

# TEQIP SUMMER INTERNSHIP 2018



**Submitted By:-**

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I, Ajay Saini student of Institute Of Technology, Gopeshwar(Uttarakhand) have done my one month internship organized by TEQIP–III under the guidance of Dr. Abhinav Kumar. I have completed my internship in “**Broader area of wireless communication and networking**”.

I’m very thankful to TEQIP-III for giving me such an opportunity to do the internship in the reputed college like IIT Hyderabad.

- I have learnt about wireless local area network (WLAN) or Wi-Fi.
- Old technologies like IEEE 802.11ac and IEEE 802.11n which has speed of 866 MBPS and 150 MBPS respectively uses the operation of OFDM (orthogonal frequency division multiplexing).
- OFDM uses FDM and multicarrier communication. FDM divides the available Bandwidth into sub carriers and allows multiple users to access data simultaneously.
- In 2019 there is new trend in Wi-Fi i.e. IEEE 802.11ax. It has a speed of 1201 MBPS. It has specified for downlink and uplink multi-user operation by means of MU-MIMO and Orthogonal Frequency Division Multiple Access (OFDMA) technology.
- In OFDMA, the sub-carriers are designed to be orthogonal. This allows sub-carriers to overlap and saves bandwidth. Thus, achieving higher data rates.
- I also worked on CISCO packet tracer which is a visual simulation tool designed by CISCO. It allows user to create network topologies and modern computer network.
- It also allows users to simulate the configuration of CISCO routers and switches using a simulated command line interface.
- Packet Tracer makes use of a drag and drop user interface.