

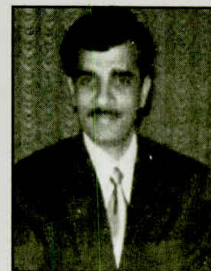
AgriTech

2012-13



BRSM College of Agricultural Engineering and Technology, Mungeli
Indira Gandhi Krishi Vishwavidyalaya, Raipur 492 012 (C.G.)

From Desk of the Dean



Welcome to the BRSM College of Agricultural Engineering and Technology, Mungeli! To me, students are the most creative being on earth if we could provide them the channel of creativity to grow in the right way. I am always open to new ideas, critical feedback, and suggestions that will elevate the quality of academic program of the college in general and students activities in particular. I enjoy watching students of this college being prepared for futures in dynamic careers. Students have been benefited by the vast academic experience of teacher of this college and find opportunities of practical work in the field as well as and in various laboratories & workshops. Students are always invited to explore the many and diverse units of the college to find the knowledge they need for their best academic exposure and pick an educational path to prepare for their future career. This College is currently facing lot of challenges. To overcome this situation, the cooperation and encouragement from all corners for making sure our students to continue in the upward trajectory of study, research, and ensuring a bright and secure future for the Nation is needed. The goal of this year was to enhance the teaching and practical facilities and various other amenities for the students. This target has been achieved also. I'm looking forward to beginning year 6th and seeing where we go next. Our teachers, staff, students, are amazing and I'm thrilled to be working with all of you. As the chief editor of AgriTech, I believe that all the readers will have a doleful experience while going through it. I invite to one and all through this publication to learn what each of our programs is doing for academic and personal developmental activities of students at this college.

I express my heartfelt gratitude to Dr. S. K. Patil, Hon'ble Vice Chancellor, Indira Gandhi Krishi Vishwavidyalaya, Raipur for his valuable guidance and encouragement during publication of AgriTech 2012-13. I thank the advisory board and editors who have made whole heartedly and untiring efforts in creating this publication. I am highly thankful to all Deans, Directors, HODs, OSDs, Registrars, Comptrollers, Scientists, and Teachers of IGKV for their kind cooperation, encouragement and help. I also thank to college staff and students for their views and contribution provided during publication of AgriTech-2013.

(Vinay K. Pandey)



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संदेश

खुशी की बात है कि बी.आर.एस.एम. कृषि अभियांत्रिकी एवं प्रौद्योगिकी महाविद्यालय, मुंगेली द्वारा महाविद्यालयीन पत्रिका 'Agri Tech' का प्रकाशन किया जा रहा है।

कृषि अभियांत्रिकी एक अत्यंत महत्वपूर्ण, आधुनिक एवं विस्तृत विषय है। इस विषय के ज्ञान और तकनीक का उपयोग ग्रामीण क्षेत्रों की कृषिगत श्रम को कम करने के साथ-साथ कृषि उत्पादकता में वृद्धि करने में किया जा सकता है। मुझे विश्वास है कि महाविद्यालय द्वारा प्रकाशित यह पत्रिका विद्यार्थियों के साथ-साथ शोधार्थी और कृषकों के लिए उपयोगी सिद्ध होगी।

स्मारिका के प्रकाशन पर मेरी हार्दिक शुभकामनाएं।

शेखर दत्त
(शेखर दत्त)





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कुलपति
Dr. S. K. Patil
Vice Chancellor



No. PA/VC/IGKV/188/2013/946
Date : 08/03/2013

MESSAGE

I am happy to note that BRSM College of Agricultural Engineering and Technology, IGKV, Mungeli is publishing its 4th Annual Magazine of the College "Agri tech " 2012-13". Publication of such institutional documents depict strength of institution in general and that of students in particular.

I wish all the success for timely publication of this manuscript.


(S. K. Patil)





छत्तीसगढ़ कामधेनु विश्वविद्यालय, दुर्ग

कैम्प कार्यालय : दुग्ध विज्ञान एवं खाद्य प्रौद्योगिकी महाविद्यालय, रायपुर (छत्तीसगढ़)

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प्रो. (डॉ.) उमेश कुमार मिश्र
कुलपति
Prof (Dr.) Umesh Kumar Mishra
Vice - Chancellor



MESSAGE

I am happy that the BRSM College of Agricultural Engineering and Technology, Mungeli is going to publish their College magazine named "Agritech". The faculty of college is performing remarkably their best. The College magazine nature to encourage the creativity and writing aptitude of the student and furnishes them a platform to express their original thoughts. I hope, the above objective would be fulfilled in the Agritech .

I appreciate the effort of Dean and his team along with their students for bringing out and shaping the magazine as per the needs of era.

(Umesh K. Mishra)

12/2/13





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Dr. D. K. Sarnaik
Director Research



MESSAGE

I extend my heartiest felicitations to the BRSM, College of Agricultural Engineering and Technology, IGKV, Mungeli on the occasion of publishing its College Magazine "AgriTech".

This College is a premier Agricultural Engineering education centre in Chhattisgarh State imparting the knowledge of agriculture Mechanization to students through its activities of training and teaching programme. The publication of College Magazine is the true reflection of educational standards and calibre of students which develops writing and expression power in them.

I am confident that this College would continue to be a platform for development of human resource in Agriculture Engineering to fulfill the need of this state.

I extend my greetings and good wishes for publication of "Agri Tech" College Magazine.

Director of Research

20/12/13





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Director Extension



MESSAGE

It is matter of great pleasure to know that the BRSM College of Agricultural Engineering and Technology, Mungeli is going to publish the college magazine "Agri Tech".

College magazine is a platform where the scholars can show their proficiency in writing and thinking about their surrounding environment, which play a key role to develop the creativity and imagination skills among the students beside their routine academic activities.

I am sure that the "Agritech" will meet out its goal for overall development through provoken skill of students. I must have to congratulate and wishing all the success for publication of "Agritech".

(J. S. Urkurkar)





इंदिरा गांधी कृषि विश्वविद्यालय संचालनालय शिक्षण

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निदेशक शिक्षण/परीक्षा नियंत्रक
Dr. S. S. Kolhe
Director Instructions/ Controller of Examination



MESSAGE

I am delighted to know that BRSM College of Agricultural Engineering and Technology, Mungeli is publishing " AgriTech". This magazine provides an opportunity to the students to put forth their ideas and creativity in the form of technical and cultural innovative and thus a kind of encouragement to the students to express their talents and share experiences.

The efforts made by the Dean, Teachers and Staff of the college are commendable as the college is new and establishment of good traditions are required at the beginning.

I wish every success for the publication of the magazine.

S. S. Kolhe
(S. S. Kolhe)





FACULTY OF AGRICULTURAL ENGINEERING

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Dr. R. K. Sahu
Dean



MESSAGE

I am extremely happy to learn that the BRSM College of Agricultural Engineering & Technology, Mungeli is publishing college magazine "AgriTech". It documents all students activities reflecting opportunities in personality development and creativity.

I am confident that the content of this magazine will be liked by the readers and serves as a catalyst to students to widen their horizon with freedom in minds, faith in words and transparency in action and deeds.

I congratulate the staff and students for providing a conducive environment of study and extracurricular activities. I know that the students and staff are struggling for infrastructure and human resources. Under such limiting environment, the progress and creativity is highly laudable.

I sincerely extend my good wishes for successful publication of the magazine.


(R.K. Sahu)



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Annual Report 2013

I have been fortunate to have mustered the support of each individual of this university, students and last but not the least the parents of the students who have shown immense faith in quality education of this college in general and of Indira Gandhi Krishi Vishwavidyalaya in particular. Against all odds the year 2007 was a momentous in the history of Indira Gandhi Krishi Vishwavidyalaya as it laid the foundation of first Agricultural Engineering College of state in the Government sector by Hon'ble Chief Minister of Chhattisgarh at Mungeli. The dream that was nurtured for this college is steadily moving towards its desired destination. I am happy to present the Annual Report of the college for the academic year 2012-13.

Academics

- There has been a steady progress in the academic pursuits of the college.
- Three more Asstt. Prof. have been appointed in the college. One of Asstt. Prof. awarded Ph.D. Three nos. of supporting staff are appointed during this year.
- The students' performance in the University Examinations has improved in comparison to the last year.
- 5th College Foundation Day was celebrated on April 09th, 2012. During the occasion one day seminar on "Climate Changes: Problems and Challenges for Agricultural Engineers" was organized.
- Dean of the college has participated in National Seminar on "Interaction between Traditional and Modern Technology", Brain Storming session on "Water use Potential on Flood affected Area Drought Prone areas of eastern India at ICAR Research Complex for eastern region Patna, a meeting cum Brain Storming session on "Training Need assessment of faculty and scientist" at AARM, Hyderabad, 2012 International SWAT workshop & Conference at IIT, Delhi. He has also delivered may Technical Talks during various meetings on the subject of his specialization.
- Dr. V M Victor, Asstt. Prof. has attended training programme of seeding, threshing, harvesting and Plant protection equipment, one day orientation workshop as IPRO of the college, Winter School "Technopreneurship Opportunities in Agricultural Mechanization" at CIAE Bhopal, Dr. B L Sinha, Asstt. Professor/ NSS Officer has attended one week training programme on "Human Values on Education". Shri Diwaker Naidu & Er. Himanshu Ekka, Asstt. Professors of this college has attended a Orientation cum training programme for "Newly appointed Assistant professor" organized by IGKV and NAAR, Hyderabad.
- All the theory and practical classes arranged efficiently and effectively.

