

CRITERION IV: INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Physical Facilities

4.1.1 How does the university plan and ensure adequate availability of physical infrastructure and ensure its optimal utilization?

The Schools/ Institutes of the University first assess their financial resources in terms of students' fee, grants from State/ Central Govt. and projects and then develop a budget every year. The budget is submitted to the University for approval. Each School/Institute also prepares and presents a future plan for books, equipment, and physical infrastructure each year. The plan is submitted along with the Annual Quality Assurance Report (AQAR) to the University IQAC, which recommends to Statutory Bodies. Each School/Institute thus plans and ensures adequate availability of physical infrastructure in subsequent years.

University leadership also visualizes the future requirement of infrastructure for teaching-learning and administrative processes (TLAPs) in new technology driven arena. This vision enables the University to plan the new TLAPs infrastructure.

The availability of Campus Wide Network, University Auditorium for cultural and academic activities, Class rooms with ICT facilities, Wi-Fi in the majority of teaching departments and hostels, use of ICT in administrative offices, standard sports fields and indoor sports complex, Daycare centre, and Healthcare centre are examples of visionary leadership.

The availability of adequate physical infrastructure for the TLAPs in the courses especially in new emerging areas of engineering, computer sciences, management and economics are a few examples of bottom to top planning approach.

Sharing of the physical infrastructure among the Schools/ Institutes and appropriate administrative controls ensure the optimal utilization of available infrastructure.

4.1.2 Does the university have a policy for the creation and enhancement of infrastructure in order to promote a good teaching-learning environment? If yes, mention a few recent initiatives.

University has a policy for the creation and enhancement of infrastructure. Few recent initiatives are as follows: Wi-Fi in hostels and campuses, National standard sports fields, Daycare and Healthcare centres, Building for School of Commerce, Separate Guesthouse for participants of Academic Staff College, Internet Facilities and IT Training for visually challenged persons, Virtual class rooms, and New faculty block, hostels and faculty quarters at IET.

4.1.3 How does the university create a conducive physical ambience for the

faculty in terms of adequate research laboratories, computing facilities and allied services?

Creation of physical ambience which is conducive for the faculty in terms of adequate research laboratories.

The University creates conducive physical ambience for the faculty by providing physical and IT infrastructure, good departmental and Central Library resources, e-journals, databases, seminar halls, conferences halls and multimedia theatres. UGC/Central assistance and grant of status of UGC- SAP, DST-FIST and research project grants and University provisions have provided a conducive environment for the faculty in terms of adequate research laboratories. These efforts are visible in most of the Schools/Institutes of University.

Creation of physical ambience which is conducive for the faculty to Computing facilities and allied services

University also creates physical ambience which is conducive for the faculty by providing computers with internet facility, e-resources, healthcare, daycare and residential facilities.

4.1.4 Has the university provided all departments with facilities like office room, common room and separate rest rooms for women students and staff?

All schools/ institutes of the University have office room. Most of the schools/ institutes also have meeting-cum-common rooms and separate rest rooms for women students and staff.

4.1.5 How does the university ensure that the infrastructure facilities are disabled-friendly?

Physically challenged persons have access to disabled-friendly facilities at the UTDs. They can enter the premises through the ramps.

Internet facility and computer training are provided to *visually challenged students* at the University IT centre since 2007. A visually challenged girl student has completed her Ph.D. Four years later, NTPC has set up a laboratory in the University for training visually challenged citizens at a cost of Rs. 50 Lakh. Training is also provided *Senior citizens* for using the Internet every year.

Classes, library, computers, group discussion and common room facilities, and examination halls are also provided at ground floor for the physically disabled students.

4.1.6 How does the university cater to the requirements of residential students? Give details of

- Capacity of the hostels and occupancy (to be given separately for men and women)

Men's six hostels total capacity is 948 and occupancy is 654. Women's six hostels total capacity is 935 and occupancy is 833.

- Recreational facilities in hostel/s like gymnasium, yoga centre, etc.

Recreational facilities like indoor games-chess & carom, common room having facilities of daily news papers and magazines, TV with DTH are available. Gymnasium and Yoga Centre are available in separate buildings in the Campus.

- Internet connectivity/ Wi-Fi facility in hostels

Most of the hostels have Wi-Fi facility. Wi-Fi work is in progress in a few new hostels.

4.1.7 Does the university offer medical facilities for its students and teaching and non-teaching staff living on campus?

