GNDEC NEWS LETTER

PRODUCTION ENGINEERING
An autonomous college u/s 2(f) and 12 (B) of UGC Act-1956
Gill Park, Gill, Road, Ludhiana-141006

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INSTITUTE OVERVIEW

PRESTIGIOUS INSTITUTE WITH A MISSION

Guru Nanak Dev Engineering College, one of the: post independence and minority institutions of Northern India. It was established under the aegis of Nankana Sahib Education Trust (NSET) in 1956. The trust was founded in memory of the most sacred temple of Nankana Sahib, birth place of Guru Nanak Dev Ji. Shiromani Gurudwara Prabandhak Committee, Amritsar is the main force behind the institute having mission of "Removal of Economic Backwardness through Technology" NSET established a Polytechnic in 1953 and Guru Nanak Dev Engineering College (GNEC) in 1956. The Trust deed was registered on 24th February 1953 with a commitment by Nankana Sahib Education Trust to uplift the vast weaker section of Indian polity comprising Rural India by admitting 70% students every year from Rural Areas. This commitment was made to the Nation on 8th April, 1956. The day when foundation stone of the College was laid by Late Dr. Rajendra Prasad Ji, the First President of India.

Autonomous Status: The College was affiliated to Punjab University, Chandigarh since its inception. On establishment of Punjab Technical University, Jalandhar, since 1997 the college is affiliated to it, which is now known as I.K.Gujral Punjab Technical University (IKGPTU). The College courses are approved by All India Council for Technical Education, New Delhi. This is the first Engineering College of Punjab, which was conferred Autonomous Status by University Grants Commission(UGC), New Delhi in 2012 under section 2(f) and 12(B) of UGC Act 1956.

Accreditation Under Washington Accord: The College undergraduate courses are accredited with National Board of Accreditation, New Delhi since 2004, now the same are accredited under Tier-I (Washington Accord). The college is accredited with 'A" Grade by NAAC, UGC. Tata Consultancy Services (TCS) has accredited this college twice for placement purpose.

Research Projects and Grants: The College is also ISO 9001-2008 Certified. MHRD, Govt. of India has sanctioned Rs. 10 Crores for Technical Education Quality Improvement Programme-II (TEQIP-II) to this College and the Department of Science and Technology (DST) also sanctioned Rs. 1 Crores under FIST Programme for carrying out the research activities. The College has received grant to the tune of Rs. 5 Crores for research & other activities by different agencies like AICTE, UGC and DST etc. GNDEC is overall sports champion of Punjab Technical University (Now, IKGPTU) & also in its survey declared GNDEC Best Engineering college in year 2011 and 2012 & 2014 for excellent placements amongst all its affiliated colleges.

Professionalism with Societal Values: There is one N.C.C. Company in the institution attached with 3 Pb., Bn N.C.C. (Boy Cadets = 79, Girl Cadet = 27), Total of 106 Cadets. Three and a half units of N.S.S. having a total of 350 volunteers have been allotted by IKGPTU to provide opportunities to the students for Social Services in various fields like blood donation, plantation, cleanliness etc. However a total of more than 1000 volunteers are enrolled in NSS in the College each academic year. FM Radio Station has been established after sanction by Govt. of India for educating the general public. The College has been ranked consistently within first 50 engineering colleges of the country which includes IITs and NITs by different independent national agencies like India Today, Outlook, CSR, Star TV etc. since 2006.

FROM MENTOR'S DESK

EMPLOYMENT AVENUES

An important component of technical education

Employability Needs To Be Developed Amongst Students Categorised As:

1. (20-30) % - Intelligent and self motivated.
2. (40-50) %- Less intelligent and hard working need guidance
3. (15-20) % - Below average, need spoon feeding,
4. (5-10) % Not interested in education, need to be channelized.

There is need to create in classes group of students' who could opt for product design and research in high technology areas i.e., humanised and automatic machines.

1. Classical physics + mech. inventions ⟶ Make mech machines
2. Modern physics+ Micro-engineering ⟶ Make micro machines
3. Bio-physics+Mechatron ⟶ Make humanized or intelligent machine

Employment Openings:

1. Design of knowledge based system: mechatronics, automation, MEMS, ROBOTICS, AUTO CAD/CAM, software programming data analysis, IT industry, space exploration, bio-medical engineering.