Library

- The college library was also strengthened by procurement of various books and other need based resources.

In-plant Training and Experiential Learning

- The in-plant training is intended to expose the students to an environment in which they are expected to be associated in their future career. Under this programme students have got training in various National Training and Research Institute and Companies in the area of farm mechanization, farm planning and development of irrigation/drainage project, watershed development, manufacturing technology of agricultural or processing machinery, testing and evaluation, quality control, marketing and servicing.
- The experiential learning is intended to build practical skills and entrepreneurship among the graduates. Thus, besides in-plant training an experiential learning programme was also carried out successfully by the students.

NSS activities

- The NSS unit of the college has organized plantation programme on Independence Day.
- On 17th August, 2012 students and staff have celebrated "Sadbhavna Diwas" under NSS.
- NSS unit has conducted "B" certificate examination on 18.10.2012.
- The college has organized one day programme on "Learning from past Experience" Under NSS on 24.02.2013.

Cultural Activities

The college provides its students numerous opportunities for co-curricular activities to enrich their cultural interests.

- College Annual Function "AgriTech Carnival" was celebrated on April 24th, 2012.
- Students of this college have actively participated in various events organized during "Madhai-2012".
- 5 Students of the college has actively participated in Inter Zonal sports competition at CGCARS,

Jagdalpur during 28th January to 01 February, 2013 .

- The foundation laid out of college building was organized at Mungeli on 12.01.2013. Chief Minister and other dignitaries were present.
- On September 05, 2012 the birthday of Dr. Sarvapalli Radhakrishnan was celebrated as the Teacher's Day in the college. Teachers gave their precious blessings and valuable guidelines to the students for their forthcoming life. Students have presented special programmes for their respected Teachers.
- On September 15, 2012 the Engineers' Day was celebrated in the college. The contribution of Sir Mokchch Kundam Viveshwariya in the field of engineering for the development of country was presented by the various faculty members of the college. The role of an Agricultural Engineering Education for the sustainable development of the state and nation was specially presented for the benefit of the students.
- Anti ragging committees constituted for the college has made various surprise visits time to time in the hostels and college premise there has not been even a single ragging case noticed during this period.
- The Dean of the college Dr. Pandey has executed successfully an adhoc research project entitled "Hydrological Modeling of a Watershed using Remote Sensing, Geographical Information System and AVSWAT" funded by MoWR, GOI as PI.
- As a Board Member of TSOT Assam University (A Central University), Silchar (Assam) Dr. Pandey has attended the board meeting.

Infrastructure

- Construction of college building has been started.
- Construction of boys hostel has been started.
- Construction of two girls hostels is about to complete and soon this will be available for the students.
- Aluminium portioning work at display centre hall is completed.

Publications

- The Scientists and Teachers of the college have presented research papers and about 08 nos. of them have been published in the respective proceedings.

- Lecture wise distribution of courses has been compiled and presented in the form of booklet.
- A manual on report/thesis writing is prepared and presented in the form of booklet.
- Practical manual on Strength of material, Soil Mechanics, Dairy and Food Engineering, Farm Pond Design have been prepared for the benefit of the students.

Thank you

Dean



Soil health and biocultural diversity are our measures of quality work.

J.S. Nikhade, Assistant Professor (FMP)

Activities of a Carbon Farmer

I: Conservation:

Conservation is an umbrella perspective for the body of this agroforestry. As for all activities, conservation seeks specific techniques to reduce amounts of energy used or wasted to accomplish a given task.

Life that is energy efficient tends to thrive. Life that is inefficient will, over time and by excess consumption, collapse its own trading schemes between ecosystem services. Animals failing to trade services with their partners in a biome, may experience a burst of consumptive growth only to eventually face the grinding pressures of natural selection with significant resource disadvantages. Examples include species like Zebra Muscles, Asian Carp, Emerald Ash Borer and indigenous species like Forest Tent Caterpillars when their constraining predators (a virus and a friendly fly) fail to show up. Industrial globalization/agriculture is often considered an example as well.

Conservation enhancing one's fortunes has an intriguing relationship to trading, both in the biological world and in the marketplace. In both systems good trades strengthen both parties, even when wolves eat weakened caribou.¹⁵ When humans forgo conservation efforts we remove ourselves from participation in evolution's trading schemes and, paradoxically, our bodily risks proportionately increase.

Three regions of conservation amplify each other. First, soil health and biodiversity are addressed here as Carbon Farming. Second, every machine or vehicle you or we operate has had some thoughtful conservation designs applied to it yet numerous future possibilities await. BSG's section on Energy Conservation and Generation engages this topic as equipment used in this agroforestry. Third, vital resources of cultural diversity, which both emerge from biodiversity and draw sustenance from it. Conserving biocultural diversity is engaged in BSG-farm's section on Food & Culture.

II: Energy Generation:

Energy resources like wind, solar, wave energy, river and tidal flows (All distributed forms of solar nuclear power.) plus geothermal do not cycle carbon. However, if one captures such alternative power sources without first establishing efficient practices then growth submerges in a context of waste. With conservation efforts in hand, alternative energy production can be carefully considered for cradle-to-grave carbon footprints just as car manufacturers do to compete over different vehicle's gross efficiencies. This can become complicated:

For example, hydroelectric dam construction releases vast CO² emissions through cement production. Flooding next collapses extensive, interconnected ecosystems of biomass/biodiversity which decays, releasing large quantities of CO², methane and nitrous oxide gases. Another option, nuclear power, has high carbon emissions associated with materials manufacturing, high volume--low yield mining, plant assembly and decommissioning. And the recent Midwest corn-to-ethanol, soybean to diesel, debacle pitted energy against food production. This destabilized supply chains handling corn, beans, processed foods, alternative energy and venture capital with no improvement in corn or soybean farming's low biodiversity--intensive carbon positive practices. Prices along chains of distribution tanked and ventures stalled while odd regulatory loopholes were exploited. Industrial carbon sequestration is an emerging technology currently used to isolate underground CO² stripped from natural gas and, in the future, coal CO² produced in gasification. Algae and switch grass farming are currently emerging as possibly sensible

carbon-neutral alternatives.

III. Food production & Consumption:

Societies grow around activities cycling carbon into their atmosphere through foods. Equipment manufacturing for growing, harvesting and processing foods, transporting food to its destinations and distributing it, not to mention myriad medical expenditures associated with diet-- most of our relationships to foods and their fossil fuels are intensely carbon positive. Contemporary soil collapse, as biodiversity collapses, forces conditions that cannot hold carbon over time. To many the situation seems intractable as a global soil crisis is held at bay only temporarily as we use carbon-positive nitrogen fertilizers (derived from natural gas). Some contend that as long as we rely for food on intensively cropped annual grasses like wheat, corn and rice, we can achieve neither biodiversity nor biomass below or above ground. Must we therefore rely on intensive use of fossil fuels to grow and process annual mono-crops? Should we also help-defend these plants from the environment with toxins and genetic modifications never even imagined to assist any other plants or animals in the biome? Collapsed farm soils hold little when it rains. Nitrogen runoff feeds into oceans further crashing water biodiversity at the mouths of large rivers where oxygen free "dead-zones" expand. There, rotting biomass becomes a new potent generator of greenhouse gases. Investigating historical and pre-historical perspectives, archaeologists, along with soil scientists, study changing soil characteristics of ancient civilizations as they grew. They find declining soils have frequently placed harsh resource and labor pressures on civilizations.

Carbon farming emerges as a contemporary way to restate and precisely focus what some have known and practiced for eons using other narratives. In some ways carbon farming updates work by visionaries like Rudolph Steiner and Sir Albert Howard whose different paths both led to the critical importance of soil health and biodiversity. Today many creative activists populate this growing field. Even more, consumers and farmers are igniting direct trade of services and information (and here we are!). As food shoppers we can carbon farm by exploring carbon's history in our purchases as either carbon positive, neutral or negative. For example, certified organic products indicate only a *possible* shift from carbon positive to carbon neutral. Investigating harvesters' applied efforts towards soil health and biodiversity will further intrigue us with the food's carbon trail. Purchasing locally or perhaps not so locally, is another part of a building narrative which may balance rough equations between biodiversity efforts on a harvested biome versus carbon released in transport. [For example, when certified organic, fair-trade coffees are grown in one place and perhaps batch processed nearby, is this an import or a local buy? Balance such carbon farming equations by perceiving what biocultural diversity this crop pressures or enhances. Our appreciation of diverse coffees--biocultural diversity--elevates as we notice our membership among far-flung food-source ecosystems. Finally, fair-wage practices locate attention away from economies-of-scale towards agricultural details and investment in human capital, both markers of more effective carbon management.

Customer knowledge and expectations in these matters will drive best agricultural practices by our harvesters. Curious learning, robust socializing, intimacy with biodiversity and eating delicious things with awareness are intense pleasures that come with the turf. Perhaps, on the horizon, civil society will behave as negotiating contributors within the biomes we harvest.

