Quadrant-I(e-Text)

Details of Module and its structure

Module Detail	
Subject Name	Education
Course Name	ICT in Education
Course Code	EDU504
Module Name/Title	*ICT for Educational Administration: Scheduling, Record keeping; Student Information; Electronic Grade Book; Connecting with Parents and Community; School Management System*
Module Code	IIE017
Pre-requisites	It is assumed that students are aware of the meaning, concept and uses of ICT.
Learning outcomes	After going through this lesson, the learners will be able to: 1. List the softwares available for scheduling. 2. Recall the types of records to be kept by schools. 3. List the ICT tools to be used for connecting with parents and community. 4. Describe the role of ICT in record keeping. 5. Explain the application of ICT tools in maintain students' information. 6. Illustrate the concept of electronic gradebooks. 7. Comprehend the use of ICT in the school management. 8. Analyse the role of ICT in educational administration.
Keywords	ICT, Record, Management, Google, Website, E-mail

2. Development Team

Role	Name	Affiliation
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Subject Matter Expert (SME)	Dr. Gourav Mahajan	Govt. College, Dharamshala

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1.0 Introduction

Globalisation has completely re-shaped the world in which we live. Technologies especially Internet and computers are major factors in shaping the new global economy and producing rapid changes in society. It possesses power and has the potential to transform the human condition. Within the past decade, the new tools provided by technology have fundamentally changed the way the people work in every sphere of life. They have produced significant transformations in industry, agriculture, medicine, business, engineering and other fields. However, the advantages of technology come with a price within the field of education. To a great extent, technology itself can colonize the life world of education and educators.

Educational systems around the world are under increasing pressure to use the new technologies to teach students the knowledge and skills they need in the 21st century. Information and communication technologies (ICTs)—which include radio and television, as well as newer digital technologies such as computers, projectors, scanners, multimedia projectors and filming, digital cameras, photocopiers, laptops and the Internet—have been touted as potentially powerful enabling tools for educational change and reform. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life.

The educational administration is the most important aspect of the whole educational spectrum. It is like an umbrella term which includes five major function- Planning, Organising, Coordinating, Controlling, and Evaluating. The administrators have to identify and ensure the optimum utilization of both the human and non-human resources to achieve the set educational objectives.

ICT has the prime role in enhancing the efficiency and effectiveness of the school administration by facilitating two core areas of its functioning which are public functions and policy formulation. The use of ICT tools in the form of internal computerization and automation can help administration perform its public functions by simplifying the work processes on the one hand and increasing transparency and accountability on the other hand. For policy functions the administration can make use of ICT in the form of participation of stakeholders in policy making. The administration can reach to different stakeholder-parents, professionals, civil society organizations, media, community, teachers and students, too, by the use of online surveys, e-mails, video conferencing, online discussions etc. while formulating the policy of their institute.

To conclude the traditional administration has now been transformed to modern administration with the emergence of variety of tools of ICT and their wide use in education. Following features distinguish between the traditional and the modern administration.

Traditional Administration	Modern Administration
Unwieldy paper files	Computer based files
Hierarchical authority	Networked power
Wielding power through hiding information	Empowerment by sharing information
Expenditure orientation	Performance orientation
Individualistic	Organisational
Batch processing	Online processing
Delayed access	Instant access
Delayed response	Prompt response
Manual data entry	Electronic data entry
More time for routine repetitive work	More time for creative work
Status quo	Continuous improvement

2.0 Scheduling

A school has to organize variety of activities during an academic year. These activities are of both scholastic and co-scholastics in nature. Therefore, it becomes necessary for a school to prepare an effective schedule for the organization of the activities of varied nature within the limited time duration. In the absence of such scheduling the school will not be able to function effectively. The major activities to be performed at school during the academic year include teaching, sports, co-curricular activities, excursions, parent-teacher meetings (PTM), examination, community services etc. The school administration, therefore, with the involvement of teachers, parents and students must plan about the organization of different activities well in time so that any type of chaos can be avoided.

 The ICT may be of great help to schedule these activities. There are many ICT tools available in the form of softwares, either for free of cost or on payment basis, which can be used for the purpose of preparing effective schedule of organization of the activities in a school. Two such softwares which are commonly used as a tool for creating a schedule are Google calendar and FET time table.

> *Google calendar:* It is an internet based time and task –management online application which is used for accessing school calendars via web browsers. The schools, using this software, can create their own school calendar as per their requirements and time availability.