University has a Healthcare centre in the campus accessible to the students, teachers, and non-teaching staff including officers. A male doctor is appointed in the healthcare centre and a female doctor in Kamla Nehru Girls Hostel to offer medical facilities to students, teaching and non teaching staff in University campus. Doctors attend the emergency situations also.

4.1.8 What special facilities are available on campus to promote students' interest in sports and cultural events/activities?

The university has the facilities of Gymnasium and indoor sports. University has quality grounds for the outdoor games such as cricket, football, athletics and volleyball. University also has Yoga centre for training in yoga.

University has state of art auditorium with modern sound, light and projection facilities. Auditorium is a common facility for most cultural events/ activities. The University cultural centre organizes cultural events regularly such as sphoorti, drama, film festivals and musical recitals. University also organizes youth festival annually.

Schools/ Institutes also have facilities for sports and cultural events/ activities in addition to common facilities.

Details are given in the Self Study reports of hostels, Sports Department, Yoga Center and University Cultural Centre at www.iqac.dauniv.ac.in.

4.2 Library as a Learning Resource

4.2.1 Does the library have an Advisory Committee? Specify the composition of the committee. What significant initiatives have been taken by the committee to render the library student/user friendly?

Yes. The University has Library Advisory Committee. Composition of the committee is as follows:

01. Vice Chancellor, Chairman 02. Deans (06) Members 03. Professors (06) Members 04. Principals (03) Members, 05. Registrar Member 06. Finance Controller Member 07. Dean, Student Welfare Member 08. Librarian Member Secretary

Significant initiatives to render the library user friendly

Library OPAC online software, Computerized issue and return of the books

Computerized registration of the members, More emphasis on E-resources,

Effective coordination with INFLIBNET in accessing the E-Journals, Fulfill the needs of the users through Inter Library Loan facility (if required), Special collection for differently disabled students

The collections at departmental libraries are also available online.

4.2.2 Provide details of the following:

- * Total area of the library (in Sq. Mts.) : 4000 Sq Mts.
- * Total seating capacity : 250
- * Working hours (on working days, on holidays, before examination, during examination, during vacation)

Before examination: On working days: 11 Hrs/day; On holidays : 07 Hrs/day;
During examination: 12 Hrs/day; During vacation: 10 Hrs/day

Library Working Number of days on which Library Open yearly records

2012-13 (301) 2011-12 (304); 2010-11 (306) 2009-10 (305); 2008-09 (308)

a. Working Hours on weekdays as per annual records: 2012-13 and previous years (10 hours/day)

b. Working Hours on Saturdays (second and third) as per annual records: 2012-13 and previous years (7 hours/day)

c. Working Hours on Sundays as per annual records (Personal Reading): 2012-13 and previous years (7 hours/day)

d. Working Hours on holidays as per annual records (Other than Second and Third Saturdays): 2012-13 and previous years (7 hours/day)

- * Layout of the library (individual reading carrels, lounge area for browsing and relaxed reading, IT zone for accessing e-resources)

Displayed

- * Clear and prominent display of floor plan, adequate sign boards; fire alarm; access to differently-abled users and mode of access to collection

Available

School/Institutes have departmental libraries also. Details are as follows:

Total area of the library (in Sq. Mts.): 10821.33 Total seating capacity : 1061

Working hours (on working days, on holidays, before examination, during examination, during vacation):10.30 AM to 05.30 PM

Details of Central Library and each School/Institute are available separately at the individual SSRs at www.iqac.dauniv.ac.in.

4.2.3 Give details of the library holdings:

- * Print (books, back volumes and theses) : 219487
- * Books and Text books : 165940
- * Individual Titles : 108000
- * Total Volumes : 165940
- * Standard references : 15201
- * Current journals which include national, international and peer reviewed journals : 165
- * Back volumes: : 13254
- * Theses : 23450
- * E- resources such as full text/secondary databases, CDs/DVDs, AV materials, etc. : 3000
- * Maintain a special collection of national and international agencies (World Bank, UNO, EU, UGC, DST, etc.) government documents : Nil
- * Book-bank : Nil
- * Braille Books : 800
- * Rare materials : Nil
- * Collections for civil service/competitive exams, etc: 1642
- * Open access sources to provide quality resources in the most efficient manner possible : Yes
- * Judicious weeding-out policies : Yes
- * Average number of books added during the last three years

2012 (1506); 2011 (3610); 2010 (2911)