J.S.Nikhade
Assistant Professor
(Farm Machinery and Power)

Rainwater Harvesting

B. L. Sinha, Assistant Professor (SWE)



Rainwater harvesting is a technology used to collect, convey and store rain for later use from relatively clean surfaces such as a roof, land surface or rock catchment. The water is generally stored in a rainwater tank or directed to recharge groundwater. Rainwater infiltration is another aspect of rainwater harvesting playing an important role in stormwater management and in the replenishment of the groundwater levels. Rainwater harvesting has been practiced for over 4,000 years throughout the world traditionally in arid and semi-arid areas, and has provided drinking water, domestic water and water for livestock and small irrigation. Today, rainwater harvesting has gained much on significance as a modern, water-saving and simple technology.

The practice of collecting rainwater from rainfall events can be classified into two broad categories: land-based and roof-based. Land-based rainwater harvesting occurs when runoff from land surfaces is collected in furrow dikes, ponds, tanks and reservoirs. Roof-based rainwater harvesting refers to collecting rainwater runoff from roof surfaces, which usually provides a much cleaner source of water that can be also used for drinking.

Rooftop rainwater harvesting at the household level is most commonly used for domestic purposes. It is popular as a household option as the water source is close to people and thus requires a minimum of energy to collect it. An added advantage is that users own, maintain and control their system without the need to rely on other community members.

Why rainwater harvesting?

In many regions of the world, clean drinking water is not always available and this is only possible with tremendous investment costs and expenditure. Rainwater is a free source and relatively clean and with proper treatment it can be even used as a potable water source. Rainwater harvesting saves high-quality drinking water sources and relieves the pressure on sewers and the environment by mitigating floods, soil erosions and replenishing groundwater levels. In addition, rainwater harvesting reduces the potable water consumption and consequently, the volume of generated wastewater.

Application areas

Rainwater harvesting systems can be installed in both new and existing buildings and harvested rainwater used for different applications that do not require drinking water quality such as toilet flushing, garden watering, irrigation, cleaning and laundry washing. Harvested rainwater is also used in many parts of the world as a drinking water source. As rainwater is very soft there is also less consumption of washing and cleaning powder. With rainwater harvesting, the savings in potable water could amount up to 50% of the total household consumption.

Criteria for selection of rainwater harvesting technologies

Several factors should be considered when selecting rainwater harvesting systems for domestic use:

- Type and size of catchment area
- Local rainfall data and weather patterns
- Family size

- Length of the drought period
- Alternative water sources
- Cost of the rainwater harvesting system.

When rainwater harvesting is mainly considered for irrigation, several factors should be taken into consideration. These include:

- Rainfall amounts, intensities, and evapo-transpiration rates
- Soil infiltration rate, water holding capacity, fertility and depth of soil
- Crop characteristics such as water requirement and length of growing period
- Hydrogeology of the site
- Socio-economic factors such as population density, labour, costs of materials and regulations governing water resources use.

Components of a rooftop rainwater harvesting system

Although rainwater can be harvested from many surfaces, rooftop harvesting systems are most commonly used as the quality of harvested rainwater is usually clean following proper installation and maintenance. The effective roof area and the material used in constructing the roof largely influence the efficiency of collection and the water quality.

Rainwater harvesting systems generally consist of four basic elements:

- (1) A collection (catchment) area
- (2) A conveyance system consisting of pipes and gutters
- (3) A storage facility, and
- (4) A delivery system consisting of a tap or pump.

Figure 2 shows a simple schematic diagram of a rooftop rainwater harvesting system including conveyance and storage facilities.

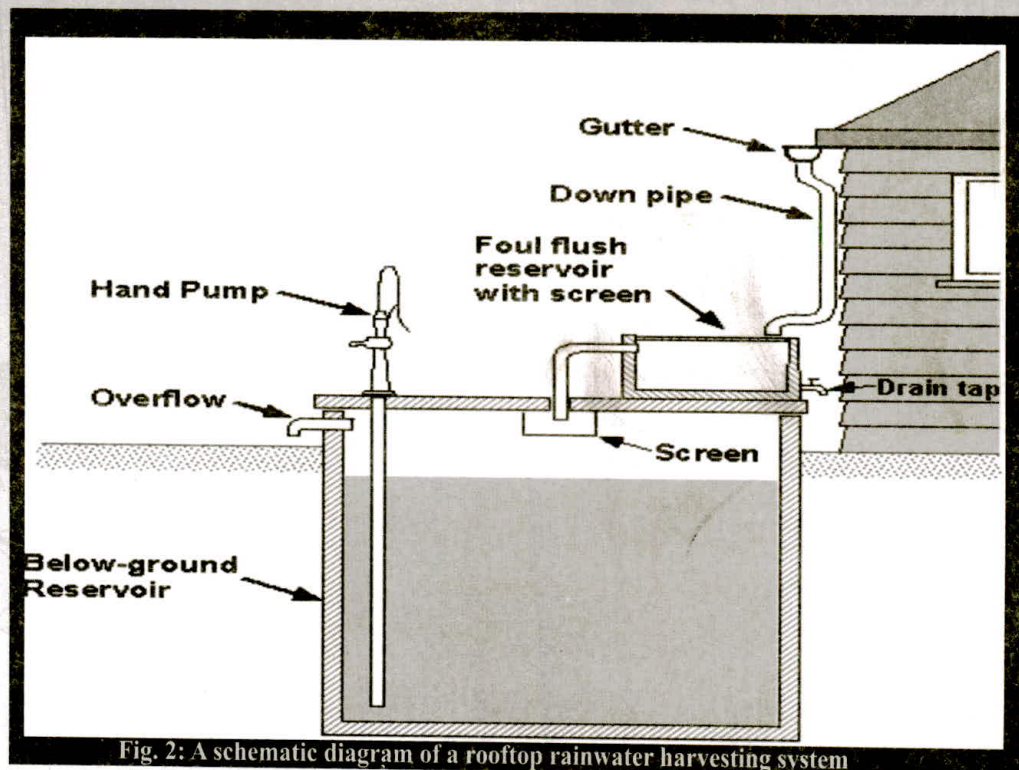


Fig. 2: A schematic diagram of a rooftop rainwater harvesting system

The efficiency of rainwater harvesting depends on the materials used, design and construction, maintenance and the total amount of rainfall. A commonly used efficiency figure, **runoff coefficient**, which is the percentage of precipitation that appears as runoff, is 0.8.

For comparison, if cement tiles are used as a roofing material, the year-round roof runoff coefficient is about 75%, whereas clay tiles collect usually less than 50% depending on the harvesting technology. Plastic and metal sheets are best with an efficiency of 80-90%.

For effective operation of a rainwater harvesting system, a well designed and carefully constructed gutter system is also crucial. 90% or more of the rainwater collected on the roof will be drained to the storage tank if the gutter and down-pipe system is properly fitted and maintained. Common materials for gutters and down-pipes are metal and plastic, but also cement-based products, bamboo and wood can be used.

Types of rainwater use

Rainwater systems can be classified according to their reliability, yielding four types of user regimes:

- Occasional - water is stored for only a few days in a small container. This is suitable when there is a uniform rainfall pattern with very few days without rain and when a reliable alternative water source is available.
- Intermittent - in situations with one long rainy season when all water demands are met by rainwater. During the dry season, water is collected from other sources.
- Partial - rainwater is used throughout the year but the 'harvest' is not sufficient for all domestic demands. For example, rainwater is used for drinking and cooking, while for other domestic uses (e.g. bathing and laundry) water from other sources is used.
- Full - for the whole year, all water for all domestic purposes comes from rainwater. In such cases, there is usually no alternative water source other than rainwater, and the available water should be well managed, with enough storage to bridge the dry period.

Benefits of rainwater harvesting

Rainwater harvesting in urban and rural areas offers several benefits including provision of supplemental water, increasing soil moisture levels for urban greenery, increasing the groundwater table via artificial recharge, mitigating urban flooding and improving the quality of groundwater. The major benefits of rainwater harvesting are summarized below:

- ❑ Rainwater is a relatively clean and free source of water
- ❑ Rainwater harvesting provides a source of water at the point where it is needed
- ❑ It is owner-operated and managed
- ❑ It is socially acceptable and environmentally responsible
- ❑ It promotes self-sufficiency and conserves water resources
- ❑ Rainwater is friendly to landscape plants and gardens
- ❑ It reduces stormwater runoff and non-point source pollution
- ❑ It uses simple, flexible technologies that are easy to maintain
- ❑ Offers potential cost savings especially with rising water costs
- ❑ provides safe water for human consumption after proper treatment
- ❑ Low running costs

- ❏ Construction, operation and maintenance are not labour-intensive.

Disadvantages

The main disadvantages of rainwater harvesting technologies are the limited supply and uncertainty of rainfall. Rainwater is not a reliable water source in times of dry periods or prolonged drought. Other disadvantages include:

- ❏ low storage capacity which will limit rainwater harvesting, whereas, increasing the storage capacity will add to the construction and operating costs making the technology less economically feasible
- ❏ Possible contamination of the rainwater with animal wastes and organic matter which may result in health risks if rainwater is not treated prior to consumption as a drinking water source
- ❏ Leakage from cisterns can cause the deterioration of load-bearing slopes
- ❏ Cisterns and storage tanks can be unsafe for small children if proper access protection is not provided.