2. Manufacturing : I.C. engines, automobiles , aircraft industry, cycle industry, machine tools, air conditioning and refrigeration, sugar mill, steel plants, ship building, electrical equipment and generators, rail coaches, earth moving machines , tractors, washing machines.

3. Maintenance: power plants, oil refineries, cement plants, merchant navy plants, and roadways fleets.

4. Sales and management: interdisciplinary areas, equipments-product, m-product.

5. Service: IES, army, air force, navy, ONGC, electricity and pollution board.

6. Teaching: PG research, colleges, I.I.Ts, N.I.Ts, DRDO, aerospace lab. (Via GATE)

AVENUES OF EMPLOYMENT	%age EMPLOYABILITY TREND			
	1991	2000	2010	2020
INDUSTRY & WORLD MARKET, MULTINATIONAL	20	25	25	30
GOVT DEPERTMENT & ENGG BOARD	20	15	10	8
TEACHING IN UNIVERSITY/TECHNICAL INSTITUTE	10	15	20	12±2
MANAGEMENT STUDIES/IT/SOFTWARE COURSE	5	10	12	15
PG ENGG COURSE IN INDIA & ABROAD	5	5	10	10
COMPETITIVE POST: IES, IAS,DEFENCE,R&D,ONGC	5	5	5	6
SMSE,ENTRETRENEURSHIP,OUT-SOURCING	5	8	10	12
UNEMPLOYED	30	17	8	7

Note: Employed-40% Under Employed- 50% Unemployed- 5-10%

INNOVATION IN AREA

A bacterium species capable of breaking down plastic — polyethylene terephthalate (PET) — has been identified by a team of Japanese researchers. The bacterium uses two enzymes in sequence to break down the highly biodegradation-resistant polymer PET. The results are to be published on 11 March, 2016 in the journal Science. Except for rare instances of two fungi that have been found to grow on a mineral medium of PET yarns, there are no reports on any bacteria biologically degrading PET or growing on the chemically inert substance. Shosuke Yoshida, the first author of the paper from the Department of Applied Biology, Kyoto Institute of Technology, Kyoto and others collected 250 contaminated samples from a PET bottle recycling site. They looked for microorganisms that relied on PET film as a primary source of carbon for growth. At first they identified a distinct microbial consortium that contained a mixture of bacteria species that degraded the PET film surface at 30 degree C; 75 per cent of the PET film surface was broken down into carbon dioxide at 28 degree C. From the microbial consortium, the researchers isolated a unique bacterium — Ideonella sakaiensis 201-F6 — that could almost completely degrade a thin film of PET in a short span of six weeks at 30 degree C. "The PET film was almost fully degraded after six weeks at 30 degree C," they note. The bacterium degrades PET using two enzymes that act on it in sequence. First, the bacterium adheres to PET and produces an intermediate substance through hydrolysis. The second enzyme then works with water and acts on this intermediate substance to produce the two monomers — ethylene glycol and terephthalic acid — used for making PET through polymerisation.

PET has been littering the environment for the last 70 years and, in 2013, 56 million tonnes of PET were produced worldwide. Since PET came into being only 70 years ago, a pertinent question is how this distinct bacterium evolved or naturally selected in the environment. Also, is not clear what natural processes were at play for the two unique enzymes capable of breaking down PET in sequential steps to evolve.

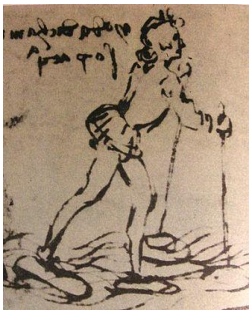
Source: The Tribune

HUMAN MACHINE- A PERFECT BIO MECHANIC STRUCTURE

Dr. R.S. Seehra

Human posses perfect bio mechanic structure. So many links and mechanisms are joined in body in perfect position. Time to time scientists/ researchers tried to challenge the nature by pushing human body to its extreme. As walking on land is simple example of working of human bio mechanism in perfect position. Walking on water, a concept was suggested by Leonardo da Vinci. It was merely an idea derived from water displacement as for walking on water one must need different shoe type arrangement. Then human body is set to walk on land under gravity. Walking on some other surface is difficult for human as on moon's surface. But it is a miracle that scientists managed the human body to walk on moon where gravitation force is six times lower than that on earth.