- * Non Print (Audio Video, CDs, Downloaded Articles): 3000
- * Electronic (e-books, e-journals): 8965
- * Special collections (Available for visually challenged persons)
- * Book Banks - planned in 2013-14
- * Question Banks - planned in 2013-14

Schools/Institutes Total departmental library holdings

- Print (books, back volumes and theses): 155067
- Average number of books added during the last three years: 11496
- Non Print (Audio Video, CDs, Downloaded Articles: 4105
- Electronic (e-books, e-journals) 6549
- Special collections (e.g. text books, reference books, standards, Patents : 654
- Total number of books added during the last four years: 14501
- Annual departmental library budget in Rs. 7331892
- The amount spent for purchasing new books and journals in Rs.4607740

Details of each School/Institute are available in the individual SSRs at www.dauniv.ac.in.

4.2.4 What tools does the library deploy to provide access to the collection?

- * OPAC with 5 Computer terminals for users
- * Electronic Resource Management package for e-journals
- * Federated searching tools to search articles in multiple databases (01)
- * Library Website: <http://10.0.10.155:8080/index.htm>
- * In-house/remote access to e-publications process

4.2.5 To what extent is ICT deployed in the library? Give details with regard to

- * Library Automation; YES;
- * Total number of computers for public access
- * 05 plus 60 computer in associated IT Centre close by
- * Total numbers of printers for public access: Nil; Internet band width speed 1 Gbps
- * Institutional Repository Planned in 2013-14
- * Content management system for e-learning Planned in 2013-14 for e-material
- * Participation in resource sharing networks/consortia (like INFLIBNET)
- * UGC-INFONET, INFLIBNET, DELNET Yes

4.2.6 Provide details (per month) with regard to average number of walk-ins:

- * Number of reference enquiries (users) on an average per month (percentage may be specified): 80%
- * Number of services delivered per-user per month: Individual data not available
- * Average number of users who visited/ consulted per month: 9933
- * Average number of books issued/returned per day: 85/85

- * Ratio of library books to students enrolled: 98:1 (2012-13)
- * Average number of books added during the last four years:
- * 2012 (1506); 2011 (3610); 2010 (2911)
- * Assistance in searching databases: Yes
- * INFLIBNET/IUC facilities: Yes
- * Average number of login to OPAC: [Campus wide network is used by Schools/Institutes.]
- * Average number of login to e-resources per month: 8397
- * Number of Log-ins into the E-Library Services/ [Campus wide network is used by Schools/Institutes.] 8397
- * Number of Faculty & Staff Registration: 1000 Users
- * Students: 7000 Users
- * Daily 10000 to 20000 logins for web and e-resources combined.
- * Average number of e-resources downloaded/printed E- documents delivered per month: 8397
- * Number of IT (Information Technology) literacy trainings organized: IT centre organizes all IT literacy programs.

4.2.7 Give details of specialized services provided by the library with regard to

- * Manuscripts: No collection
- * Reference: Provided
- * Reprography/Scanning Available
- * Inter-library Loan Service: Collaboration exists with IIM, Indore and DELNET for inter library lending of books, around 20 books per year
- * Information Deployment and Notification:
- * Notifications are issued through library and University website www.dauniv.ac.in.
- * OPACS Yes
- * Internet Access Yes
- * Downloads Yes
- * Printouts No
- * Reading list/ Bibliography compilation: No
- * In-house/remote access to e-resources: Yes
- * User Orientation: Yes
- * Assistance in searching databases: Yes
- * INFLIBNET/IUC facilities: Yes

4.2.8 Provide details of the annual library budget and the amount spent for purchasing new books and journals. (For central Library)

Year	Budget Provision (Rs.)	Expenditure (Rs.)	Expenditure on reading material (Rs.)	Expenditure on staff salary, contingency, etc. (Rs.)
2012-13	13500000	12297767	1609184	10688583
2011-12	9000000	8290613	2267968	6022645
2010-11	6500000	6293617	1102617	5191000
2009-10	6000000	5579316	2366819	3212497
2008-09	6000000	5696529	3178064	2518465

4.2.9 What initiatives has the university taken to make the library a ‘happening place’ on campus?

Book Exhibition

Book exhibition was conducted giving the students and researchers an opportunity to browse and recommend the titles useful for them.

Preparation for competitive examinations

The University Library has been extending reference facility for those who appear for competitive examinations.