Sustainability

Rainwater harvesting is one of the most promising alternatives for supplying water in the face of increasing water scarcity and escalating demand. The pressure on water supplies, increased environmental impact from large projects and deteriorating water quality, constrain the ability to meet the demand for freshwater from traditional sources. Rainwater harvesting presents an opportunity for the augmentation of water supplies allowing t the same time for self-reliance and sustainability.

Maintenance

Maintenance is generally limited to the annual cleaning of the tank and regular inspection and cleaning of gutters and down-pipes. Maintenance typically consists of the removal of dirt, leaves and other accumulated material. Cleaning should take place annually before the start of the major rainfall season. Filters in the inlet should be inspected every about three months. Cracks in storage tanks can create major problems and should be repaired immediately. should be taken into consideration during construction and maintenance of a rainwater harvesting system.

Did you know that..

- ➡ A well is not for storing water. The well connects the surface to the underground water sources. Based on the underground water availability during a rainy season, the water level in the well will go up and down.
- ➡ Long after the rains have stopped, the well gets its water from the underground sources leaking into it.
- ➡ Where you get water using a bore-well, rainwater did percolate through any soil structure at the ground level, including rocky, laterite rock surface.
- ➡ Every bore well will eventually go dry, some sooner, some later.
- ➡ Use a bore well in reverse. Use a dried up bore well to recharge the underground supply by adding a percolation pit at the top

Internet Basics

Diwakar Naidu, Assistant Professor (Computer Science)



Web server

A web server can mean two things - a *computer* on which a web site is hosted and a *program* that runs on such a computer. So the term web server refers to *both hardware and software*. IIS is web server software.

The web server computer - the hardware

A web site is a collection of web pages which are digital files generally written using Hyper Text Markup Language (HTML). For a web site to be available to everyone in the world at all times, it need to be stored or "hosted" on a computer that is connected to the internet 24/7/365. Such a computer is known as a Web Server You can potentially host a web site on your home computer but this involves a lot of work and constant monitoring. It is easier to "buy" web hosting from a company because there are thousands that offer this service at reasonable prices. You can not only get web hosting but also a domain name and a web site really cheap!

There are several requirements for a Server computer - it needs to be fast, have a large storage capacity hard disk and lots of RAM. But the most important is having a permanent internet address also known as an I.P. (Internet protocol) address. If the I.P. address changes, the web site would not be found and will appear offline - the browser will display a 'cannot find' web site error.

The web server program - the software

A web server program is software that runs on the web site hosting Server computer. Its main purpose is serving web pages; which means it waits for requests from web browsers (also known as clients) and responds by sending the required data back. This client-server interaction is the hallmark of how the web works.

There are many web server programs available. The most famous and popular of them all is Apache developed by the Apache Foundation. Not only is Apache free but it is also available for several operating systems including Windows, Macintosh and Linux/Unix. Two of the most popular web servers are Apache and Microsoft Server.

Role of web server on the Internet

Web servers - the computer or the program - have a vital role on the Internet. The Server machine *hosts* (stores) the web site on its hard disk while the server program helps *deliver* the web pages and their associated files like images, flash movies etc. to clients (internet browsers).

The process of loading a web site/page in a web browser starts with the user either entering the URL in the address bar or clicking on a link. You should know that each web page has a *unique* address (or URL) on the internet; which means the same page cannot exist in two places. (If a copy does exist in another location, its address would be different from that of the original).

Once the appropriate action has been initiated by the user, the browser sends out a request for the web page. Behind the scenes, the URL of the requested web page is **resolved into an I.P. address**, which,

in English, means, *converted to an I.P. address* - something that computers understand. The I.P. address points to the location of the web site host. The request is forwarded to Server computer and passed on to the server software.

The server software now gets to work and hunts for the requested web page on the hard disk. On finding the file, it sends a *response* to the browser followed the actual web page file which then starts displaying the page.

A typical web page not only has text but also embedded multimedia elements like images and Flash animation. These "extra" files are separate from the actual web page and are fetched by the browser from the Server one by one. Note (and an important one), *ONLY the web browser determines how a web page is displayed*; the web server has no control over this. The job of the web server ends once the requests from the browser are processed and the required information is sent.

Though it might seem that the request-and-response process takes a lot of time, especially when you consider that the client and server computers might be thousands of miles apart, it actually happens very fast. That's because of the HyperText Transfer Protocol (HTTP) which is a set of rules developed to facilitate the transfer of data over the internet.

Do you think a computer can be both a web server and a client? Yes! If you install Apache on your local computer, it will work both as a Server and Client!

Our home computers CAN act like web servers. Here are a few things we need:

- ✧ A static I.P. (Internet protocol) address
- ✧ 24/7 Internet connectivity (a fast connection would definitely help)
- ✧ Web server software
- ✧ A stable and reliable operating system

The main work of a web-server software is to process requests from browsers (also called clients) and respond with the correct information, typically a web page. Web servers also correspond with other software to see that web pages and web site files are delivered or processed smoothly.

In addition, to a web server, a web host would have other software such as an email server (that processes emails), a database server (MySQL, Oracle, mSQL etc.), and an FTP server (that allows you to connect to the Server machine using the File Transfer Protocol).

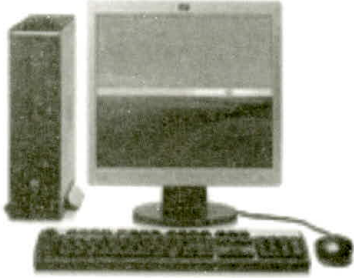
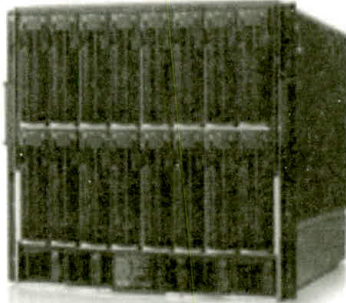
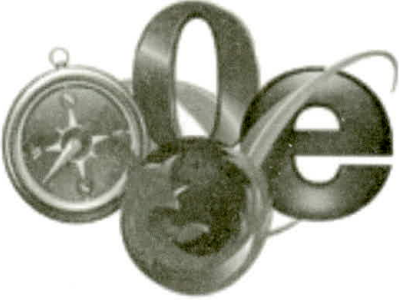

Web hosting servers also have certain server-side programming languages installed which help build web applications such as shopping carts, guest books etc. Some of the popular server-side programming languages are Perl, PHP, JSP, python etc.

Client-side and server-side programming languages – Differences

Programs written in client-side languages are *executed on the client (web browser)*. The most well-known client-side language is JavaScript

Server-side languages, on the other hand, *run on the Web Server machine*. examples are PHP, Python, Ruby, Java (not JavaScript) are other server-side languages commonly used to build web applications. Since client-side scripts run only on clients, they are limited in scope. For instance, you cannot employ a database or send email using JavaScript! They are, however, useful in **creating interactive web pages**... pages that 'respond' to visitor actions such as mouse-clicks, mouse movements etc. Client-side scripts also have the advantage of time – data can be processed and delivered almost instantly to the *viewer*.

Compared to a client-side script, response from a server-side program is slower. This is because the scripts are processed on the remote computer. To run a server-side script, the user first has to send a request to the server which then executes the program and then, if everything went off well, sends the results back to the client (typically a web page).

| Client | Servers |
|--|--|
| Hardware | Hardware |
|  |  |
| Software | Software |
|  |  |

| Clients-side languages | Server-side languages |
|--|--|
| Run on the client (web browser program). | Run on the server. |
| Respond almost instantaneously to user actions and hence used to build <u>interactiveweb pages</u> . | Responses from server-side scripts are typically slower and depend, among other things, on the speed of the internet connection and server load. |
| Cannot be used to store data; actually, only a few details can be maintained through cookies but these can be deleted by the user. | Can store any amount of data on the server in databases. |
| No support for email. | Emailing visitor inputs from a web site is one of the most common applications of server-side languages. |

