APPENDIX 1

AREAS OF KNOWLEDGE WITHIN HUMAN FACTORS AND ERGONOMICS
(LIST IS NON-EXHAUSTIVE AND MAY BE UPDATED FROM TIME TO TIME)

AREA OF KNOWLEDGE	TOPIC AND SUB-TOPICS
Human Factors/ Ergonomics principles:	Human Factors/Ergonomics approach ○ ***Background of ergonomics** ○ ***Ergonomics risk factors** ○ ***Ergonomics principles** ○ Issues in remote working ○ General and sociotechnical system theory ○ Human as system component ○ Human system integration ○ Integrated view of human characteristics (physical, psychological, social) in system development
Human characteristics and interaction with the physical environment:	**Demographics, anatomy and physiology** ○ ***Musculoskeletal system** ○ ***Anthropometry, gender, culture, ethnic variables relevant for design decisions** ○ ***Work capacity and workload** ○ ***Occupational biomechanical model** ○ ***Energy and force production** ○ ***Circadian rhythm** ○ ***Static versus dynamic work** Human psychology ○ ***Human performance/error analysis** ○ ***Vigilance** ○ ***Situation awareness** ○ ***Perceptual and cognitive aspects of information procession** ○ Psychophysics ○ Perception-action analysis (motor skills and learning, proprioception, Stimulus response combability) ○ Macro cognition ○ Decision making ○ Impact of motivation Human development ***Physical environment** ○ **Climate environment** ○ **Principles, regulation, guidelines and standards in design for indoor and outdoor work** ○ **Lighting** ● **Visual acuity and colour vision** ● **Lighting levels, contrast and glare** ● **Reflections and flickers fusion** ○ **Noise** ● **Noise induced hearing loss** ● **Distraction, annoyance and emergency signals** ○ **Thermal environment** ● **Body temperature regulation and acclimatisation**

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AREA OF KNOWLEDGE	TOPIC AND SUB-TOPICS
	● **Subjective assessment – thermal comfort and discomfort** ○ **Vibration** ● **Whole body vibration** ● **Hand arm vibration** ● **Health effects**
Work analysis and measurement:	***Statistics and experimental design** ○ **Descriptive and inferential statistics** ○ **Correlation and regression analysis techniques** ○ **Estimation and sampling** ○ **Parametric and non-parametric statistics** Research Methods ○ ***Study design (eg. Experimental design)** ○ ***Reliability and validity** ○ ***Data collection methods and techniques** ○ Epidemiology (fundamental) Computation and information technology Instrumentation Methods of measurement and investigation ***Work analysis** ○ **Ergonomics Risk Assessment** ○ **Postural assessment** ○ **Repetition assessment** ○ **Force assessment** ○ **Etc.** Human Machine Interaction and Usability ○ Heuristics analysis ○ Usability engineering ○ Usability testing ○ Universal design ○ User experiment assessment and accessibility assessment ****Any 2 methods** Environmental Assessment Methods ○ Lighting ○ Noise ○ Vibration ○ Thermal ○ Indoor air quality ****Any 2 methods** Organizational Analysis ****Any 2 methods**

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AREA OF KNOWLEDGE	TOPIC AND SUB-TOPICS
People and technology:	Systems theory Technology Human role in IR4.0 ***Disability, Ageing and Inclusive Design** o **Principle of design for aged population** o **Principle of design for disability** o **Inclusive design principles** ***Human Computer Interaction** ***Human machine Interaction** Human reliability Training and instruction Occupational hygiene Workplace design Information design
Social and Organizational	Social and organisational aspects Organisation Behaviour o Group dynamics o Organizational theory o Team and organizational processes and change o Participatory ergonomics Job and Organizational Design o ***Principle, guidelines and regulation of job design** o ***Shift work and rest break** o ***Shift planning** o Human performance measurement o Job design, redesign and team design Macroergonomics o ***Education and training** o ***Ergonomics management program** o ***Communication** Organizational Leadership, Climate and Culture o Organizational climate o ***Implementing ergonomics intervention** o ***Change management**

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AREA OF KNOWLEDGE	TOPIC AND SUB-TOPICS
	○ Up to date knowledge of national strategies relevant to ergonomics practices
Professional issues:	***Professional ethics and responsibilities** ○ **Role of ergonomist** ○ **Ethics** ○ **Code of conducts** ○ **Ergonomist role in organization and society** ○ **Lifelong learning** ***Legislative provisions and standards** ○ **OSHA 1994** ○ **Guidelines related to Ergonomics** ○ **Ergonomics Standards** ○ **Design principles of safety and warning system** ○ **Crisis management**

Note: *the minimum requirement that is compulsory to be fulfilled are marked with*