communication: from Home to Corporate, Pioneer Institute of Technology and Science, Indore, 06 May, 2012.
- Judge in Technical Oration Competition on Engineers' Day, 15 Sept, 2011 Conducted by SGSITS, Indore and Vigyan Bharti.

Panelist in Panel Discussion on IT Education in Indore, The Computing and Communication: from Home to Corporate, Pioneer Institute of Technology and Science, Indore, 06 May, 2011.

- Guest Speaker in Workshop at Shri Vaishnav Institute of Technology and Science, Indore on Operating Systems on 18 April, 2011

- Session Chair in National Conference on Emerging Trends in Information Technology and Management (NET-ITM) of Christian Eminent Academy , DAVV, Indore, 5th March 2011.

- Session Chair in National Conference, ISTE, Indore, 2010.

- Session Chair in Second National Conference on Software Engineering and Information Security (NCSEIS 09) 23-24 October, 2009, Acropolice Institute on Technology and Research, Indore

- Session Chair in National Conference of SCSIT, DAVV, Indore, Nov 2008

- Member, Editorial Board, Delving Journal of Technology and Engineering Sciences (Published by Acropolis Institute of Technology and Research, ISSN 0975-5829

- Member, Editorial Board International Journal of Science Engineering and Management," (ISSN: 2250-0596).

Dr. (Mrs.) Maya Ingle:

- Delivered a lecture for EDUSAT multicast on "Usability Engineering" (9/4/2013).

- Dr. Maya Ingle is invited as a Judge for Work in Progress Presentation competition in ACM-W held at Pune (6 April, 2013).

- Dr. Maya Ingle has been invited as an Expert in evaluating Academic Quality Improvement Scheme (AQIS) applications at AICTE, New Delhi (8-10 March 2013).

- Dr. Maya Ingle is involved in e-Pathashala Project for developing the e-contents for post-graduate students under NME-ICT(MHRD). Also, involved in delivering e-lectures on the subjects of Computer Science by UGC, New Delhi. (2012-13)

- Visited many institutions for accreditation of UG and PG Programmes as an Expert member, at National Level by National Board of Accreditation (NBA), New Delhi. (2013)

- Invited as a Reviewer, in International and National Conferences during last five years. Presently, Member, Technical Committee, ICDDM, 11-12 May 2013, Seoul, Korea.

- Dr. Ingle was invited as an Inaugurator and Speaker for the National Conference on Advances in Computing (NCAC 2013) scheduled on March 5-6, 2013 at NMU, Jalgaon.

- Invited to deliver expert lectures in workshops and chairing the sessions in conferences held at Indore such as Medicaps, SVITS, SVIM, GSIPS, Pioneer, Prestige, S D Bansal, Acropolis, Sanghavi, Matajijabai Girl's PG college,Rajmata Vijayaraje Sindhia Agriculture College, Govt. PG college, Ujjain, Sagar Institute of Technology, Bhopal etc. (2008-13)

- Six research scholars have been awarded Ph.D degree during last five years (2008-13), Three scholars have submitted Ph.D thesis.

- Involved in Evaluation of Ph.D Thesis of the candidates from JNTU, Anantpur; Babasaheb Ambedkar University, Aurangabad; Punjabi University, Patiala; University of Pune, Pune; APS University, Rewa. (2008-13)

- Invited as an Expert in National Level Workshop on Theory of Computation at GLA Group of Institutions, Mathura;

- Involved in evaluation of State Admission Test (SAT) conducted by UGC, New Delhi. (2012-13)

- Dr. Maya Ingle has been invited as a Keynote Speaker in 7th National Conference on Emerging Trends in Information Technology and Business Management (e-ITBM 2012) 19-20 October, 2012, VIIT, Baramati (Pune).

- Expert member of the Evaluation Panel in National Eligibility Test (NET) conducted by UGC for evaluating the papers of Computer Science & Applications. (2010 and 2012)

- Participation in workshop on 'Outcome Based Accreditation Process and Parameters' jointly organized by National Institute of Technical Teachers' Training and Research (NITTTR) and NBA, Bhopal (2 Nov. 2012).

- Convener, National Workshop on Algorithms, Computation and Optimization from 17-18 March 2011 sponsored by MPCST, Bhopal.