Nanotechnology is a gift for human beings

S. K. Tiwari, Assistant Professor (Chemistry)



Nanotechnology refers broadly to a field of applied science and technology whose unifying theme is the control of matter on the molecular level in scales normally 1 to 100 nanometers, and the fabrication of devices within that size range. It is a highly multidisciplinary field, drawing from fields such as applied physics, materials science, colloidal science, device physics, supramolecular chemistry and even mechanical and electrical engineering. Two main approaches are used in nanotechnology. (1) In the "bottom-up" approach, materials and devices are built from molecular components which assemble themselves chemically by principles of molecular recognition. (2) In the "top-down" approach, nano-objects are constructed from larger entities without atomic-level control. Examples of nanotechnology in modern use are the manufacture of polymers based on molecular structure, and the design of computer chip layouts based on surface science. Carbon has proved a useful element in nanotechnology. One of the science's building blocks is a molecule that contains 60 carbon atoms arranged in a sphere. A molecule of C_{60} looks like the geodesic dome invented by Buckminster Fuller, thus its nickname: buckyball. Modern synthetic chemistry has produced a wide variety of useful chemicals such as pharmaceuticals or commercial polymers. The human body makes quick and constant work of assembling raw materials like calcium and keratin to create elaborate structures like bones and skin. Compared with the work a blood cell does, scientists are "pretty much inept," admits Jim Heath, a Caltech chemist who is developing nanoscale sensors capable of detecting and diagnosing cancers. "But we're learning. We've come a long way in the past two years. Heath's goal is to identify cancers early, when they are still just a few thousand cells strong and far easier to treat. Unlike HIV or malaria, which produces unique antibodies identifiable from a simple blood test, cancers are difficult to spot. Nonetheless, they do leave what Heath calls a fingerprint: a change in the number and type of proteins that regularly circulate in the blood. Determining which combination of proteins makes up the unique signature of a particular cancer is an ongoing project. "To diagnose one cancer reliably in early stages, we probably need to measure 20 or 25 different proteins," Heath says. "So to develop a test that would identify 20 different cancers, we'd need about 500 measurements. And we would want to be able to do that easily, with just a finger prick of blood." Heath has already developed nanosize sensors called nanowires that can electronically detect a few protein molecules along with other biochemical markers that are early signs of cancer. Heath's strategy is to coat a collection of nanowires with different compounds, each of which binds to one particular marker. When the marker, which can be a protein, an antibody, or DNA, latches on, it changes the conductivity of the nanowire, creating a tiny but measurable alteration in current. Heath has combined tens of thousands of these sensors onto a single chip, which allows him to detect cancer-signifying molecules in blood while their concentration is still low. The chips also allow him to identify what types of cancer are present. Currently, heath reports, his chip can detect between 20 and 30 relevant biomolecules. He plans to begin using the chip to detect brain cancers this summer. Richard Smalley was one scientist who followed Heath's progress carefully. Smalley's non-Hodgkin's lymphoma was a

relatively slow-moving cancer, but even when he was in remission, between a hundred million and billion cancer cells circulated in his body (a number that doctors consider relatively low). One of the advantages of treating cancer in an early stage is that the cells are less likely to have mutated and become resistant. Drug resistance is one of the trickiest things about cancer, which adapts so rapidly that medications can rarely keep up. "You don't want a killing mechanism to be fancy," Smalley said. It needs to be fast and thorough. To kill the tumor, West activates the shells with infrared rays that pass harmlessly through the skin but heat the gold, killing the adjacent tumor cells. Because the cancer cells die, they don't develop the resistance that can plague drug-based cures. Moreover, because the nanoshells lodge only in the tumor and are nontoxic unless activated by infrared light, West expects her treatment to be nearly side-effect free particularly compared with treatments like chemotherapy and radiation. The potential impact of nanofilters is substantial. Many regions in World and also in India have drinking water that contains dangerously high levels of arsenic and other industrial pollutants. Because of this, use water treatment systems that utilize nanoparticles to eliminate toxic chemicals. "Right now, nanoscale iron is a bit too expensive to be used to treat wastewater. And it's the best way to clean up concentrated arsenic, and I expect that its cost will come down soon. So we can say that nanotechnology is a gift for us.



SOLAR LED AND LIGHT FIXTURE FOR AGRICULTURE

C. K. Sharma, Assistant Professor (Electronics and Instrumentation)

Agricultural engineer designs LED lighting system for Agriculture. The Agriculture Solar LED lighting system with Agriculture Solar PV panel power option for facilities.

LED lighting available for rearing: historically, there has been little progress in using LED lighting in animal rearing facilities, but a new low-wattage LED system has recently entered the market. Engineered specifically for animal rearing facilities, a new low-wattage light-emitting diode LED lighting system with an optional Agriculture Solar power supplement has recently entered the market.

Each LED fixture has been designed, built and engineered specifically for use in Agriculture industry. Historically, there has been little progress in using LED lighting in Agriculture facilities for many reasons. First, prior to now, there have not been LED fixtures that can provide the needed consistent brightness levels in foot candles that are high enough to maintain adequate health, performance with weight gain & feed conversion, or be considered humane light levels. Tests have been conducted which show there is no drop in performance with the use of the Agriculture Solar system.

Agriculture Solar LED Light System was specifically designed to prevent voltage drops. Agriculture Solar has developed a digitally-controlled lighting system that steps down 110-120VAC power to 24DCV via junction boxes close to the fixtures within the facility itself. This has guaranteed enough light intensity and consistency for proper growing operations. The Agriculture Solar system can also be supplemented with Agriculture Solar pv panels to reduce even more the reliance on power from the utility company.

This Agriculture Solar system provides super-bright, digitally programmable, washable, fully dimmable at low and high intensities, long lasting, low wattage LED lighting with maximum of 1.7 watts per fixture. While allowing animal producers to save on energy expenditures and recoup equipment and installation costs, often in fewer than one year.

Each LED fixture in the Agriculture Solar system draws between 1 and 1.7 W, which is significantly lower and much more efficient than incandescent, cold cathode, or fluorescent bulbs. This is a tremendous savings in energy, and with the Agriculture Solar pv option even more so.

Agriculture Solar LED lights consume less energy to provide light because they function differently from other types of lighting commonly used in animal growing operations such as incandescent, fluorescent and cold cathode bulbs. LED lights are based on a semiconductor that contains two terminals called a diode. When the diode is set to the ON position, electrons flow in one direction to combine, and light is given off from the electrons themselves. This functions quite distinctly from incandescent lights, which produce light from heat-driven emissions, or fluorescent bulbs, which produce light from electrons completing a circuit through a gas-containing mercury that can be difficult to dispose of legally.

- LED fixtures may be powered either by Agriculture Solar or conventional AC power

- Each 24VDC Agriculture Solar system LED fixture draws approximately 460 amps
- One typical building circuit with 250 Agriculture Solar system LED fixtures would consume less than 400 watts of power
- Electrical wires are plugged into a wiring harness fitting about 12.7cm lead on each fixture
- Agriculture Solar system can be switched on by either an automatic timer or manually
- The brightness on the floor was consistently measured at 3-4 foot candles, enough to humanely rear livestock without any drop in performance

LED lights are up to three times more efficient than fluorescent lights and up to six times more efficient than incandescent bulbs and may last up to 100,000 continuous hours approximately 11.4 years. As an additional savings, the Agriculture Solar system can be powered by low-cost solar panels. Please contact us today to learn more about LED lighting use in Agricultural applications.



Soft Skills for Engineering Students

Kirti Jain

Santosh graduated from a good engineering college in first division. Despite his best efforts he could not secure a decent job. The best that he could get for his academic achievements are offers from second rate companies. After many painful and disappointing efforts, he got the feedback that the problem lies in his soft skills or rather the lack of them. Twenty first century is the age of globalization and computer technology. In this global village top companies prefer to have employees with excellent communication and soft skills. So, what then are soft skills and in what way are they important for engineering students? Soft skills are those influential tools which are useful in interacting with others in an effective manner showcasing one's talents and effective harnessing of one's man management skills. We can broadly divide soft skills into following areas:

- Oral Presentation Skills
- Written Presentation Skills
- Interview Skills
- Group Discussion, Decision and Team Work
- Oral Presentation Skills

Employers will look for a candidate's performance as an individual and will observe and assess one based on one's presentation. There are many important aspects in prepared oral presentations. But the most important of them are Needs analysis of one's audience. If one knows a candidate's audience well and their expectation, the job is half-done. One should know the level of their knowledge, their status and their current needs and expectations. Once one is thorough with one's backgrounds one can see that one's confidence level is automatically high priming one nicely for the actual performance.

Actual performance and Time management It is always better to remember a classic adage that there is a lot of difference between knowing and doing. Performing on the stage on the big day will become satisfactory if one pays close attention to some routine but extremely important details. One's body language should exude confidence, enthusiasm and energy. So practice a lot in front of a mirror or (even better) in front of one's close friends and well wishers. Make sure that one has the necessary technical skills when using latest technology in power point presentations etc. One's stance (the way one stands and delivers using postures and gestures), one's expression (clarity of thought, tone) is as important as the content. Last but not the least make sure one has some alternative ideas and plans in case of a power cut (in case of using slides for the presentation) or any other unforeseen disturbance. **Time Management and the Power of Positive Thinking** We are living in a busy world with tight schedules and deadline pressures. Prospective employers don't give much time for freshers nor are they sympathetic to one's worries, anxieties and concerns.

The golden maxim that first impression is the best impression. So be thorough in one's preparation and present a positive, vibrant, enthusiastic and optimistic outlook in one's performance. **Written Presentation Skills** The opening paragraph of our report should tell the essence of our ideas in an interesting- easy to read - manner. Avoid using jargon wherever possible. A very useful technique is to start in a catchy narrative style giving examples. For fresh graduates this usually means advertising themselves in an effective

manner. Prepare a paragraph explaining in what way we can be an asset to the organization. Remember that on most occasions the reports are read by higher authorities. They are used to reading many such reports. So they can easily judge our writing skills. So always one has to keep the reader in mind and write accordingly. A very useful technique is to use the point-wise style of writing. Highlight the important points we want the reader to notice. The formal nature of writing demands spelling accuracy as well as grammatical accuracy.