A comprehensive collection for the faculty, research scholars and students

University library has developed a comprehensive collection of documents useful for the faculty, research scholars and students of the University. Apart from conventional book resources, the library collection includes journals, reference works, report literature, theses and dissertations, maps and atlases, audio-video cassettes and CD-ROMs. The collection grew rapidly in due course of time. The library has housed many special collections. One-Gbps leased line through I.T. Centre. Journals are subscribed on priority basis by seeking the approval of all the departments. Some of the UTDs have their institutional libraries which subscribe books, journals, e-journals as the courses

taught in their departments. Similarly, noticing the needs of research scholars and students' books and other documents are also procured.

4.2.10 What are the strategies used by the library to collect feedback from its users? How is the feedback analyzed and used for the improvement of the library services?

- * Feedback from Users:: Yes
- * Experts : Yes
- * Alumni : Yes
- * Users : Yes

Details

Maintained in separate File

Strategy

Feedback is taken from students, faculties, experts and stakeholders for improving library facilities: books, journals, e-journals, accession, delivery, and condition of books, new arrivals and Internet.

Analysis/ Methodology

Simple statistical analysis is carried out to find out statistics of the feedback.

Use of feedback

Feed backs are taken care and discussed in the meetings of the Book Purchase committee for collection development.

4.2.11 List the efforts made towards the infrastructural development of the library in the last four years.

Procurement of new book shelves; Extension of i-Logic software for bar-coding of books; Procurement of magazine racks; Procurement of computers, printers and UPSs; Extension of existing library - in process; Procurement of e-books - in process

4.3. IT Infrastructure

4.3.1 Does the university have a comprehensive IT policy with regard to

- * IT Service Management

Comprehensive IT policy is being framed for implementation from 2013-14. University has a full-fledged Information Technology Centre (IT Centre). Center manages all IT services and develops the IT infrastructure in the University. All UTD students are allocated user id and password to avail these

services. There are 8000 registered users of this facility. Presently following officers of IT centre are managing these services:

Head, IT Centre (1), System Administrator (1), Web Designer (1), Assistant Programmer (2), and Junior Network Administrator (1)

An important service of IT center is management of website and web server. IT Centre maintains web server on 24x7 basis. The website content management is done on daily basis. For website monitoring a committee exists which gives suggestions for website look & feel and content management.

- * Information Security

The public access servers are well protected from virus attacks and installed by adopting DMZ (Demilitarized Zone) policy. Information security is jointly cared at IT Centre and at individual School/Institute/Center level.

- * Network Security

IT Centre has installed hardware based Unified Threat Management (UTM) and firewall systems for network monitoring and traffic regulation. An enterprise level antivirus system is installed to prevent host computers.

- * Risk Management

IT Center has provision of backup and additional servers for critical services. A formal policy is planned in year 2013-14.

- * Software Asset Management

Software asset management is done at individual School/Institute/Center level.

- * Open Source Resources

Most of the servers (except result and antivirus servers) are using Linux operating system, which is designated open source. Related other software tools in use are also open source.

- * Green Computing

A policy for Green Computing will be planned in 2013-14.

4.3.2 Give details of the university's computing facilities i.e., hardware and software.

- * Number of systems with individual configurations

Total number of Computer Systems: Above 2100

The details of computers and server available at IT centre are as follows:
Personal Computers: Total 66 Personal Computer systems with individual configurations are available at Information Technology Center for I.T. Centre Lab and Administrative work. Servers : Mail Server, Web server, DNS server, Bandwidth Monitoring Server, LDAP Server, Campus Wide DHCP Server, Student- ID Server, Result Server, EDU Research Server, Library Server, Enterprise Antivirus Server (Trend Micro), Caching DNS server: Mail Server

Web Server:_Antivirus Server;_Caching Name Server; Result Server

Hardware Configuration: - HP ML -250 , 2 GB Ram , Intel xeon 3.2 Ghz.

Operating System: Windows – 2003 Application : - Java , Oracle-10g

DHCP Server;

- * Computer-student ratio

1:5 [2082 plus computers for 10447 students]

- * Dedicated computing facilities: Excellent
- * LAN facility All throughout campus

LAN is crucial as it enables sharing of ICT resources which can be accessed by anyone within organization. Provisioning of technical assistance in local area network requirements of departments and sections.

- * Proprietary software

List of proprietary software is exhaustive.

