

TEQIP-III Sponsored Event

START-UP-2019

(Smart Technology Augmented
Resource Transformations-
Ushering Progress)

“A HACKATHON CUM
START-UP AWARENESS
EVENT”

19/08/2019-21/08/2019

(Open to all Indian Nationals)

Being Jointly Organized by



**RAJIV GANDHI GOVT. ENGG. COLLEGE
KANGRA AT NAGROTA BAGWAN
DISTT. KANGRA
HIMACHAL PRADESH**

&

**DEPARTMENT OF TECHNOLOGY
SHIVAJI UNIVERSITY, KOLHAPUR
MAHARASHTRA
(Twinning Partner)**

ABOUT THE INSTITUTES

Rajiv Gandhi Government Engineering College (RGGEC), Kangra at Nagrota Bagwan

Rajiv Gandhi Government Engineering is a State Government funded Engineering College located in Nagrota Bagwan, Distt. Kangra, Himachal Pradesh, India. The College was set up in the year 2014. At present, the Institute is running four engineering courses in Civil Engg., Electrical Engg., Electronics & Communication Engg. and Mechanical Engg. along with 5 years B. Arch. course. The College is one of the five Government Colleges affiliated to the Himachal Pradesh Technical University (HPTU), Hamirpur and approved by All India Council for Technical Education (AICTE), New Delhi. Recently, the Institute has been adjudged amongst the best performing institutions in the state of Himachal Pradesh in respect of World Bank funded TEQIP-III project.

Department of Technology (DoT), Shivaji University, Kolhapur

This institute is twinning partner (mentor institute) of RGGEC under TEQIP-III project. Shivaji University Kolhapur started DoT in June 2006. The aim was to provide opportunity for students to learn technology education and research of global standard for the human resource development. Firstly, four M. Tech courses were started in 2006 and five B. Tech courses were started in 2008. DoT is approved by AICTE. Admissions are as per AICTE and DTE, Govt of Maharashtra norms. The relation between two institutes is growing at a comfortable pace with long term vision to collaborate in academic and research domains.

ABOUT START-UP-2019

In tune with its meaning **START-UP** may be abbreviated as **Smart Technology Augmented Resource Transformations-Ushering Progress**. A unique Open Innovation Model for identifying new and disruptive technology innovations to solve the challenges faced in our country. It will be a non-stop awareness campaign and solution development competition, wherein problem statements are posed to creative students for innovative solutions. It can help to:

-) Harness creativity & expertise of students
-) Build funnel for 'Start-up India' campaign
-) Crowd-source solutions for improving governance and quality of life
-) Provide opportunity to citizens for providing innovative solutions to India's daunting problems.

PROCEDURE

Through online mode proposed solution [Product based (hardware/software) /Service based (hardware/software)] to the predefined problems will be sought in a time bound manner. Then scrutiny of such proposals will be done through specialised empaneled faculty. Finally selected candidates will be called for the START-UP-2019 whereby they have to accomplish their task (with demonstration) in time bound manner.

AWARDS

Position	Amount
1 st	20,000/- (Twenty Thousand Only)
2 nd	15,000/- (Fifteen Thousand Only)
3 rd	10,000/- (Ten Thousand Only)
4 th	05,000/- (Five Thousand Only)
5 th	03,000/- (Three Thousand Only)

PROPOSED SCHEDULE

DAY 01 (19/08/2019)		DAY 02 (20/08/2019)		DAY 03 (21/08/2019)	
S.NO.	Period	Event	S.NO.	Period	Event
1.	10:00 AM – 10:30 AM	Welcome and Inaugural ceremony.	1.	09:00 AM – 01:00 PM	PPT Presentations and model Demonstration.
		Sub Event: SRIJAN (Start-up, Research & Innovation. Jointly Augmenting Novelty) -2019	2.	01:00 PM – 02:00 PM	Lunch Break.
2.	10:30 AM – 11:00 AM	Introduction to start-up and related activities in the institution.	3.	02:00 PM – 04:00 PM	Evaluation and Result Preparation.
3.	11:00 AM – 11:30 AM	Tea and Snacks.	4.	04:00 PM – 05:00 PM	Result announcement and felicitation ceremony.
4.	11:30 AM – 12:30 PM	Expert Talk (Industrialists).			
5.	12:30 PM – 02:00 PM	Lunch Break.			
6.	02:00 PM – 03:00 PM	Expert Talk (Incubator / Patent officials).			
7.	03:00 PM onward	Start of Hackathon-2019.			