- Invited as Visiting Professor i) at IIIT DM, Jabalpur (2008-13), ii) at IIT, Indore (January 2011 to May 2011) and iii) Holkar Science College, Indore (2009-13).

- Delivered a Technical talk on "Emotion Based Computing using NLP" in technical lecture series in "Women in Engineering" track jointly organized by Devi Ahilya University and IEEE MP subsection, Indore (June, 2010).

- Invited as Speaker in Second International Conference on Advances in Computer Vision and Information Technology (ACVIT 2009), Babasaheb Ambedkar Marathwada University, Aurangabad, 16-18 December, 2009.

- Attended and presented a research paper in 2nd International Conference on Computer and Electrical Engineering (ICCEE 2009), Dubai, UAE, 28-30 December, 2009.

- Convener, National Conference on Emerging Trends in Electronics, Mechanical and Computer Science from 17-18 March 2011, Indore.

- Invited as Guest of Honor for Inauguration function for ISTE approved Short Term Training Programme (STTP) on 'MATLAB A To Z in 30 Hrs' at GH Raisoni College of Engineering and Management, Pune from 21-25 June 2010.

- Invited as a Chairperson, Syllabus revision committee in Prestige Institute of Management and Research.

- Attened and presented a research paper in International Conference on Computer Engineering and Applications (ICCEA2009), Manila, Philippines June 6-8, 2009.

- Attended National Conference on Computing for Nation Development INDIAcom 2008 and 2009, BVICAM, New Delhi.

- Invited to deliver lectures in refresher and orientation courses at Academic Staff College many times during past five years.

- Invited many times in workshops and UGC/AICTE sponsored Teachers Training Courses and Faculty Development Programs at National Level during last five years.

- Worked as Dean, Student Welfare from year 2006 to 2009.

- Member, Inter University Cultural Competitions Committee, West Zone, Association of Indian Universities, New Delhi from 2008-2009.

- Invited as a Member of Selection Committee by universities including DAVV Indore, RGPV Bhopal, NMU Jalgaon and colleges affiliated to these Universities.

A9. Record of each of Seminar/ Conference/Workshop organized and the source of funding (national / international) with details of outstanding participants, if any.

- Training Session for Affiliated Colleges on All India Survey on Higher education sponsored by MHRD. Around 100 participants attended the workshop. The workshop was conducted on 19-06-2012 at IMS auditorium.

- Training session for online internal practical mark entry for Principals and their representatives. The training was conducted on 13-03-2012 at DAVV Auditorium from 11 PM to 2:30 PM

- Dr Priyesh Kanungo was convener and Mr Anand More was co-Convener of Workshop on "Quality Issues in Academics, Paper Setting & Valuation" at SCSIT auditorium on 26th September, 2012 organized by SCSIT, DAVV.

- Computer Centre faculty Dr (Mrs) Maya Ingle, Dr Priyesh Kanungo, Mr Anand More participated in organizing Workshop on 15-12-2012 on "Issues and Challenges in e-Governance" at DAVV auditorium organized by DAVV in sponsored by Ministry of IT, Govt of India.

A10. Write up of Code of ethics for research followed by the departments:

> Department follows the Code of Ethics of the American Educational Research Association (AERA). AERA replaces the Ethical Standards, which were adopted in 1992. The current Code provides guidance to education researchers in their research, teaching, service, and related professional work.

A11. Record of Diversity of Officers and staff

Percentage of faculty who are graduates	
of the same university	84 %
from other universities within the State	-
from universities from other States	16 %
from universities outside the country	-

A12. Number of Officers/Staff who were awarded Ph.D., D.Sc. and D.Litt., Certification of New   Skills during the last four years

    Mr D.S. Bhilare awarded Ph.D. in August 2010

A13. Records of feedback form

    [Please Refer File Number: 6]

A14. List the Important Achievements of the department

- In-house result processing of all the 350 affiliated colleges accurately and in time, since 1986.

- Online Registration, fee submission, Internal Mark Submission, since 2012.

- Faculty Actively engaged in teaching and research at School of Computer Science & Information Technology

- Participation in setup of advance laboratories: Contributed in installation, maintenance and management of various labs of School of Computer Science & Information Technology since 1986: Data Ware House and Mining Lab (Under SAP) 2009-13, University Information Technology Centre (Estt. In 2000) and Network Security Lab (Sponsored by DST FIST) 2009-13, Language lab sponsored by UGC 2009-13.