[Details of excellent computational infrastructure of the University is at IT Center, Computer Center and Schools/Institutes are available at SSRs at www.iqac.dauniv.ac.in]

- * Number of nodes/ computers with internet facility

Name of the Department	Number of systems with individual configurations	Computer-student ratio	Number of nodes/ computers with Internet facility
Academic Staff College	40	-.	40
Bio-chemistry	4	1:15	6
Bio-technology	60	1:02	60
Chemical Science	12	1:06	12
Commerce	20	1:11	20
Computer Centre	24	-	24
IT Center	66	-	66
Computer Science and	241	1:2.5	241

Information Technology			
Economics	85	1:06	85
Educational Multimedia Research Centre	102	1:02	102
Electronics	88	1:01	88
Education	40	1:06	40
Energy and Environmental Studies	45	1:01	45
Futures Studies and Planning	40	1:01	40
Institute of Engineering and Technology (IET)	625	1:04	625
Institute of Management Studies (IMS)	120	1:16	100
Instrumentation	25	1:01	25
International Institute of Professional Studies	160	1:16	100
Journalism and Mass Communication	23	1:02	23
Languages Comparative Languages and Culture	6	1:10	6
Law	17	1:22	10
Library Sciences	7	1:6	7
Life Long Learning	12	1:6	10
Life Sciences	46	1:3	46
Mathematics	24	1:5	24
Pharmacy	42	1:4.6	42
Physical Education	24	1:7	15
Physics	60	1:1.66	40
Statistics	18	1:02	13
Total	2076	--	1955

* Any other (please specify)

1. Computerization in University

A good number of latest configuration computers are deployed in the University. Most hostels are having Internet access through DAVV Campus network on 24x 7 basis. All sections of Administrative Office are using computers and printers. University results are processed in-house on computers since 1986. Customized developed software is deployed for admissions, accounts, exam and result processing in UTDS.

2. Existing Network of the University

Devi Ahilya Vishwavidyalaya Campus Wide Networking in academic and administrative campuses. The University has subscribed to 1 Gbps Internet link through National Knowledge Network. Numbers, installation details and features of Network infrastructure are Core switch: 1, Edge Switches: 90,

Routers (Cisco -1700) 1, (Cisco-2800)- 1, Wi-Fi Routers -13 (for Hostel Wi-Fi network, currently undergoing up-gradation), UTM/IDS: 02 (Cisco, Fortigate) Cyberoam (under purchase).

Campus wide Wi-Fi network Motorola Controller (Motorola RFS-6000): 2 Nos.; Indoor Access Point (Motorola AP-622): 36 Nos. Outdoor Access Point (Motorola AP-650): 6 Nos. Firewall: Firewall Cisco ASA5520, Fortigate 100-D UTM, Cyberoam 1000i (under purchase); Network Storage: 1.2 TB Storage (Linux based).

[Full Details of IT Center excellent hardware and software are available at SSR at www.iqac.dauniv.ac.in]

4.3.3 What are the institutional plans and strategies for deploying and upgrading the IT infrastructure and associated facilities?

Institutional plans and strategies are:

- Up gradation of existing links and providing redundant connectivity to departments and hostels through OFC.
- Infrastructure for video conferencing among the campuses.
- Infrastructure for IP Telephony.
- Infrastructure for Intranet based virtual class room lectures on common topics such as language skills, computer languages, research methodologies.

4.3.4 Give details on access to on-line teaching and learning resources and other knowledge and information database/packages provided to the staff and students for quality teaching, learning and research.

Access to on-line teaching and learning resources are available to the faculty since 2002 when fiber network was installed between the Schools/Institutes and IT Center and Internet facilities were introduced in all Schools/Institutes. Wi-Fi facility has been installed in hostels in the year 2007 and in the campus in the year 2012. NMEICT project has made easy access to Knowledge and information database/packages. These are provided to the faculty, officers, staff and students. These enable quality teaching, learning and research. The details of online journals available to the teachers and students are as follows:

S. No.	Web-site link	Resource Name	No. of Journals
	http://pubs.acs.org/	American Chemical Society	37
	http://www.aip.org/	American Institute of	18