> *FET time table:* FET is open source free software made for the purpose of automatic scheduling of the activities of an educational institution of any level. The school has to input the types of activities to be carried out in the academic year and FET software schedules it within the limited time.

The schools can share these school calendars, prepared for the whole academic year, with the students, parents and teachers so that everyone in his/her capacity could be able to manage the things accordingly well in time. The schools can also send the reminders of the scheduled activities via e-mails, text messages or can upload the schedule on their website. It will enhance the effectiveness of the functioning of the school in all aspects and will save time for other activities. ICT, thus, has revolutionized the working of the schools in many ways, from administration to teaching.

3.0 Record Keeping

Every school has variety of records to be maintained for different purposes. These records pertain to different activities which may include administrative, academic, co-curricular etc. Besides, the information of students and the faculty is another important aspect of school records.

These records provide information about various aspects of school functioning and hence, are of very help for different reasons for all the stakeholders. As the records provide the information of the past, the plan of action for future can be designed accordingly. Earlier these records were used to be kept manually in the form of registers, books, files etc. but with the emergence of array of tools of ICT the medium for keeping the school records have been shifted to digital forms which may include CDs, DVDs, computer internal storage, e-mails, cloud storage etc.

The various kinds of records to be kept by a school and the role of ICT in keeping these records are explained below.

1. **Admission and Withdrawal Register**: This is a very important record of any educational institute which includes the information of each student with respect to his/her date of admission in the school, date of birth, date of leaving the school, parents/guardian's details along with their occupation. It also provides information about the progress of each student through various schools. The schools can use any medium of ICT to maintain such record with great ease and perfection. The use of ICT in keeping these records is also economic in terms of both time and money.

2. **Attendance Register**: It keeps the record of presence or absence of every student throughout an academic session on daily basis. The recording of attendance of the students is any of the medium of ICT is simple and easy. The teachers can maintain these records on the computers by using MS Excel. Also, the teachers can make inform to the parents of the students about the status of his/her attendance from time to time by using e-mails, SMS or uploading it on the school's website.

3. **Report Cards**: The teacher has to keep record of performance of each student in both the scholastic as well as co-scholastic areas after a regular time interval and also to inform the school authorities and the parents about the progress of the students. Teacher can use the ICT tools for keeping these records. Using MS Excel, the graphical representation of the progress of the students can also be prepared by the teachers. This information can also be provided to the parents through e-mails, SMS, CDs etc.

4. **Cumulative record**: It is the record which includes the information about the development of student in each of cognitive, affective and psychomotor domain. This record is maintained over the years consecutively. It gives the comprehensive picture of the personality of each student. Use of ICT can be of great help in maintaining, updating, and using this information at any point of time.

5. **Transfer and Leaving Certificate:** Transfer certificate is issued to the student if he is to shift to any other school before completing the course. The leaving certificate, on the other hand, is issued to student on completion of the course. In both the cases the students may be provided digital copy of the transfer / leaving certificate (e-certificate) with the use of ICT.

6. **Work book**: It is a kind of record which shows the academic work to be accomplished by the teacher during an academic year in each subject taught by him/her. The teachers can make use of computers for keeping record of such record.

7. **Log book**: Log book is the record of events occurred in the past which have significant effect on the functioning or activities of the school. The use of ICT tools in maintain this record is of much benefit as huge amount of such record can be saved safely in computer/ laptops/ i-pads etc. and the same can be accessed at any point of time easily without turning to huge number of files/documents.

8. **Lesson plan**: Lesson plan is a framework which a teacher has to follow while teaching. It acts as a guide to the teacher as other than organization of the content it also describes the kind of teaching aids, evaluation methods and the students' activities to be used during the teaching-learning process.

9. **Cash register**: It is the record of the financial transactions in the school and it gives information about income earned and expenditure incurred by the school during a financial year. It also helps school administration to decide about the optimum use of the funds of the institute. ICT tools can be used for the easy recording of such financial activities with the help of many accounts related softwares. The use of MS Excel can also be used for the same.

10. **Library records**: Library is the biggest asset of any institute. To maintain record of the books, journals, magazines, newspapers available in the library the use of ICT is very much in trend. The libraries have now been transformed into 'digital libraries' with the use of many libraries related softwares available in the market. The record of total number of books, number of subject-wise books, reference-books, accession numbers, entry of books, issuance and return of books etc. can be done with great ease with the use of these library softwares.