A15. Write up of future plans of the department. [Please Refer File Number: 11]

- To conduct advanced training programs and run certificate courses

- Complete automation of Examination process, which includes automatic question paper setting, online delivery of question paper to centre's, OMR based answer-sheets, digital Valuation system, Result processing and publishing, smart degrees, online verification of degree certificates etc.

- Examination System Automation, which covers end-to-end solution for all examination related activities such as question paper setting, Online distribution of question papers to centres,

generation of hall tickets, examination scheduling and management, fee management, result preparation, publishing of results on Internet, Online verification of degree/marksheets etc.

- Start Dr. M.K. Sahu memorial lecture series in e-Governance and an award for Innovative Computation (Executive Council decision October 2011).

- Interleaving and Integrated Operations with School of Computer Science & Information Technology and Information Technology Centre activities since beginning.

A.16 Record of any five Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength:

- Well established and proven track record of result processing since 1986

- Available operation staff though inadequate, is highly motivated, experienced and trained

Weakness:

- Shortage of operational and assistant level staff

- Unavailability of posts of technical resources such as Data Base Administrator, Network Administrator, System Administrator, Front-End developers, Experts in Web Technology and Security.

- Existing software need to be migrated to latest computing environment

Opportunity:

- e-Governance and Computer Awareness Training Programs

- Complete Automation of Examination process and University Administration

- Research and consultancy projects

Challenges:

- Increasing number of students, courses and introduction of Semester System since 2011, requires additional staff

- Rapidly changing technology and Continuous Upgradation of Hardware and Software
- Scarcity of technical manpower having different technical skills

A17. Write up of efforts for Quality Sustenance and Assurance in the department

Computer Centre is processing these results since 1986. The major activity of the department in addition to teaching and research is processing of University results now involving 1.8 lakh students per semester. Centre is able to improve the quality of student data as it is filled by the students online and verified by the forwarding college. Similarly, internal marks are also received online. Centre is planning to capture theory marks using OMR based answer sheets. Maximum accuracy and quality are ensured by initial marks which are entered by operators, are checked by internal staff, which is further verified by the external faculty drawn from other departments. Sample results and summary is examined by the examination staff and examination committee before declaration of the results. There are appropriate checks and balances in place to ensure the best quality of the output. BCP and DR measures are covered under best practices.

A18. **Innovations**

Give details of innovations introduced during the last four years which have created a positive impact on the functioning of the department:

o Processing of Semester System Results of Conventional Courses
o Handling of CCE marks by computer centre instead of confidential Section
o Online entry of internal and practical marks
o Better coordination with exam section and valuation section to streamline the excessive workload

A19. **Best Practices** [Please Refer File Number: 12]

PRACTICE I

1. **Title of the Practice I:** Online entry of Student Registration, Enrolment, internal marks and payment of exam fees for DAVV result processing of nearly 180000 students through MPONLINE portal.

2. **Objectives of the Practice:**

To facilitate the error free entry of enrolment form, and marks and online payment of fee to help in timely availability of marks for result processing and avoid the inconvenience caused to the students due long queues in banks.

The previous practice was that colleges used to submit the exam forms, internal marks and practical marks in hard copy/ CD to the exam section/ confidential section. The student used to deposit the fees through bank challan. The marks were sent to computer centre at the time of result processing. These marks were entered in computer by data entry operators and checking of marks for errors was done after entry by checking staff. At the time of result processing, marks of many colleges/ students used to be missing and these defaulter colleges were further pursued for sending the missing marks. This caused in huge delay in result declaration. From 2010 onwards, internal and practical marks were directly entered by the colleges using MPONLINE portal. This not only saved the data entry efforts but also no checking was needed and errors in entry were minimized.

In addition to online marks entry, the roll list of students who appeared in the exams was formed in similar way. The students submitted exam forms to the colleges from where these forms were forwarded to exam section. From exam section,

these marks were sent to computer centre for roll list preparation. This roll list prepared at computer centre was sent back to the examination section for checking. The corrected roll list was again sent to computer centre and the roll list was updated. Using MPONLINE portal the student himself/herself filled online forms. A lot of time is saved and errors in typing by data entry operator were minimized.