		Physics	
	http://publish.aps.org/	American Physical Society	10
	http://www.annualreviews.org/	Annual Reviews	33
	http://journals.cambridge.org	Cambridge University Press	224
	http://www.epw.in	Economic and Political Weekly	1
	http://iopscience.iop.org/journals	Institute of Physics	46
	http://isid.org.in/	ISID	Database
	http://www.jccc-ugcinfonet.in	JCCC	Database
	http://www.jstor.org/	Jstor	1401+
	http://www.ams.org/mathscinet/	Mathscinet	1 Database
	http://www.oxfordjournals.org/	Oxford University Press	206
	http://www.portlandpress.com	Portland Press	8
	http://projecteuclid.org	Project Euclid	30
	http://muse.jhu.edu/journals/	Project Muse	411+
	http://www.rsc.org/	Royal Society of Chemistry	29+6 Database
	http://www.sciencedirect.com/	Science Direct	1036
	http://epubs.siam.org/	SIAM	14
	http://www.springerlink.com/	Springer Journals	1389
	http://www.tandfonline.com/	Taylor & Francis	1365
	http://apps.isiknowledge.com/	Web of Science	Database

	http://onlinelibrary.wiley.com/	Wiley-Blackwell	908
	http://dl.acm.org/dl.cfm	ACM digital library	51
	http://www.emeraldinsight.com/	Emerald extra	150
	http://ieeexplore.ieee.org/Xplore/guesthome.jsp	IEEE journals	219
	http://www.indiastat.com/default.aspx	IndiaStat.com	Database
	http://www.niscair.res.in/sciencecommunication/ResearchJournals/	NISCAIR Research Journals	18
	http://www.ias.ac.in/pubs/journals/	Indian Academy of Sciences Journals	11
	<u>DELNET</u>	Database	1

4.3.5 What are the new technologies deployed by the university in enhancing student learning and evaluation during the last four years and how do they meet new/future challenges?

New technologies deployed by the university in enhancing student learning and evaluation during the last four years are as follows:

- Campus Wi-Fi; High speed Internet Access; Virtual class rooms; Virtual laboratories
- On-line enrollment and submission of examination form
- On-line examination results and mark sheet download

Future Plans

- File tracking system for e-governance.
- Document management and work flow management
- Mobile and tablet based self-learning and evaluation
- Personal Advance Management System.
- 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/mark sheets and degree printing with photograph & signature. .

4.3.6 What are the IT facilities available to individual teachers for effective teaching and quality research?

IT facilities available to individual teachers are computer/ laptop with Internet connectivity, printer, and UPS. School/Institute also provides reimbursement up to Rs. 650 per month to the faculty members guiding Ph.D. for access to Internet from residence. IT facilities are available for all teachers individually and are used extensively.

4.3.7 Give details of ICT-enabled classrooms / learning spaces available within the university? How are they utilized for enhancing the quality of teaching and learning?

LCD projectors were installed in about 100 classrooms in 2007 and presently about 150 ICT-enabled classrooms / learning spaces are available in the University teaching departments. Faculty members use these facilities in the teaching processes.

Faculty members utilize ICT facilities for enhancing the quality of teaching and learning by following methodologies:

- Faculty members use PPTs, LCD projectors and pointers during lectures. It saves time to draw the figures on the blackboard. It provides sufficient time for the explanation and discussions. A whiteboard and marker are also used to answer the students' questions. PPTs of eminent professors are also available at website for students' use.
- Quiz master conducts the test by using projector by projecting query or options on the screens.
- Test paper is not required to be printed when projections are used. The paper is projected to the examinees from CD prepared by the paper setter.
- Video-lectures of the topics and language skills are shown.
- Video films for personality development and language skills and movies such as 'Chak de India' are shown to the students
- Moral lessons imbining stories are projected by a faculty.
- Videos related to energy and environment saving techniques are shown.

4.3.8 How are the faculty assisted in preparing computer- aided teaching-learning materials? What are the facilities available in the university for such initiatives?

Faculty members are assisted in preparing computer-aided teaching-learning materials by providing 24x7 Internet access. The course material PPTs are also hosted at the University website. A new faculty member in a School/Institute quickly learns the art of preparing computer- aided teaching-learning materials by self initiative. Teaching notes, Power Point Presentations, audio video material in soft copies are distributed on group e-mail IDs or uploads at the University website.

Academic Staff College also makes full efforts to make the participants of refresher/orientation courses ICT friendly by providing them an opportunity of use of computer and internet access.

Facilities available in the university for such initiatives

Computers/ Laptops with internet facility. Campus Wide Internet connectivity, Wi-Fi access, 24x7 Internet in Computer laboratories.

4.3.9 How are the computers and their accessories maintained? Annual Maintenance Contracts for maintenance of the computers and their accessories.

Breakdown maintenance is done within 24 hours of breakdown. Maintenance Engineer has been appointed for maintenance of computers (Mr. Anand More at present) to assist the Schools / Institutes in case immediate attention.

Annual Maintenance Contracts are also regularly awarded for support and maintenance services including security and preventive maintenance of the computers, printers, allied equipments and the accessories.