An interview is an interaction between two or more persons for a specific purpose and plays a very important role in the modern world. It is the main source through which applicant's skills will be analyzed. According to P.V.Young, Hader and Lindman, an interview is an arranged and planned conversation which is used for judging the suitable job for a particular position. Modern interviews are of scientific process. Selection depends on various qualification, experience and communication skills. Good communication skills are mandatory. One's responses should be in clear and audible voice. Use simple but effective sentences. Excellent listening skills would be an additional benefit. Brushing general knowledge and going through the current affairs will be a great help during the interview. Knowledge about the subject is needed. Mental alertness, self-confidence, will-power, determination and optimism etc will always create everlasting positive impression. Group Discussions, Decisions and Team Work. Students always remember the importance of soft skills only at the time of placements, but by then it is too late. What should the anyone do in such circumstances? Soft skills training is a long term program and so students should be made aware of its importance at all levels.



अय्यूब रजा की परीक्षा

ऊज देश में अय्यूब नाम एक पुरुष था। वह खरा और सीधा था और परमेश्वर का भय मानता और बुराई से दूर रहता था। उसके सात बेटे और तीन बेटियाँ उत्पन्न हुई। उसके सात हजार भेड़-बकरियों, तीन हजार ऊँट, पाँच सौ जोड़ी बैल, और पाँच सौ गदहियाँ और बहुत से दास-दासियाँ थी। वरन उसके पास इतनी सम्पत्ती थी कि पूर्वी देशों के लोगो में वह सब से बड़ा था। उसके बेटे बारी-बारी से एक दूसरे के घर खाने-पीने को जाया करते थे और अपनी बहिनों को अपने संग खाने पीने के लिए बुलावा भेजते थे। जब-जब भोज का दिन पूरा हो जाता, तब-तब अय्यूब उन्हें बुलवाकर पवित्र करता, और बड़े भोर को उठकर उनकी गिनती के अनुसार होमबलि चढ़ाता था। क्योंकि अय्यूब सोचता था कदाचित मेरे लड़को ने पाप करके परमेश्वर को छोड़ दिया हो। इस प्रकार अय्यूब उस समय सदैव किया करता था।



एक दिन परमेश्वर के पुत्र उसके सामने उपस्थित हुए और उनके बीच शैतान भी आया। परमेश्वर ने शैतान से पूछा तू कहां से आता है? शैतान ने परमेश्वर से कहा मैं पृथ्वी पर से इधर-उधर घूमते-फिरते और डोलते डालते आया हूँ। परमेश्वर ने शैतान से पूछा क्या तू ने मेरे दास अय्यूब पर ध्यान दिया उसके तुल्य खरा और सीधा और मेरा भय मानने और बुराई से दूर रहने वाला मनुष्य और कोई नहीं है। शैतान ने परमेश्वर से पूछा क्या अय्यूब परमेश्वर का भय बिना लाभ के मानता है क्या आप ने उसके घर और जो कुछ है उन सब में आपकी बाड़ा चारो ओर बंधी है आप की आशीष जो उसके ऊपर है आप सब जो कुछ उसके पास है शैतान के हाथ कर दिया। और परमेश्वर ने कहा उसके शरीर पर हाथ न लगाना। तब शैतान ने अपना काम किया जिसने पशु बैल थे अन्य लोग धावा बोलकर ले गया। उसके बच्चे जो घर में खाना खा पी रहे थे अचानक दिवाल गिर गयी और हर चीज नष्ट हो गई। फिर भी अय्यूब ने परमेश्वर के विरुद्ध कोई पाप नहीं किया और कहा मैं अपने माँ के पेट से खाली हाथ आया हूँ और खाली हाथ लौट जाऊंगा। फिर शैतान परमेश्वर के पास गया और कहा क्या तू ने मेरे दास अय्यूब पर ध्यान दिया। शैतान ने परमेश्वर से कहा खाल के बदले खाल जान के बदले जान अगर आप उसके शरीर को मेरे हाथ में करदे तो जरूर आपकी निन्दा करेगा। परमेश्वर ने कहा उसकी प्राण छोड़ कर सब तेरा है। तब अय्यूब के पास से लेकर सिर तक कोढ़ हो गया। वह राख में बैठ गया और लट्ठा लेकर खुद को खुजलाने लगा। उसकी पत्नी कहने लगी अब तो परमेश्वर की निन्दा कर उसने कहा क्या मूर्ख जैसे बात करती है। हम पहले सुख में थे तो क्या अब हम दूख न झेले। फिर भी अय्यूब ने परमेश्वर के विरुद्ध कोई पाप नहीं किया। बाद में परमेश्वर ने उससे सात गुना ज्यादा आशीष दी। फिर अय्यूब जैसा था उससे सात गुना ज्यादा फलवन्त हो गया।

व्यक्ति का कर्म इस प्रकार होना चाहिए कि जैसा परमेश्वर ने खुद अय्यूब की प्रशंसा की न की उसने खुद अपनी प्रशंसा की जिसकी प्रशंसा खुद परमेश्वर करे वह कर्म है।

राजकुमार

2nd year

जीवन एक सीख



ये मेरे दोस्त की कहानी है। नाम था उसका अजय। जब अजय अपने गाँव से कहीं दूसरे जगह बस से जा रहा था। बस में बहुत भीड़ थी। जितने बैठे थे, उससे ज्यादा खड़े थे उन खड़े लोगो में आखरी तरफ एक ऐसी महिला थी। जिसके पास एक साल का बच्चा था। जिसके कारण वह ठीक से खड़ी नहीं हो पा रही थी, मेरा दोस्त यानी अजय वही आखरी सीट में बैठा था। तो महिला ने अजय से कहा भाई साहब आप मेरे बच्चे को पकड़ लीजिए तो उसने पकड़ लिया। वहीं रास्ते में एक रेलवे फाटक आया जो खुला था तो ड्राइवर बस अन्दर ले गया लेकिन जैसे ही वो बस अन्दर ले गया फाटक बंद हो और सब देखे की सामने से ट्रेन भी आ रही थी अब सब का चेहरा देखने लायक हो गया बस में एक ही दरवाजा था जो दरवाजे के पास थे हडबड़ी से बाहर निकलने लगे गेट जाम हो गया। अब कौन देख रहा था। औरत को पहले या बच्चे को पहले, सब एक साथ निकलेंगे सोचते थे और एक कॉमन सी चीज, कुछ लोग बस ड्राइवर को गाली देने लगे, खीड़की के बगल वाले कॉच तोड़ने का प्रयास करने लगे ये सोचकर की थोड़ा मोड़ा चोंट सह लेंगे, जान तो बच जाएगी लेकिन कॉच भी कुछ कम कड़ा नहीं था वैसे उस समय जो सूझा सो सही। मेरा दोस्त बेचारा कुछ कर भी नहीं सकता था एक तो सबसे पीछे था और हाथ में एक साल का बच्चा था और पता नहीं कि बच्चे की माँ बेचारी भीड़ भाड़ के धक्के में कहाँ फसी थी। ट्रेन की बड़ती आवाज सुन के बेचारे अजय की हालत भी कुछ खराब हो रही थी गुस्सा भी आ रहा था, लेकिन बेचारा कुछ कर भी नहीं सकता था। बस ऑख बंद करके भगवान को याद करने लगा लेकिन ऑख खोली महोल कुछ शांत होने लगा उसका कुछ समझ नहीं आया ये क्या हो रहा है, लेकिन जब उसने बाहर देखा तो मान गया भगवान सच में है और मुसीबत में मदद करते हैं। उसने देखा कि ये तो कुछ फिल्मी हो गया था, ट्रेन कुछ ही दूरी में रुक गयी थी और ट्रेन का ड्राइवर के बस के ड्राइवर के बारे में पुछ रहा था जिसका कुछ अता-पता नहीं था।

“वैसे इसका मोरल कुछ जाना पहचाना सा है कि रेलवे फाटक को देख कर पार करें क्योंकि घर में आपका कोई अपना इंतजार कर रहा है।”