DAY 02 (20/08/2019)		DAY 03 (21/08/2019)			
S.NO.	Period	Event	S.NO.	Period	Event
1.	09:00 AM – 01:00 PM	PPT Presentations and model Demonstration.	1.	09:00 AM – 01:00 PM	PPT Presentations and model Demonstration.
2.	01:00 PM – 02:00 PM	Lunch Break.	2.	01:00 PM – 02:00 PM	Lunch Break.
3.	02:00 PM – 04:00 PM	Evaluation and Result Preparation.	3.	02:00 PM – 04:00 PM	Evaluation and Result Preparation.
4.	04:00 PM – 05:00 PM	Result announcement and felicitation ceremony.	4.	04:00 PM – 05:00 PM	Result announcement and felicitation ceremony.

PROBLEM STATEMENTS

1. Monkey Menace & Stray Cattle

Damage by raiding animals especially monkeys has become a menace of unprecedented magnitude. Today not just village residents but city dwellers are also struggling to cope with monkey menace and stray cattle. According to National Institute of Disaster Management, Himachal Pradesh loses farm produce worth Rs 500 crore annually due to wild animals, including monkeys. Also it has been estimated that the state lost crops worth Rs 2,200 crore due to monkeys between 2007 and 2012. Compounding magnitude has increased to such a level that state has to implement its highly contentious policy of killing the sacred animal monkey against INR 500 per dead body produced. In this regard following may be considered to devise some feasible solutions:

-) Body neutral embedded sensor based technology/software systems that facilitate **Warning** (Agricultural-fields, road accidents etc.); **Monitoring** (censuses, owner details, diseases, sterilisation, gender etc.); **Regulating** (Proximity alarms, deterrents, smart fencing etc.)
-) Any other feasible solution.

2. Traffic Jam

Today we have some **state of the art** intelligent camera and devices for tracking the vehicle and monitoring traffic. Devise some solutions that may use such data for:

-) Inform citizens the status of the traffic jam.

- J Provide custom media reports.
- J Receive and update situation reports from crowd-sourced platforms.
- J Any other innovative solution.

3. Waste Management

Per capita waste generation is estimated to be increasing by 1.3% per annum with urban population increasing between 3– 3.5% / annum. Annual increase in waste generation is around 5% annually. India produces 42.0 million tons of municipal solid waste annually at present. Per capita generation of waste varies from 200 gm. to 600 gm. per day. Average of waste generation rate is 0.4 kg per capita per day in 0.1 million plus towns. Collection efficiency is between 50% to 90% of the solid-waste generated. Urban Local Bodies spend Rs.500/- to Rs.1500/- per ton on solid waste management of which, 60-70% of the amount is on collection alone and 20% – 30% on transportation. No fund is spent on treatment and disposal of waste. Crude dumping of this waste is practiced in most of the cities. Some feasible solution may be devised by considering the following:

- Segregation of the waste.
- Smart collection and disbursal system using smart phones etc.
- Special focus on electronic and plastic waste management.
- Recycling/possible substitutes.
- Policy guidelines of Swachh Bharat Mission.
- Any other solution.

4. Exam paper leaking

To resolve Exam paper leaking today we rely on the honesty and judgment of individual to disseminate the question papers and that in-itself bears the key to the problem. Any feasible solution may be devised considering the following:

- QR code based encoding.
- Mobile monitoring and verification system.
- Enhanced security solutions.
- Mobile phone or any other electronic device tracking system.
- Crowd-sourced whistle-blower solutions.
- Any other innovative solution.

5. Sanitation Behavioural Change

Economic impact of inadequate sanitation is 5.2 % of GDP, today. Any public awareness solutions promoting behaviour change through participatory hygiene - leading to sanitation transformation may be provided by considering the following:

- Games, Info-apps or Tools
- Fun and innovative approaches
- Peer education for children
- Any other solution.

6. Sexual harassment

Thousands of women at a certain stage of their life may have experienced sexual harassment. Studies show that due to social oppression and fear of retaliation the reported number is far less than the real number. Hence a solution is required where victims of sexual harassment can safely report the crimes committed against them. Any feasible solution may be provided considering the following:

- Ensure personal safety.
- Connects women to safety networks.
- Crowd-sourced complain system.
- Awareness for violence against women.
- Any other consideration.

7. Rise of Non-Communicable Diseases (NCD)

Non-communicable diseases include heart disease, stroke, most cancers, asthma, diabetes, chronic kidney disease and more. They are the leading cause of death in the world, representing over 60% of all deaths. For any feasible solution may consider the following:

- Awareness Solutions.
- Health Awareness Apps.
- Fitness Apps and tools.
- NCD Risk Tracking.
- Any other solution.