11. **Stock registers**: These are the records of the material available in different laboratories of the school. It reveals the number of items or equipments available in the laboratory, their cost, date of purchase, quantity etc. Such record can be kept easily in digital form by using computer / laptop/i-pad.

The ICT can, thus, be used effectively in following ways for record keeping of the schools.

1. Collection of Information
2. Storage of Information
3. Use of Information
4. Manipulation of Information
5. Transmission of Information

To conclude, the availability of the ICT tools in the school is of the great help to record different kinds of information in adequate and accurate manner. There are variety of tools of ICT available to be used for recording the school information which may include computer, laptops, i-pads CDs, DVDs, internet, softwares etc. The information in digital form can be used easily at any point of time for the purpose of communication with different stakeholders, decision making and enhancing the efficiency of the working of the school.

4.0 Student Information

The school has to keep record of the information related to different aspects of students' personality for various reasons. This information is of great help to the students, teachers and the administrations to decide about different teaching learning activities and the activities aiming at all round development of students' personality.

The following types of information can be recorded and updated from time to time.

Developmental Information: The progress of the students in both scholastic and co-scholastic areas is to be assessed by the teachers after regular time intervals and the same is to be recorded for the future use. The analysis of such information can be made to help students to improve in the areas of weakness. The students can also make self assessment on the basis of such information. The teachers and parents may have interaction regarding progress of students.

Assessment Information: This kind of information is to be collected and organised at the end of the course. This includes the information about the knowledge, skills and competencies acquired by the students over a period of time.

Showcase Information: This kind of information includes the high achievements and exemplary works by students in different fields-scholastic and co-scholastic as well. Such information can be helpful for students to get advantage in future courses and sometimes in job perspectives, too.

1. **Electronic Gradebook**

An electronic grade book is a teacher's online record of his/her students' lessons, assignments, progress and grades. Some most popularly used softwares which provide grade books are TAMO, Gradealyzer, Spiral Universe, QuickSchools.com, and GPA Teacher. All these provide an easy way to update grade book information about each student as well as the ability to quickly and easily transfer this information into the end-of-term report cards. It is easy for the teacher to record the grades of the students using MS Excel or any software available for it. The grades are recoded digitally can be analysed from different angles and can also be sorted in different ways. Theses e-gradebooks can be easily sent to parents via e-mails or uploaded on school's website which can be viewed using unique student id or guardian id. The teachers can communicate with students with respect to their record in e-gradebook. They can also locate the information or grade of a student within no time and can make relative and comparative alaysis as well.

2. **Connecting with Parents and Community**

Parents and the community are two important pillars for providing education to children in every society. It is essential on the part of school authorities to make parents and community aware about the various kind of information related to school. It may include the progress of students, school policies, schedule of activities, achievements of schools

in curricular and co-curricular activities etc. This kind of communication between school and society builds trusting relationship between both and also encourage involvement of society in school activities. The role of ICT in strengthening this relationship is significant in this era of science and technology. As there are many sources or mediums of e-communication are available, the schools can best use them for reaching the society. Access to internet, social networking sites, e-mails, websites are the regular features of everyone's functioning in day to day life in the present time. The schools, therefore, must use these promising sources of present age to communicate with the society, in general and parents, in particular.

Following kind of information can be shared by the schools with the parents and society by using different means of ICT.

- Students' progress in cognitive, affective and psychomotor domains
- Students' participation in co-scholastic activities
- Students' general behavior
- Schedule of school activities
- Seeking feedback and suggestions about school functioning
- Faculty details
- Management details
- Details of school infrastructure
- Details of courses available
- Details of achievement of schools in different areas

5.0 Tools of ICT for Connecting with Parents and Society

i) **E-mail:** E-mail is a very popular and easy way to communicate with others in the present digital age. For schools, too, it is very easy and economic medium to connect with parents and society. The schools can inform parents about important information, achievements, schedules etc. to parents through emails in groups. Also, individual e-

mails can also be sent to the parents about the information related to their child. The progress of the child in scholastic area, participation in co-scholastic areas, general behavoiur, examination results etc. can be informed to parents via e-mails.

ii) **Website:** The website is the best mediums to get information about any organization. The schools can upload all kind of information on their websites with a view to make it available to the society and parents. The information about the management of the school, rules and regulations, faculty details, courses available, admission policy, fee structure, school annual calendar, previous activities, contact details, etc. should be made available on the websites of the schools.