गोपेश कुमार निराला

2nd year

Last Day at College

राह देखा था इस दिन कि कब से,
 आगे के सपने सजा रखे थे न जाने कब से,
 बड़े उतावले थे यहाँ से जाने को,
 जिन्दगी का अगला पड़ाव पाने को,
 पर न जाने क्यूँ ... दिल में आज कुछ ओर आता है,
 वक्त को रोकने का जी चाहता है।
 जिन बातों को लेकर रोते थे आज उन पर हसी आती है।
 न जाने क्यूँ आज उन पलों की याद बहुत आती है।
 कहा करते थे बड़ी मुश्किल से 4 साल सह गये।
 पर आज क्यूँ लगता है कि कुछ पीछे रह गया।
 न भूलने वाली कुछ यादे रह गयी।
 मेरी टांग अब कौन खीचा करेगा।
 सिर्फ मेरा सर खाने कौन मेरा पीछा करेगा।
 जहाँ 2000 का हिसाब नहीं वहाँ 2 रुपये के लिए कौन लड़ेगा।
 कौन मेरे नये-नये नाम बनायेगा।
 मैं अब बिना मतलब का किससे लड़ूंगा।
 बिना टॉपिक के किस से फालतू बात करूंगा।
 कौन फेल होने पर दिलासा दिलायेगा,
 कौन गलती से नम्बर आने पर गॉलिया सुनायेगा।
 ढाबे पर चाय किस के साथ पियूंगा
 वे हसीन पल अब किस के साथ जियूंगा।
 ऐसे दोस्त कहाँ मिलेंगे जो खई में भी धक्का दे आये,
 पर फिर तुम्हे बचाने खुद भी कुद जाये।
 मेरे गानों से परेशान कौन होगा।
 कभी मुझें किसी लड़की से बात करते देख हैरान कौन होगा।
 कौन कहेगा साले तेरे जोंक पर हंसी नहीं आई।
 कौन पीछे से बुला के कहेगा आगे देख भाई
 अचानक बिन मतलब के किसी को भी देख कर पागलों की तरह हंसना।
 न जाने फिर ये कब होगा।
 दोस्तों के लिए प्रोफेसर से कब लड़ पायेंगे।
 क्या हम ये फिर कर पायेंगे।
 कौन मुझें मेर काबिलियत पर भरोसा दिलायेगा।
 और ज्यादा हवा में उड़ने पर जमीन पर लायेगा।
 मेरी खुशी में सच में खुश कौन होगा।
 मेरे गम में मुझसे ज्यादा दुखी कौन होगा
 कह दो दोस्तों से दुबारा कब होगा।



दिपक किण्डो
3rd year



Thoughts

Borrow Trouble For Yourself,
If that's your nature,
But don't lend it to your neighbours
The avoidance of taxes is the
Only intellectual
Pursuit that still carries
Any rewards
There is always a choice,
The decision to make is
Whether you have
The courage



Smita Jaiswal

सपना

सपना ऐसा देखों कि पुरा हो जायें सपना
सपना ऐसा न हो कि बनकर रह जायें सपना
सपना ऐसा देखों कि सच हो जायें सपना
सपना ऐसा देखों कि निखर जायें सपना
सपना ऐसा देखा कि जीना सीखा दे सपना
सपना ऐसा देखों कि जीवन बन जायें सपना
सपना ऐसा देखा कि हर लक्ष्य बन जायें सपना
सपना ऐसा देखों कि मंजिल पर ले जायें सपना
सपना ऐसा देखो कि झूठ कभी न हो सपना
सपना ऐसा देखो कि, नित नया आयाम को सपना
सपना ऐसा देखों कि हर मुश्किल न हो सपना
सपना ऐसा देखों कि साकार हो जायें सपना
सपना ऐसा देखों कि सब हो जायें अपना



नीतू भगत
2nd year

कुछ सच्ची बातें

गरीब मीलों चलता है, खाना खाने के लिए।
अमीर मीलों चलता है, खाना पचाने के लिए।।
किसी के पास खाने के लिए एक वक्त की रोटी नहीं है।
किसी के पास रोटी खाने के लिए वक्त नहीं है।।
कोई लाचार है इसलिए बीमार है।
कोई बीमार है इसलिए लाचार है।।
कोई अपनों के लिए रोटी छोड़ देता है।
कोई रोटी के लिए अपना को छोड़ देता है।।
ये दुनिया भी कितनी निराली है।
कभी वक्त मिले तो सोचकर देखना



कन्हैया लाल ठाकुर
2nd year

प्राणवान पंक्तियाँ

जीवन में सुसुप्त अवस्था में छुपे हुए उत्साह
तत्परता, निर्भयता और प्राणशक्ति को जगाने के लिए उपयोगी प्राणवान सूक्तियाँ।
जहाजों से जो टकरायें, उसे तूफान कहते हैं।
तुफानों से जो टक्कर लें, उसे इंसान कहते हैं।।
हमें रोक सके ये जमाने में दम नहीं।
हमसे है जमाना जमाने से हम नहीं।।
बाधाएं कब रोक सकी है पथ पे बढ़ने वालों को।
विपदाएं कब रोक सकी है, आगे बढ़ने वालों को।।
मैं छुई मुई का पौधा नहीं, जो छुने से मुड़झाजाऊं।
मैं वो माई का लाल नहीं, जो हौवा से डर जाऊं।।
जो बीत गयी सो बीत गयी, तकदीर का शिकवा कौन करें।



रजनी साहू
2nd year

जो तीर कमान से निकल गयी उस तीर का पीछा कौन करें ।।

खुदी को कर बुलन्द इतना कि हर तकदीर से पहले ।

खुदा बन्दे से पूछे बता तेरी रजा क्या है ।।

अपने दुख में रोने वाले मुस्कुराना सीख ले ।

दूसरों के दूख दर्द में, आंसू बहाना सीख ले ।।

जो खिलाने में मजा, वो आप खाने में नहीं ।

जिंदगी में तू किसी के, काम आना सीख ले ।।

भारतीय संस्कृति की परम्पराओं का महत्व

किसी भी देश की संस्कृति उस देश की आत्मा होती है। भारतीय संस्कृति की गरिमा अपार है। इस संस्कृति में ऐसी परम्परायें चली आ रही हैं, जिनके पीछे तात्विक महत्व और वैज्ञानिक रहस्य छिपा हुआ है। उसमें से मुख्य निम्न प्रकार हैं

नमस्कार: दिव्य जीवन का प्रवेश द्वार

नमस्कार अर्थात् नमन, वंदन या प्रणाम। जिस प्रकार पश्चिम संस्कृति में भोकहैण्ड किया जाता है। वैसे भारतीय संस्कृति में दो हाथ जोड़कर, सिर झुकाकर प्रणाम करने का रिवाज है। जब हम दोनों हाथ जोड़कर ऊंगलियों को ललाट पर रखते हैं। आँखें अर्धोन्मिलित रहती हैं। दोनों हाथ जुड़े रहते हैं और हृदय पर रहते हैं। यह मुद्रा हमारे विचारों पर संयम वृत्तियों पर अंकुश तथा अभिमान पर नियंत्रण लाती है।

तिलक: बुद्धिबल व सत्वबलवर्धक

ललाट पर दोनों भौंहों के बीच विचार भाक्ति का केन्द्र है जिसे योगी लोग आज्ञाशक्ति का केन्द्र भी कहते हैं। इसे शिवनेत्र अर्थात् कल्याणकारी विचारों का केन्द्र भी कहते हैं। वहाँ पर चंदन का तिलक या सिंदूर का तिलक करने से विचारशक्ति विकसित होती है। इसलिए हिन्दू धर्म में कोई भी भूभ कर्म करते समय ललाट पर तिलक किया जाता है।

दीपक

दीपक हमें अज्ञान को दूर करके पूर्ण ज्ञान प्राप्त करने का संदेश देता है। दीपक अंधकार दूर करता है। मिट्टी का दीया मिट्टी से बने हुए भारी का प्रतीक है और उसमें रहने वाला तेल अपनी जीवनशक्ति का प्रतीक है। मनुष्य अपनी जीवनशक्ति से मेहनत करके संसार से अंधकार दूर करके ज्ञान का प्रकाश फैलाए ऐसा संदेश दीपक हमें देता है।

कलश

विवाह आदि भुभ प्रसंगो पर, उत्सवों में घर में कलश अथवा घड़े वगैरह पर आम के पत्ते रखकर उसके ऊपर नारियल रखा जाता है। भारतीय संस्कृति ज्ञान, प्रेम, उत्साह, भाक्ति, त्याग, ईश्वरशक्ति, देशप्रेम आदि से जीवन को भरने का संदेश देने के लिए कलश को मंगलकारी प्रतीक मानती है।

स्वास्तिक

स्वास्तिक अपना प्राचीन धर्मप्रतीक है। देवताओं की भाक्ति और मनुश्य की मंगलमय कामनाएं इन दोनों के संयुक्त सामर्थ्य का प्रतीक है स्वास्तिक

भांख

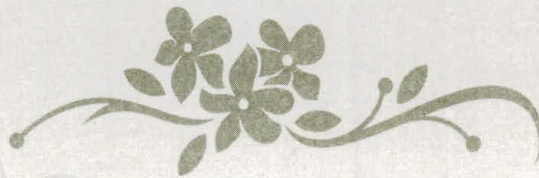
भारत के वैज्ञानिक श्री जगदीश चंद्र बसु ने सिद्ध करके दिखाया भांख बजाने से जहां तक उसकी ध्वनी पहुंचती है वहां तक रोग उत्पन्न करने वाले हानिकारक जीवाणु नष्ट हो जाते हैं। उसी कारण अनादि काल से प्रातः काल और संध्या के समय भांख बजाने का रिवाज चला आ रहा है।

ओम कार

ओम के उच्चारण से जीवनशक्ति उर्ध्वागामी होती है। इसके सात बार के उच्चारण से भारीर के रोग के कीटाणु दूर होने लगते हैं तथा चित्त से हताशा निराशा भी दूर होती है। यही कारण है कि ऋशि मुनियों ने सभी मंत्रों के आगे ओम जोड़ा है।

तिरंगा झण्डा

अपना राष्ट्रीय झण्डा एकता अखण्डता और गौरव का प्रतीक है। अपने राष्ट्रीय ध्वज में तीन रंग हैं।