4.3.10 Does the university avail of the National Knowledge Network connectivity? If so, what are the services availed of?

University Schools/Institutes avail the National Knowledge Network connectivity for use of ICT (NMEICT). Extensive use is encouraged by holding training programs. A Faculty Training program “Teacher Empowerment” was organized to create ICT Champions as part of MHRD’s NMEICT project-Microsoft Saksham during June 10-20, 2013. It was jointly organized by I.T. Centre, School of Computer Sciences and Information Technology and Computer Centre. Microsoft Engineers executed the complete task distinguishably. University and college teachers participated in the training.

4.3.11 Does the university avail of web resources such as Wikipedia, dictionary and other education enhancing resources? What are its policies in this regard?

Students are registered at IT Center for Internet services on admission. Each faculty member is also registered at the Center. Students become aware very soon how to avail web resources, Wikipedia, Google search, YouTube, e-mail communication, group ID and Facebook concepts on joining the School/Institute. The resources of Wikipedia dictionary, e-books, video tutorials and PPTs are used extensively by the students and faculty.

Policy is to provide accesses to websites, e-books, e-tutorials, PPTs, course material, webinars, virtual class room lectures, e-mail, video conferencing, e-chat and other services. Web-access is also available for student examination results, grade sheets. Intranet and Internet links to video lectures, seminar proceedings, and digital library are also available. Policy is open but advertising and restricted site and web material are blocked.

4.3.12 Provide details on the provision made in the annual budget for the update, deployment and maintenance of computers in the university.

Annual budget for the update, deployment and maintenance of computers in Schools/Institutes in the University: Rs. 55,92,500 (2012-13).

XI Plan UGC Development Grants under central facilities for computers (Rs.) was Rs. 50,00,000. IT centre is providing network services to the University. There is sufficient budget provision for annual maintenance of network and computers. Details as under :

Year	Amount (Rs.)
2008-09	5,46,044=00
2009-10	2,51,507=00
2010-11	5,87,101=00
2011-12	5,60,438=00
2012-13	3,41,567=00

Centralized Computer Center Budget Head “2 (16) B” provisions for the year (2012-13) are as follows: 1. Rs.3.00 Lakhs for the maintenance of computers and equipment 2. Rs. 8.35 Lakh per annum for purchase of stationary and maintenance:

4.3.13 What plans have been envisioned for the gradual transfer of teaching and learning from closed university information network to open environment?

Plans for gradual transfer of teaching and learning from closed university information network to open environment were envisioned since 2006. A Task Group “ICT for Learning and Support and administrative services” is working since 2012 to pursue the plan actively.

Schools/Institutes are connected to IT Center through Campus Network connected with 1 Gbps leased line. Internet facility and Wi-Fi connectivity are available round the clock. School/Institute class rooms have the LCD projectors, computers and Wi-Fi access points.

Following are the methodologies planned for gradual transfer to open environment:

1. Establishing of Virtual Class Rooms

First virtual class room created in June 2012 at Institute of Engineering and Technology in the University. Using a virtual class room enables to interact to remote classes which are hosted at the web in real time. Following are the activities done in the past.

S. No.	Conference/ Workshop /Seminar/Training	Date
	ISTE workshop on “Analog Electronics” conducted online by IIT Kharagpur Attended by 27 participants	June 4-14, 2013
	“Aakash Android Application Programming”: An online workshop through virtual classroom conducted by IIT Bombay for Students on developing applications for Aakash Tablet device.	23 rd - 24 th Feb. 2013, 2 nd -3 rd March 2013
	“Research Methodology in Education Technology”: An online workshop through virtual classroom conducted by IIT Bombay for faculty	2 nd Feb. and 9 th Feb. 2013
	“Aakash for Education” An online ISTE workshop through virtual classroom conducted by IIT Bombay for faculty	09 -10 November 2012
	“Introduction to Research Methodologies” An online ISTE workshop through virtual classroom conducted by IIT Bombay under NMEICT for faculty	25 th June - 04 th July 2012

The following two workshops are planned in near future:

S. No.	Conference/ Workshop /Seminar/Training	Proposed Date
	An online ISTE workshop on “Signals and System” by IIT Kharagpur	Dec. 2013
	An online ISTE workshop on “Engineering Mechanics” by IIT Mumbai	Nov. 25-Dec. 05, 2013

Six other Schools/Institutes shall be created with virtual class room facilities.