iii) **Social Networks:** The social networking sites are intensively used by majority of population with the increasing use of android phones. The availability of economic data packs and easy accessibility of internet has made it easy for the individuals to connect to others using social networking sites. The schools can also use this medium for variety of purposes to connect to parents and society. Using most popularly used social networking site – Facebook is one of the most important medium to be used by schools to share information with the students, parents and society. By creating 'Page' or 'Group' on the Faceboook the schools can highlight its achievements and update the useful information. Facebook is also a best way to reach to the old students of the schools and ensure their participation in framing school policies.

iv) **Online groups:** Another way to connect to parents and society is the online groups. The Google groups and yahoo groups are the most popularly used groups to connect with many members of a large group. The files of different kind can also be shared using these groups among the members.

v) **SMS and Instant messaging:** Like other tools of ICT, the SMS and the instant messaging via Whatsapp and Intragram the collective messages can be send by the schools to the parents and other stakeholders. The class teacher can create a group of the parents of

his students to share information of different kind including updating the urgent information. In the similar way teachers of different subjects can connect to the parents by creating specific subject groups on Whatsapp or Instagram. Also, the similar groups of faculty can be created to share the official information among them.

vi) **Media sharing:** It is also possible to share media files online. The schools can share the videos of different kind of activities held at school by using video sharing sites like YouTube, which is the most popular media sharing website. The images can also be shared by using such websites like 'Flickr'. MS powerpoint presentations by teachers can be uploaded on slide sharing sites.

vii) **Online Surveys:** The school can conduct online surveys on parents, community members, students or other stakeholders for deciding or designing the policies of school. It is economic in terms of cost and time. It also ensures the participation of different stakeholders in the functioning of schools.

6.0 School Management System

School management is a comprehensive term which includes manifold school activities ranges from admissions, subject selection, course selection, allotment of class and teacher, communication with stakeholders, record keeping, analyzing and interpreting data etc. The school management also designs policies and programs for the smooth organization of the school activities and their proper implementation. It also involves other important processes like financial management, faculty recruitment, resource management etc.

To make the management system easy and effective the schools have been using many softwares available either free of cost or on payment basis. Some of such softwares are discussed as below.

i) **FeKara**: It is used to manage the school activities as per the requirement of the school. It manages the admissions, examination, budgeting, task assignments, connecting with parents etc. It is available in free version and also on payment basis. The free version is

most appropriate for the small schools and for the large schools the additional features and data storage is available on payment basis.
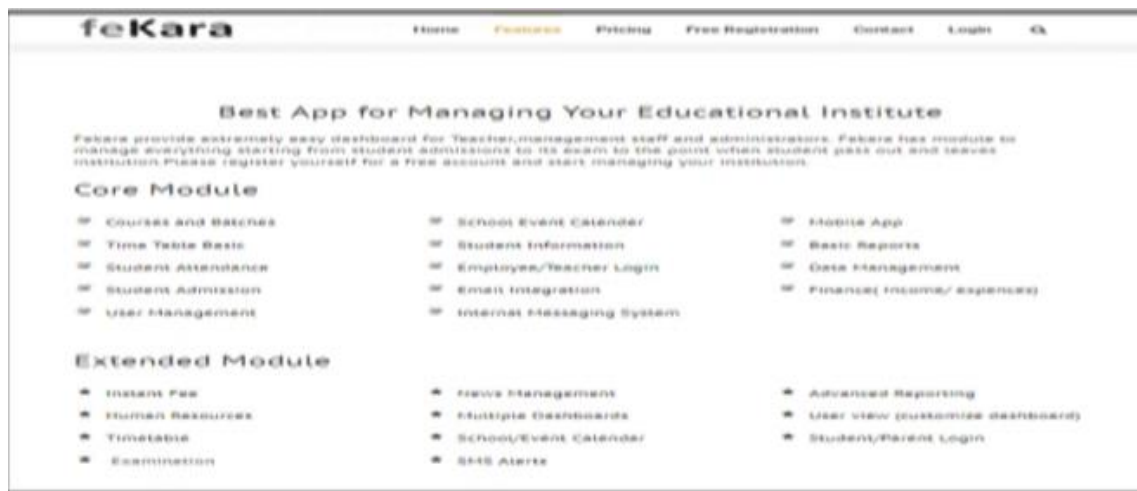