बेरोजगार

कंधो पर लटकालो डिग्रियों का बोझ,
नौकरी की तलाश में भटकता है वा रोज।
माँ के इलाज के लिए पैसा भी जुट नहीं पाता है,
रोज सुबह मंजिल की तलाश में निकल जाता है।
घर लौटाता है वो लबो पर साधे विरान मौन,
हाँ वो बेरोजगार है भला उसे नौकरी पर रखें कौन।

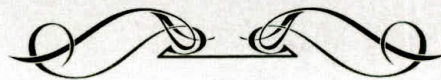
कल वो जिन्दगी से होकर हताश
कर रहा था भायद मौत की तलाश।
कि सामने से एक बस कुचलती चली गयी,
तड़प-तड़प कर उसने दूँद ली मौत की राह नयी।
फिर किसी ने उसके मौत का मूल्य लगाया,
उसकी बुढ़ी माँ को 10 हजार का अनुदान थमाया।
मानो उस माँ की आँख में खुशीया झलक रही थी,
बेटे को नौकरी मिल गयी यह बात चमक रही थी।
जब मैने उसकी माँ को दिलासा देते हुए कहाँ
अब तेरा बेटा दूनियाँ में नहीं रहा।

मिल गयी है उसे नौकरी इस जहाँ में न जाने के लिए भेजा है
ये रुपये अपने अंतिम संस्कार कराने के लिए

कितनी कठोर दिल की माँ थी वो,
बेटे की मौत पर रोयी भी न जो।
ठहाके मार-मार कर वो हँसने लगी थी,
बेटे को नौकरी मिल गयी सोच कमर कसने लगी थी।
चली कही भी सही उसे नौकरी तो मिली,
चिता पर सोने के लिए सही, नौकरी तो मिली।



चन्द्रप्रकाश
2nd year



साहित्य और जीवन

अंधकार वहाँ-वहाँ जहाँ आदित्य नहीं।
मुंदी है वो देश, जहाँ साहित्य नहीं।

भारत आदिकाल से ही एक साहित्य प्रधान देश रहा है यहाँ सूरदास, कालीदास, महादेवी वर्मा, सूर्यकांत त्रिपाठी, जैसे महान कवियों का जन्म हुआ है। और पूरे विश्व में भारतीय साहित्य का अपना एक गौरवशाली स्वर्णिम इतिहास रहा है, लेकिन वर्तमान परिदृश्य में मनोरहम साहित्यिक संसार कहीं खोता जा रहा है। इसका मुख्य कारण लोगो में साहित्य का प्रचार-प्रसार न हो माना और लोगों में साहित्य के प्रति उदासीनता जिम्मेदार है, जिसके कारण साहित्य अपनी प्रासंगिकता खेती जा रही है। वर्तमान परिवेश में हमें इसे प्रोत्साहित करने की आवश्यकता है। ताकि भारत पुनः साहित्य में अपनी खोयी हुई पहचान बना सके।



कबिरा मह तन जात है, सके तो राख बहोर।
खाली हाथ न वो गये, जिनके लाख करोर।।

रामकरण यादव
2nd year

कौन कहता है कि समंदर की कोई सीमा नहीं होती,
बस एक बार तू उस पार देखने की जुर्रत तो कर
फिर तब मुझे बता हद ए समंदन नहीं
होती या हद-ए-खुद तू नहीं जानता था।
उड़ जाओं उम्मीदों और हौसलों, के पर लगाकर
और जीत लो उस आसमान को,
जिसे तू सितारों का पनाह और अनछुआ जानता था।
भूल जाओं कि ये धरती अनंत है।
रुख करों बिना रुके अपनी उस मंजिल की ओर।।
पना है नामुमकिन जिसे तू मानता था।।



टंकेश कुमार निशाद
2nd year

"ONE should have self belief and confidence for executing any kind of work, it is appreciating that even a laboures turns happy be doing labour for the entire day despite having inadequate resources but despite having all sort of luxurious facilities. Satisfaction plays a vital rate in bringing happiness life..."

Bhupendra Sahu
2nd year



हर महीने इंडियट दिवस मनाइये

जरा याद करने की कोशिश कीजिए।

- पिछली बार कब आपने पूरा एक दिन बिना किसी योजना के, अपनी मर्जी से बिताया।
- पिछली बार कब आपने ऐसा दिन बिताया, जब आप अपनी इच्छा से बिजनेस से जुड़े फोन नहीं उठाये, इंटरनेट पर अनावश्यक सर्फिंग नहीं की, और जोर-जोर से चिल्लाकर न्यूज सुनाने वाले चैनल नहीं देखे।
- पिछली बार कब आप अपनी इच्छा से बारिश में भीगे और सड़क के किनारे भुट्टे खाये।
- पिछली बार कब आपने कैलोरी की चिन्ता किये बिना पसंदीदा भोजन का आनंद लिया।
- पिछली बार कब आप बच्चों की तरह पतंग उड़ाने छत पर चढ़े और सड़क पर क्रिकेट खेली।
- पिछली बार कब आपने बाथरूम में डांस करते हुए चीख-चीखकर बेसुरा गाना गाया।
- पिछली बार कब आपने सड़क किनारे पर खड़े ठेले से ढेर सारे गोलगप्पे उड़ाये।
- पिछली बार कब आपने बच्चों की तरह मस्ती और धमा चौंकड़ी की।



साथियों, सफलता की इस होड़ ने जिन्दगी को मशीन बनाकर रख दिया है, जिन्दगी के हर पल लक्ष्य, टाइम टेबल, योजना, ड्रीम, सफलता और असफलता जहाँ से शब्दों ने कब्जा कर लिया है, जो समय इम परिवार व बच्चों के साथ बिताते हैं, उसमें भी मोबाईल और टीवी का आधिपत्य हो गया है। यह अत्यधिक व्यस्तता कम उम्र में बड़ी बीमारियों का आमंत्रण पत्र बन गयी है। लोग कहते हैं, जब आप बड़े हो जाते हैं तो आप बच्चों की तरह जिन्दगी एंजाय नहीं कर पाते। इसके उलट मेरा मानना है, जिस दिन आप बच्चों की तरह जिन्दगी एंजाय करना बंद कर देते हैं, उस दिन से आप बड़े हो जाते हैं, जिस तरह से निश्चित अंतराल में गाड़ी सर्विसिंग के लिए जाती है, उसी तरह से एक निश्चित अंतराल में शरीर और मन की सर्विसिंग होना चाहिए। जिस तरह से उद्योगों के मेन्टेनेन्स हेतु उन्हें कुछ दिन के लिए बंद किया जाता है। उसी तरह शरीर और मन के मेन्टेनेन्स के लिए कुछ दिन काम बंद होना चाहिए। यदि कोई बड़ी उम्र का व्यक्ति सड़क पर खेलते दिखे, पतंग उड़ाते दिखे, उधममस्ती करते दिखे, बारिश में भीगता दिखे, बाथरूम में चिल्लाकर गाता दिखे तो सहसा अनेक लोगों के मुंह से निकल पड़ता है। कैसे इंडियट की तरह बर्ताव कर रहे हैं या क्या इंडियट आदमी है, लेकिन अगर इंडियटपन जिन्दगी का हिस्सा बन जाये तो कैसा रहेगा। यदि हर महीने में एक ऐसा दिन हो जिस दिन कोई नियम ना हो, कोई योजना ना हो, कोई बंधन ना हो, और कोई झिझक ना हो। आप अपने पसंद के कार्य कर पाये, और वह दिन आपने मन के भीतर बैठे इस बच्चे को फिर से जगा सके। एक ऐसा फालतू दिन जब मोबाईल, टीवी और इंटरनेट से तलाक हो जाए और असली जिन्दगी से प्यार हो जाए। वो दिन एक ऐसा दिन हो जब आप सिर्फ पसंद का कार्य करें गाना गाएं, पेंटिंग करे, बनायें, डांस करे, सड़क पर खेले, लटर-पटर चीजें खाएं, मनपसंद पिकचर देखें, यूंही पार्क की एक चेयर पर वक्त बिता दें या बाथरूम में घण्टों नहाते रहे। आप चाहे जो भी करें परन्तु वह ऐसा काम हो जिससे आपका दिल बाग-बाग हो जाये। आप खूब ठहाके लगाकर हंस सके और जिन्दगी को शुक्रिया कह सके। इंडियट दिवस मनाकर लोगो ने जिन्दगी में खुशी और उल्लास के रंग भर लिए। जागिए हर दिन को काम का दिन बनाकर दबावों में मत रहिए।

पावर थिंकिंग की मदद से हर महीने अथवा 15 दिन में अपना सारा तनाव हटाने के लिए एक दिन अपनी पसंद से जिन्दगी बिताइये। फिर चाहे उसे इंडियट डे कहे, तो भी क्या फर्क पड़ता है एक दिन अपने भीतर छुपे उस नन्हे से बच्चे को खुश करने के लिए बिताइये। जिन्दगी के एक दिन को जूनून से, दिवानगी में, बेखौफ होकर, इंडियट की तरह जीने का साहस सिर्फ एक पासर थिंकर कर सकता है। क्योंकि उसकी जिन्दगी का रिमोट कंट्रोल उसके पास होता है।

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