3. The Context

The main problem was the lack of awareness about online entry of marks among the colleges in the remote areas. These colleges were not having the basic facilities like computing infrastructure, electricity etc. and trained manpower for on line entry of marks. Students were not having credit cards /debit cards. Initially these students used MPONLINE kiosks. Later, the colleges started developing these facilities in their premises. Keeping in mind these challenges, it was decided to implement this practice in phased manner. Initially, this practice was implemented in first semester of MBA course. On successful implementation, it was extended to first semesters of all the graduate and post graduate course. From July 2013 onwards these facility will be available for all semesters of all the courses conducted by the university.

Initially, the colleges had a number of problems like wrong entry of marks, problems in MPONLINE portal, examination scheme related problem etc. For solving these problems a MPONLINE cell has been formed to coordinates between MPONILINE portal and colleges to immediately solve the problem of colleges. Training programs are regularly conducted for college Principals and Teachers of the colleges and their problems are solved by MPONLINE officials and university officers of exam section and computer centre.

4. The Practice

Most of the universities are having their result processing work outsourced to the external agencies. Devi Ahilya University has

been doing in-house result processing successfully since 25 years. It is the first university in Madhya Pradesh to declare the results timely as compared to other universities. It has a wide variety of courses and largest number of students as its jurisdiction is in six districts of the state (Indore, Khargone, Khandwa, Dhar, Jhabua, and Badwani).

Earlier, the semester system was applicable only to professional courses like BBA, MBA, BCA, MCA etc. Other courses were conducted using annual examination system pattern with no concept of internal marks. In 2008, the state government imposed semester system with internal marks in all the conventional courses like BA, B Com and B Sc. and the corresponding post graduate courses. On the other, hand the number of student enrollments were continuously increasing. Colleges were finding it very difficult to adjust with this new examination pattern and submit the internal marks on time. Due to non availability of internal marks and overloads of data entry and checking work, the results started getting delayed effecting the image of the university and large number of complaints of erroneous results. Due to delay in results students of final semester were not able to appear in major competitive exams. In the way the whole examination work including valuation system got derailed. The university which was considered one of the best university as far as the timely result declaration is concerned since last 20 years, started drawing critics in the daily news papers due to problems in delay in examinations, result and valuation.

Therefore, to solve this problem, the university decided to get the marks from colleges directly through the MPONLINE portal. The exam forms were also entered directly by the students in to the portal. The examination fee was also submitted by the students online using Credit card/debit card. This activity is completed before the commencement of end-semester examination.

This eliminated the manual data entry and checking work at the computer centre. As the students directly entered their details, they committed few mistakes. Mistakes in marks were also minimized as the teachers themselves entered the marks. The task of roll-list preparation was also no more needed to be done offline.

The use of MPONLINE portal for marks entry, registration and fee payment was very convenient to students as compared to standing in long queues for submitting fees and payment of fees through challan. The commutation of staff between colleges and university was also minimized. It may be noted that a number of colleges are located in the remote rural and tribal areas on MP.

The result preparation work was speeded up and timely declaration of results was possible. In fact, due to this practice, DAVV was the first university which declared its result on time as per state government directives, although other universities have outsourced their result processing work.

5. **Evidence of Success**

The evidence of success is that the examination schedules which was derailed in previous years, is back of the track from the session 2012-13, the. The results have been declared as per the deadlines set by the higher education department of Madhya Pradesh. In a recent meeting of college principal and examination incharges of colleges with university examination system officers, a colleges given a positive feedback and expressed their satisfaction with this practice of marks entry and examination form entry.

In 2008-09, 2009-10, and 2010-11 the results were declared very late resulting large number of student's grievances. The thing started improving in 2011-12 with online entry, and in 2012-13 the examinations are being conducted on time. As the system was implemented in phased manner, presently the final

semesters of undergraduate exams are not covered under online entry. In 2013-14, all the examinations conducted by DAVV, will be covered. The examinations are scheduled in April and finish by mid of May, 2013. It is expected that all the major results will be declared by June, 2013 end. The students will not have any problem in registration of their further studies and they will be able to appear in the competitive exams.