Fig 1.: Homepage of FeKara

ii) **TS School:** It is the short form of Time Software School. It is useful for the management of workforce, student management system and examination. It is available with some basic features for free of cost for all types of schools. However, to add more features in the basic model payment is to be made.
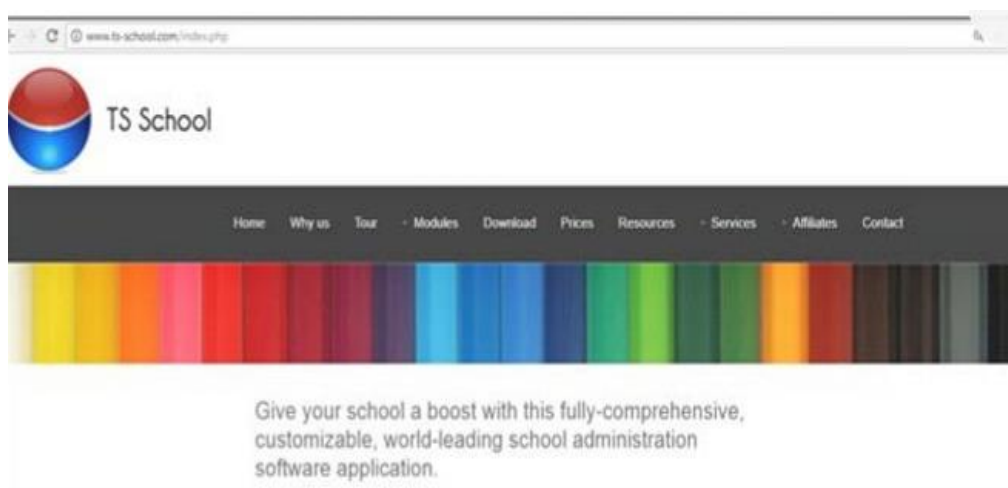

Fig 2: Homepage of TS School

iii)   **Fedena**: Fedena is a free and open source school management software which is largely used for managing school records of various kinds. It was initially developed by a team of developers at Foradian Technologies and is now maintained by the open source community.
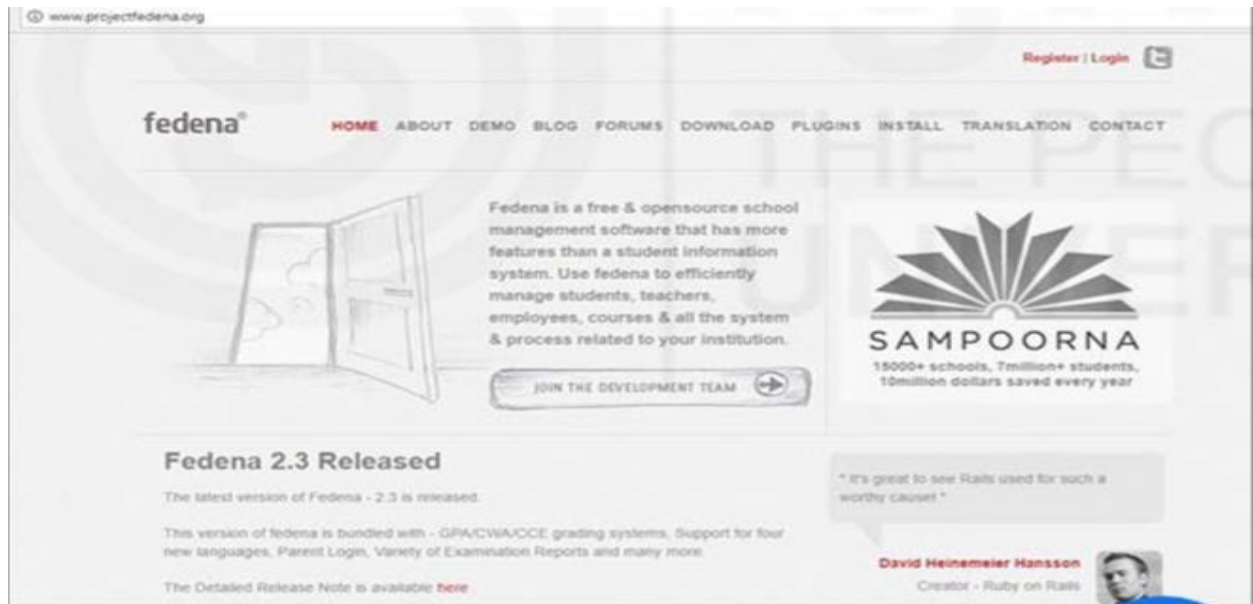

Fig. 3: Homepage of Fadena

iv)   **SchoolTool:** SchoolTool is a software that deals with the student information system which provides teachers the gradebooks, skill assessment documents, class attendance sheets, CCA records etc. It was made with Python, and is run on Linux Ubuntu. SchoolTool comes with its own web server and database. It is more useful for the teachers than the administrators.