8. Corruption

Corruption is rampant in public procurement, in tax and customs collection and in regulatory authorities. Awards of public and private tenders are frequently marred by corruption allegations. To provide any feasible solution following may be considered:

- Crowd-sourced solutions.
- Beyond the scope of whistle blowing.
- Can bring in the culprits under proper inspection.
- Solutions that provide information related to corruption-prone transaction.

- Make the public aware of the pitfalls.
- Any other consideration or solution.

9. Sexual and Reproductive Health

Today, our girls and boys are not in a position to exercise their sexual and reproductive health rights. They lack reliable and timely information and life skills. Hence the following may be considered to provide a feasible solution.

- Sexual and reproductive health awareness solution games.
- Information apps.
- Health related query solutions.
- Easy to understand and can reach the young adolescents.
- Any other consideration or solution.

10. Road Safety

Overloaded or un-roadworthy vehicles, worsening road condition, blind contortions, lack of awareness of safe road use, poor traffic management and poor driver training are among many reasons for the high levels of road traffic accidents. Following may be considered to find a feasible solution.

- Traffic safety awareness
- GPS enabled accident reporting app
- Black-spot mapping
- Crowd-sourced complain app against bad drivers
- Personal accident safety apps
- Black-spot alarm
- Route declaration app
- Any other consideration or solution.

11. Smart Class-room Boards

To ensure the sustainable balance between the various demands, knowledge and technology it is imperative to help teachers to meet new challenges and developing students' abilities and performance. And also to enable teachers to access multimedia content and information that can be used for teaching students more effectively. For any feasible solution following may be considered:

- Harnessing smart technologies like speech recognition to develop smart classroom boards that can display the verbal interaction into editable notes etc.
- Dust / refill free multi-colour writings and graphics etc.

12. Gender Equity

It is envisioned that men and women should be treated equally in social, economic and all other aspects of society, and not to be discriminated against on the basis of their gender. The United Nation's Millennium Development Goals Report states that their goal is to "achieve gender equality and the empowerment of women". Despite economic struggles in developing countries, the United Nations is still trying to promote gender equality, as well as help create a sustainable living environment to all its nations. For suggesting any feasible solution the following may be considered:

- Policy awareness and monitoring system/software.
- Specific measures against girl feticide and infanticide.
- Any other consideration or solution.

13. Rain water harvesting

India's water crisis is often attributed to lack of government planning, increased corporate privatization, industrial and human waste and government corruption. In addition, water scarcity in India is expected to worsen as the overall population is expected to increase to 1.6 billion by year 2050. In this regard a suitable solution may be suggested considering the following:

- Policy awareness and monitoring system/software
- Channelization of surplus rainwater to replenish the depleting ground water resources.
- Water recycling, aquifer mapping and recycling etc.
- Any other solution.

14. Synergy of body, mind and soul

It is no ordinary feat to keep a complex machine—made up of several micro and macro parts—up and running every day. But the human body, consisting of 37.2 trillion cells and multiple organs, performs this herculean task—from the time we are born until we die—even with hiccups. The body manages to achieve this extraordinary feat by functioning as a single unit with the mind. Research has proven that this mind-body connection is vital for the overall functioning of a human being. The mind and the body are not separate. What affects one affects the other. An imbalance in the body can often find its root in an imbalance in the mind, and vice versa. In this regard following may be considered to find some feasible solutions:

- Awareness and management system/ software.

- Services based model.
- Integrating religious offerings and human welfare activities.
- Any other solution.

15. Renewable Energy

Renewable energy resources and significant opportunities for energy efficiency exist over wide geographical areas, in contrast to other energy sources, which are concentrated in a limited number of countries. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, would result in significant energy security and economic benefits. It would also reduce environmental pollution such as air pollution caused by burning of fossil fuels and improve public health, reduce premature mortalities due to pollution and save associated health costs that amount to several hundred billion dollars annually. Following may be considered to find some feasible solutions:

- Possible alternatives.
- Efficiency improvement modifications in the existing ones.
- Any other consideration or solution.

16. Waste Food Management

Food waste or food loss is food that is discarded or lost uneaten. The causes of food waste or loss are numerous and occur at the stages of producing, processing, retailing and consuming. Global food loss and waste amount to between one-third and one-half of all food produced. Loss and wastage occur at all stages of the food supply chain or value chain. In low-income countries, most loss occurs during production, while in developed countries much food – about 100 kilograms per person per year – is wasted at the consumption stage. In this regard following may be considered to find some feasible solutions:

- Optimum food requirement for healthy life.
- Influence of exercise and meditation to keep sustainable balance between body health and energy (food) requirements.
- Smart collection and disbursal system using smart phones.
- Community refrigerators on sharing basis.
- Awareness and management software.