Man walking on land



Leonardo da Vinci model Waking on water

Neil Armstrong first man to walk on moon

Bio-mechanics with enormous applications in engineering, medical science, sports, space science, dancing activities and cricket is new generation knowledge.

NEW RESEARCH GRANTS

❖ Research Grant **Rs 29 Lacs** for Production Engineering Department, year 2016-19, for the project, "Friction welding for dissimilar plastic materials**"** granted by Department of Atomic Energy under Technology system development programme (Govt. Of India).

❖ A new manufacturing lab in Production Engineering Department has been set up and is fully functional. In this research lab many research activities will be taken and for this new machinery has been purchased under different project grant schemes.

❖ **04** students of M.Tech Production Engineering Department (Ranvijay Kumar, Sudhir kumar, Vinay kumar, Gulvir Singh) got S. Amarjeet Singh Pabla research award for the year 2016.

STUDENTS PROJECT: It is a proud moment for college and Production engineering department that three of the students (Sudhir kumar. Ranvijay Singh and Vinay kumar) from M.Tech Production engineering have got research grant of 50,000 Rs. from IEI, Institute of Engineers (Kolkata) under the guidance of Dr. Rupinder Singh, Professor Production engineering department. These students are working on project in emerging area of technology.

Annual Meeting of Board of Governor of GNDEC has been scheduled On 28 March2016.

- 5th Academic council meeting of the institute is scheduled on 2nd April at 10 am
- **T**he Convocation for B.Tech. MBA, MCA (2014 & 2015 pass out), M.Tech. Full-Time (2012 & 2013 Admission Batch), M.Tech. Part-Time (2011 & 2012 Admission Batch) and Ph.D is scheduled to be held on April 2nd (Saturday), 2016 at 2 PM. **Dr.(Professor) Jaspal Singh Sandhu**, Secretary, UGC is the Chief Guest on the occasion.

WELCOME
Er. Manjot Singh Bedi
Asst. Prof. of Prod. Engg. Deptt.

FROM STUDENT'S EDITOR

Important information

GATE (Graduate aptitude test in engineering) an important step for engineering graduates

It is national level examination conducted by one of IITs on 1st and 2nd week of Feb. every year for all branches. Result for the same is declared on 3rd or 4th week of March and admission in all colleges including IITs start from April. Final year students and pass out student may appear for this exam. Now a day's every leading company in India requires a valid gate score to apply for. Gate score is applicable for three years for M.Tech and PhD admissions. But for job purpose every company requires a fresh gate score every year. It means you must be up to date every year if you want job in leading national or state level govt sector. Like PSPCL (Punjab state power corporation limited) invites application for A.E. (assistant engineer) every year on GATE score basis. Like this many other options are available with gate score. DRDO (defence research and development organisation), ISRO (Indian space and research organisation), NTPC, CIL(Coal India Limited), SJVN, HEL(heavy engineering corporation),(BHEL)Bharat Heavy Electricals Limited, GAIL (India) Limited, Indian Oil Corporation Limited, NTPC Limited, Oil & Natural Gas Corporation Limited, Steel Authority of India Limited.

FROM CAMPUS REPORTER'S POINT

Now a day's "job hunting" becomes an art. Today, a successful job search is more complicated than having a good resume! Resumes are still very important, but becoming professionally and positively visible in social media particularly ,you must also do well in job interviews, protect your privacy, and manage your online reputation, regardless of how well qualified you are. It's important that you don't try and blame others for your job hunting difficulties. Focus on positive action rather than negative thoughts. Brush pessimism to one side and look to the future. What's happened has happened, but by taking control of the current situation and letting your personality shine through, you will overcome this. Unfortunately it's rare to be offered the first job you apply for, it's just not that easy. So, accept rejection as part of the process and always ask for, and even more importantly learn from, feedback. The job you don't get helps you next time so always push for feedback and act on it.