Fig. 4: Homepage of SchoolTool

v) **Open Admin for Schools**: This software is available free of cost and is useful in keeping record of students' attendance, report cards and management system. It is comprehensive with the following features.

Demographic: It is used to record the personal information of students and the parents. It includes name of students and parents, qualification and occupation of parents, type of family, socio economic status of family, number of siblings etc. This information can be used in variety of ways at any point of time.

Attendance: The record of attendance is kept with more accuracy.

Report Cards: Teachers can also keep record of students' achievements in different subjects.

7.0 Summary

The use of ICT has revolutionized the whole education system. With many promising features it has made the administration of the school system very cost-effective, simple, safe and easy. It is useful in major components of administration which are planning, resource allocation, budgeting and connecting with parents and the society. There is many school management software like FeKara; TS School; Fedena; SchoolTool; Open Admin for

Schools, which help in organizing information and making its retrieval efficient.

Quadrant-III - (Learn More / Web Resources / Supplementary Materials):

Books, articles, research papers, journals, case studies etc.:

Afzaal, H. (2012). A preliminary study of school administrators' uses of information and communication technologies; Bruncian Perspective. *International Journal of Education and Development using Information and Communication Technology 8(1),* 29-45.

Gedwar, S. (2016). *Use of ICT for administration and management: Case Study, EMU.* Unpublished Master of Science Dissertation, Eastern Mediterranean University, Gazimağusa, North Cyprus. Retrieved from http://irep.emu.edu.tr:8080/xmlui/bitstream/handle/11129/2957/gedwarsaid.pdf?sequence=1 on April 12, 2019.

Ghavifekr, S., Afshari, M., Siraj, S., & Seger, K. (2013). ICT application for administration and management: A conceptual review. *Procedia – Social and Behavioral Sciences, 103(2013),* 1344-1351.

Prasad, K. (2004). *Information and communication technology: Recasting development.* New Delhi: B.R. Publishing Corporation.

Singh, T., & Muniandi, K. (2012). Factor Affecting School Administrators Choices in Adopting ICT Tools in School- The Case of Malaysian Schools. *International Education Studies, 5 (4),* 21-30.

Stallard, H., & Cocker, J. (2001). *The promise of technology in schools: The next 20 years.* Lanham, MD: The Scarecrow Press.

Kapur, J.C. (2000). IT and good governance. *International Journal of Public Administration, 46 (3),* 386-395. Retrieved from https://doi.org/10.1177%2F0019556120000309 on April 12, 2019.

Kyakulumbye, S., Olobo, M., & Kisenyi, V. (2012). Information Communication Technology (ICT) Utilization in Private Universities in Uganda: Exploring Strategies to Improve. A Case of Uganda Christian University. *Technology and Investment, 4,* 22-29

Quadrant-IV   True/ False

Mark the tick mark against appropriate place against each of the given statements.

S. No.	Statement	True	False
1	ICT has produced significant transformations in many fields like industry, agriculture, medicine, business, engineering but not in education.		
2	ICT includes only the newer digital technologies such as computers, projectors, scanners, multimedia projectors.		
3	ICT has the prime role in enhancing the efficiency and effectiveness of the school administration.		
4	There are only paid ICT tools available which can be used for the preparing effective schedule of organization of the activities in a school.		
5	FET is open source free software made for the purpose of automatic scheduling of the activities of an educational institution of any level.		
6	The schools can use any medium of ICT to maintain various schools record with great ease and perfection.		
7	The libraries have now been transformed into 'digital libraries' with the use of many library related softwares available in the market.		
8	Teachers cannot communicate with students with respect to their record in e-gradebook.		
9	TAMO is a software which provide grade books.		
10	Schools can use any medium of e-communication for reaching the society.		
11	The files of different kind cannot be shared using online groups like Google group and Yahoo group.		
12	FeKara manages the admissions, examination, budgeting, task assignments, connecting with parents etc.		
13	To add more features in the basic model of TS School payment is to be made.		
14	Fedena was made with Python, and is run on Linux Ubuntu.		
15	Open Admin for Schools software is available free of cost.		

Scoring Key: F,2-F, 3-T,4-F, 5-T, 6-T, 7- T, 8- F, 9- T, 10- T, 11- F, 12- T, 13- T, 14-F,15- T