2. Use of the webinars delivered by international eminent professors

Webinars on Computer topics such as 4G and Mobile Computing Technology are used by a few schools. The list of webinars is communicated to students through group e-mail IDs.

Distance education

Future plans are to offer distance learning through very high bandwidth access Internet and to use the IT infrastructure for distance education.

4.4 Maintenance of Campus Facilities

4.4.1 Does the university have an estate office / designated officer for overseeing the maintenance of buildings, class-rooms and laboratories? If yes, mention a few campus specific initiatives undertaken to improve the physical ambience.

Estate office /designated officer

University has an Engineering Section headed by *Executive / Assistant Engineer* (UE) who is deputed by State Govt. The section oversees the maintenance of buildings, class-rooms and laboratories infrastructure (such as windows, curtains, fans, lightings, electrical connections).

University has three campuses- Nalanda (N), Takshashila (I) and IET. Each campus has Campus In-charge (CI). One of the University Officer is given additional duties as N-CI. One each of the University Professor is given additional duties as T-CI and IET-CI. *Campus In-charges* keep close interaction with the UE and section staff to arrange maintenance of buildings and campus facilities.

Heads of the Schools/Institutes also keep close interaction with the UE and section staff to arrange maintenance of departmental office, sanitation, class-rooms and laboratories infrastructure (such as windows, curtains, fans, lightings, electrical connections).

Few campus specific initiatives undertaken to improve the physical ambience

Important campus initiatives undertaken are

- Green Calendar in which 28 departments participate to celebrate 28 days, one each day.
- [Refer calendar and activities in 2013 at www.dauniv.ac.in . Each department is assigned one day to organise that for all Schools/Institutes].
- Green University Policy document was released by Bharat Ratna Dr. A P J Kalam.
- Developing gardens and plantation of trees under the campus green initiatives
- Campuses sign boards
- Campuses Cleanliness
- Painting and whitewash of the Campus buildings.

University administrative offices / Schools of studies / Institutes have modern IT and computer friendly infrastructure with computer cabins, tables and chairs, printer, Internet connectivity and UPSs.

University administrative/School/Institute buildings have nearby gardens. Few Schools/Institutes have inner gardens. All these have improved physical ambience. Sign-boards and cleanliness have also improved campus physical ambience.

4.4.2 How are the infrastructure facilities, services and equipments maintained? Give details.

- * Maintenance of buildings, garden, indoor games structure

Maintenance of the buildings is being done by the Engineering Section of the University. Maintenance of the garden is being done by the gardener. A faculty member monitors maintenance.

- * Maintenance of Computers, UPSs and peripherals Infrastructure

Respective School / Institute in cooperation with University Computer Center maintains the Computers.

- * Maintenance of IT Equipment, IT infrastructure and Services

University IT Center maintains IT related equipment and infrastructure, Optical fibre, Wi-Fi access points, and IT services.

- * Maintenance of Electrical Installations / Lift / Water coolers / ACs / Support services such as water and sanitation

University Engineering Section looks after these.

- * Maintenance of Laboratories, Scientific Equipment and first aid boxes

Schools/Institutes and when required then in cooperation with USIC facilities at School of Instrumentation maintain the Laboratories, Scientific Equipment and first aid boxes.

Any other information regarding Infrastructure and Learning Resources which the university would like to include.

1. University has excellent facilities of infrastructure and learning resources. Computer Center is in operation since 1986. The results of the university students are processed since 1986.

2. University has excellence in ICT and IT Infrastructure for Learning Resources.

The establishment of Campus Wide Network was planned in 1998-99 on self-finance basis in the university. A team of faculty members worked with exemplary dedication in planning and designing of state of art network infrastructure. The work order was placed to leading I.T. Company of the country, CMC for full network installation and commissioning of the Network in year 1999. This work was completed in three phases. In first phase academic campus known as Takshashila campus was covered and in second phase networking of Nalanda campus, the administrative campus of DAVV, was completed. In third phase University engineering and pharmacy education blocks were networked. University invested around Rs. 2.5 Crores in creating I.T. Centre and network infrastructure during 1999-2003.

The I.T. Centre is perhaps unique example of self-initiated efforts made by a University in the country for taking great leap forward with futuristic approach. Later in year 2000, UGC provided 20% support to the I.T. Centre out of Rs. 2.5 Crore expenses made during years 1999 and 2000. It organizes number of training programs. [Details at ICT and Computer Centre SSRs at www.iqac.dauniv.ac.in.]