17. Forest Fire

The most common hazard in forests is forests fire. Forests fires are as old as the forests themselves. They pose a threat not only to the forest wealth but also to the entire regime of fauna and flora. This is seriously disturbing the bio-diversity and the ecology & environment of a region. Traditional methods of fire prevention are not proving effective and it is now essential to raise public awareness on the matter, particularly among those people who live close to or in forest areas. Following may be considered to devise some feasible solutions:

- Policy specific tracking and monitoring system.
- Awareness campaigns and effective information dissemination system.
- Effective and efficient collection of highly combustible foliage and its alternative uses.
- Any other consideration/solution.

18. Afforestation - A Need of The Hour

Afforestation is highly important to maintain biodiversity and ecological balances. It is also important to prevent global warming, soil erosion and pollution. Afforestation purifies the environment and helps in reducing the carbon dioxide level. Following may be considered to devise some feasible solutions:

- Policy specific tracking and monitoring system.
- Awareness campaigns and effective information dissemination system.
- Integrating celebrations/gifts through Plantation drive/ plants.
- Any other consideration/solution.

19. Individual Responsibility Towards Mother Nature

Being "socially responsible" is about all individuals behaving ethically and sensitively towards social, economic, and environmental issues. It is about being accountable for our actions and being conscious of the impact your actions have on others, our communities, and the environment. In this regard following may be considered to find some feasible solutions:

- Individual specific plans/targets with effective monitoring and regulations of the same.
- Integration of the measurable outcomes with governmental benefits, services and jobs etc.
- Any other consideration/solution.

20. Drug Abuse and Addiction

India is trapped in the vicious circle of drug abuse, and the numbers of drug addicts are increasing day by day. According to a UN report, One million heroin addicts are registered in India, and unofficially there are as many as five million. The picture is grim, if the world statistics on the drugs scenario is taken into account. With a turnover of around \$500 billion, it is the third largest business in the world, next to petroleum and

arms trade. About 190 million people all over the world consume one drug or the other. Drug addiction causes immense human distress and the illegal production and distribution of drugs have spawned crime and violence worldwide. Following Considerations may be followed to provide some feasible solutions:

- Policy specific tracking and monitoring system.
- Awareness campaigns and effective information dissemination system.
- Helpline No. for counselling, antidotes etc.
- Remote drug detection and monitoring.
- Any other consideration/solution.

21. Harnessing Regional Resource Potential

Availability of resources is an important factor, which governs the development of any state. In this context, the State of Himachal Pradesh is quite rich in agriculture and allied resources. Abundant resources are available in terms of **Agricultural, Horticulture, Forest, Livestock & Poultry, Minerals, Fisheries, Sericulture and Tourism** etc. In this regard following may be considered to find some feasible solutions:

- Remote sensing, mapping and monitoring system.
- Technology/ services that help to maximise the productivity of these resources (integration/diversification of resources).

- Single window problem solving.
- Any other consideration/solution.

22. Solution to any other problem of national/regional importance

ELIGIBILITY

Open to all Indian Nationals.

IMPORTANT DATES

1. Last date of Registration: **08/08/2019**

2. Confirmation to Participants: **14/08/2019**

REGISTRATION

There will be no registration fee for the participants.

Payment for TA/DA and accommodation shall be made by sponsoring institute. However, the arrangement of accommodation may be facilitated by RGSEC (twin-sharing basis) on at-least one week prior intimation. Registration will be accepted solely on-line through **direct link: <https://forms.gle/dzPuCrttSUGcFQmK6>** (available in the **official website: www.rgsec.ac.in**)

ORGANIZING COMMITTEE

CHIEF PATRON

Prof. (Dr.) D.P. Tiwari
Director-cum-Principal
RGSEC, Kangra at Nagrota Bagwan (H.P.).

PATRON

Prof. (Dr.) Jaydeep S Bagi
Director, Department of Technology
Shivaji University, Kohlapur (Maharashtra).

CHIEF COORDINATOR

Mr. Anil Pundir, A.P (M.E),
OIC Start-up, RGSEC.

COORDINATORS

Mr. Nishant Mehra, A.P. (C.E.), RGSEC.
Mrs. Meenakshi Shruti Pal, A.P. (C.S.E), RGSEC.
Mr. Harish Nirala, A.P. (M.E.), RGSEC.
Ms. Aditi Sharma, A.P. (E.E.), RGSEC.
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