GOVERNMENT OF INDIA
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY (MeitY)
RAJYA SABHA
UNSTARRED QUESTION NO. 2959
TO BE ANSWERED ON: 11.08.2017

DEMAND FOR CYBER SECURITY GRADUATES

2959   SHRIMATI WANSUK SYIEM

Will the Minister of Electronics and Information technology be pleased to state:

(a) whether a new breed of cyber security graduates are in great demand, after a spate of ransomware attacks such as WannaCry and Petya;

(b) whether large companies in the country are scrambling to hire graduates specialising in cyber security, whose demand has shot up to an all-time high; and

(c) whether universities are introducing new courses, such as, cyber security and incident response to teach advanced malware analysis and post-breach restoration of data systems?

ANSWER
MINISTER OF STATE FOR ELECTRONICS AND INFORMATION TECHNOLOGY
(SHRI P.P. CHAUDHARY)

(a) and (b):   Data Security Council of India (DSCI)   setup by NASSCOM, to promote data protection, develop security and privacy codes and standards and encourage the IT/BPO industry to implement the same, has indicated that attacks such as wannacry and Petya are indeed a reinforcement of the fact that the Cyber Security fraternity needs to augment its competencies to not only defend but anticipate the threats while safeguarding their critical infrastructure. There is a growing demand for Cyber Security Professionals who are being hired at various levels of educational qualifications and experience. Demand for specialists and professionals with niche skill sets are constantly rising.

DSCI has further indicated that Global Information Security Workforce Study (GISWS) conducted by International Information System Security Certification Consortium (ISC)[2] has revealed that the world will face a shortfall of 1.8 million cyber security workers by 2022, a 20% increase over the forecast made in the year 2015. Rapidly evolving security threat landscape is shaping up workforce skilling agenda. Several Indian and global security service providers are serving security operations of their global clients from India. Global Security Services provider firms are setting up their Global Security Centres in India to cater to global challenges of Cyber Security. Lot of Global Security Product Companies have also setup their R&D centres in India. All such developments are spurring demand for more Cyber Security professionals. Also, a lot of companies including the major IT Services providers and consulting firms have been aggressively expanding their Cyber Security teams and are on the lookout for professionals.

(c): Cyber Security is increasingly getting introduced in curriculum of schools and colleges every year. Several Universities and Institutions are offering PhDs and Master's degree specializing in Cyber Security/ Information Security and teaching Cyber Security at graduate

level. Vocational training program on cyber security have been introduced by Ministry of Skills Development and Entrepreneurship, and also universities like IGNOU.

The Ministry of Electronics & IT is also implementing a project titled, 'Information Security Education and Awareness (ISEA) Project Phase-II' with an objective of capacity building in the area of Information Security, training of   Government personnel and creation of mass Information   Security

awareness targeted towards various user segments. The academic activities are implemented through 52 Institutions/Technical Universities. So far, four thematic labs have been set up at IISc. Bangalore, IIT Guwahati, IIT Madras and IIT Bombay & TIFR, Mumbai, functioning as Information Security Research & Development Centres (ISRDCs) and lab infrastructure of other Institutes/Technical Universities functioning as Resource Centres/Participating Institutes have been upgraded, to facilitate launch of specialized programs in Information Security at both formal & non-formal levels. Further, a model course structure/syllabus has been designed by experts to act as a benchmark for various formal and non-formal courses viz. M.Tech (Information Security), M.Tech. (Computer Science with specialisation in Information Security), M.Tech./B. Tech (Retrofit) and 6 month / 1 year PG Diploma programmes offered under the project. The model course structure/syllabus comprises of 55 core/specialized courses catering to 6 streams i.e. Cryptography, Infrastructure & Communication, Secure Programming, Database applications, Information Security Management and Cybercrime Investigation & Forensics.

In addition, DSCI & NASSCOM Sector Skills Council (SSC), under the aegis of National Skill Development Corporation (NSDC) have developed Career Map, Standardised Curricula (Qualification Packs) and courseware for upcoming job roles like Application Security, Network Security, Industrial Control Systems Security etc. Ten such course wares have already been released till date. The content is being rolled out in colleges and universities. Also, the content is being used for creating Master Trainers for different domains of Cyber Security. NASSCOM-SSC and DSCI envisage certifying the candidates on the Qualification Packs. Areas like Identity & Access Management, Threat Intelligence, Security Analytics, Internet of Things (IoT)/Machine to Machine (M2M) Security, Penetration Testing, Cyber Forensics etc. are being taken up by academic institutions.

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