6. **Problems Encountered and Resources Required**

A minimum fee of Rs 40/- per student is charged by for this facility. The approval of Executive Council of Devi Ahilya Vishwavidyalaya, Indore was necessary. When the Hon'ble EC members were appraised with the benefits of online entry, they approved the proposal. The activity was monitored by Dr. Sanjay Tanwani, coordinator of the cell and Head Computer centre. A team of young and enthusiastic teachers was formed to streamline the processes. A cell was established to solve the day to day problems of the colleges and to coordinate with MPONLINE officials. No new recruitments were made. The existing staff is paid token honorarium for the purpose as per the university norms. Students and colleges were satisfied as at the small extra cost the students don't have to stand in long queues for deposing fees through bank challans and submitting exam forms. Moreover, a lot of transportation cost is also saved.

7. **Notes**

This practice is useful for the universities having in-house result processing. In Madhya Pradesh many remote areas are suffering from lack of awareness, computing infrastructure and availability of power. It is the duty of university administration to impart necessary training and know-how to the colleges in remote rural and tribal areas. The benefits of online procedures are much more as compared to the cost incurred.

PRACTICE II

1. **Title of the Practice II: A Business Continuity Plan (ABC Plan)**

2. **Objectives of the Practice:**

   The Computer Centre is engaged in Student Registration process, Enrollment Generation, Hall Ticket printing, online fee and Internal mark submission (implemented through MP Online). Student results and faculty/staff Payroll is being prepared by the Computer Centre. The backup of data is important, in the event of hardware failure, restoring data from the backup is a much cheaper solution than rebuilding from scratch. The ABC plan is used for ensuring continuity of the operations and recovery of data.

3. **The Context**

   Declaration of timely results is a critical job and it is to be done as per the schedule given by the higher education department of state government. Many students need timely result for further studies or before joining any organisation. Therefore, preventive measures must be taken to take care of any disaster due to disk failure, server failure, theft, natural calamity or any other reason. There should be alternate backup system must be in place so that the operations may be started without or minimum time and data loss.

4. **The Practice**

   There are various types of Backup Software applications, which include options for copying the full set of system and data files, selective files, incremental backup or modified files etc. The computer Centre uses a combination of full and incremental backups by performing fortnightly backups on files that have changed throughout the day, then full backup of all files on a weekend day. These backup files are kept in fire proof storage of Methodex make, which are very strong and sustain under any earthquake or building collapse. The backup schedule is as follows:

1. Incremental backup: 5.00 PM every day

2. Full backup : 5.00 PM Every Monday

3. Mirroring of Server: Located in different building for disaster recovery.

5. **Evidence of Success**

   During last five years there were couple of occasions when due to disk failure data was lost. We were able to recover the lost data using the daily backup files. Feed back of users are enclosed.

6. **Problems Encountered and Resources Required**

   While taking the backup, in progress work in the centre was the problem as backup process slows the speed of systems. Department has purchased two fireproof heavy body storage units of Methodex make to store the backup so that it can be safe during fire, theft or any natural disaster. DVDs and USB drives are used for backup

A20. Any other information which Computer Centre would like to add.

o The Centre in the beginning of 1986 had guidance and association for three months of Dr. D.B. Phatak, Padamshri (2013), Professor of national eminence, IIT Bombay.

o The Centre also actively contributed in preparing Defence Scientists, in M.Sc. (Comp. Sc) programme sponsored by DRDO (1986-95).

o Association of Indian Universities (Western Zone) Conference of Vice-Chancellors, August 2006 lauded and appreciated efforts of the University in Computerization and I.T. Services. Executive Council of the University congratulated the Faculty/Officers/Staff associated with the Information Technology initiatives in 2006.

Files Maintained at the Computer Centre

File Number	Details
1	Letter of Establishment
2	Ordinance 22 for staff details (1986) and subsequent amendment (2007)
3	Staff working hours , Maintenance Schedules
4	Financial Resources: Copy of Budget
5	Annual Maintenance Contracts
6	User Feedback
7	Computer Education and Training Programme: (Copy of time tables)
8	Number of positions in the department, Joining reports and sanction of each. Copies of latest Bio-data.
9	Copies of yearly performance record
10	Ph.D. / Certification Received
11	Future Plans
12	Best Practices I & II
13	IT Infrastructure & Resources