Training Program

on

Drone Flying

ORGANIZERS:

Engineering Council

of India

Construction Industry

Development Council

OVERVIEW

As a National Mission to improve employment of youth in India and to improve employability of technology graduates, a programme on Drone Technology has been initiated. Drone technology is futuristic technology and is evolving very fast all over the world. In the recent times the avenues for application and usage of Drones in civilian areas have increased manifold. With particular emphasis to infrastructure development industry, the applications of Drones are now getting well recognised. The Government of India, Directorate General of Civil Aviation, (DGCA) is in the process of issuing Policy Guidelines for use of

Drones in civilian areas in the near future. The DGCA has already issued Draft Policy Guidelines regarding civilian applications of Drones in India.

OBJECTIVE

The objectives of this training programme are to study the flying techniques of drone. It is not the drone themselves that provide the value to users but instead it is the safe and secured methodology of data gathering. The focus is to educate on the rules and compliance of the GOI for drone operations, which will be required for collection of data useful in agriculture, survey, delivery system, safety, security and many other wider fields.

FACULTY

The faculty conducting the programme will include eminent persons with wide knowledge and practical field experience in government, public and

private enterprises, consultancy organisations, academic institutions etc. Great emphasis will be laid on exchange of experiences, group discussions and roleplaying.

EMPLOYMENT OPPORTUNITY IN DRONE TECHNOLOGY

The construction industry is an indispensable part of India's growth story. As a result of its notable multiplier effect, and linkages with other industries, construction significantly affects employment and job creation. Along with agriculture and manufacturing, it is one of the largest employers in India. Jobs in almost all industries except construction have decelerated since the 2000s. Construction has been the fastest growing sector in terms of employment creation since economic liberalisation took place in 1991.

According to the Economic Survey 2017-18, construction employed a workforce of 40 million in 2013, and is projected to employ 67 million by 2022. However, over 80% of those employed in the sector are either unskilled or minimally skilled. The advent of drones has the power to bring in a shift in this paradigm. The demand for drones on construction sites is expected to trigger an exponential increase in the demand for skilled manpower in drone operations. This will include professionals for data collection (drone pilots) and data processing (with data scientists who use information collected by drones in various ways).

The Construction Industry Development Council (CIDC) has conducted a study to assess the impact of drones on employment generation across 13 subsectors in the construction and maintenance industry. The study estimates the manpower requirement for people with UAV operating skills to be

approximately 2.5 lakhs in the coming years, with highways, roads, bridges and housing taking the lead. According to the CIDC, future deployment of UAV technology and its greater acceptance in a number of different applications across a diverse stakeholder base has the potential to boost the demand for professionals who are skilled in using this technology.

EMPLOYMENT PROSPECT

- Disaster Management Department.
- Surface Transport (Roads/ Highways/ Railways/ Maritime traffic)
- Large Construction Sites.
- Large Industrial sites.
- Defence Sector.
- Logistics/ deliveries
- GIS mapping & land survey.
- Many other fields.

COURSE DETAIL

The entire training program shall be conducted in 5 stage modules, where apart from piloting the drones, special applications (Sectoral) shall be taught to the students keeping in mind the pre requisites for earning a drone pilot license.

This program shall also enable the students of technical courses (Degree / Diploma in any stream of Engineering & also MBA) earn their Internship credit points under AICTE- ECI program, which is now mandatory requirement laid down by AICTE for the programs commenced after 2017-18 batch.

Total program is of 5 levels. The duration of each module shall be 7 working days which will include an examination (Theory & demonstration). Level 1 will acquaint the participant with basic flying operations (details below), rules, types of drone etc. Level 2 will give knowledge in specific fields. Level 3-5 are for specialization.

The Drone Pilot Training Level - 1 programme has been structured to cater to the requirement of basic drone operations for rotor drones. The training will be given by experts having more than 20 years experience in aviation. Keeping in view of the draft guidelines issued by DGCA on the subject, following aspects of drone operations will be covered in the level - 1 training programme :

1. Introduction to drones, 2. History of drones, 3. Types of drones, 4. Draft policy guidelines of DGCA for use of drones in civilian applications in India,

5. Do's and don'ts of drone flying operations, 6. UIN registration procedure, 6. Introduction to drone flight operations, 7. Flight planning, 8. No fly zone awareness, 9. Multi rotor drones pre-flight checks, 10. Multi rotor drones inflight checks, 11. Multi rotor drones post-flight checks, 12. Effects of weather on small UAVs 13. Development of payload feature, 14. Advantages of drones.

In addition to giving coaching on theory aspects on above mentioned topics, hands on Drone flying experience will also be given to the students, where in they will learn the basics of how to fly a drone.

In order to make an assessment of the knowledge learning gained by the students during the Training Programme and evaluating their performance, a written test on basic knowledge of drone Operations will be conducted. The successful students will be given a certification of having done the training course as stipulated above.

It is hoped that this initiative to upgrade the skills of technology graduates will go a long way in improving their job opportunities in an upcoming futuristic technology of drones. This will also help in nation building and expediting the progress of technological advancement in India.

ORGANIZERS

The program shall be conducted under the patronage & supervision of Engineering Council of India (ECI) by their member association Construction Industry Development Council. The Certificates of Competency issued, shall

be joint, where sponsoring institution shall also be mentioned in addition to the organizing organization.

BENEFICIARIES

The course will be most beneficial to students of engineering colleges who are desirous of seeking additional knowledge in new technology and explore wider opportunities.