SCOPE-GRADE 11 PAPER 2018 TERM 2

Systems Technologies: Hardware

- ✓ Extend hardware concepts
- ✓ Overview of hardware as part of the system unit
- ✓ Components as part of the motherboard
- ✓ Purpose and role of a BIOS chip, CPU, RAM, ROM, slots, cards and buses
- ✓ Modular design
- ✓ Flow/transfer of data between components
- ✓ USB – PnP, U3
- ✓ Point-to-point connections
- ✓ Purpose and role of cache memory and caching
- ✓ Purpose and role of the expansion cards
- ✓ Memory as part of a computer system
- ✓ ROM, RAM – role and characteristics
- ✓ Temporary/permanent/magnetic/optic/solid state
- ✓ Difference in performance of different components and caching (including web caching and disk caching)

Systems Technologies: Software

- ✓ Extend functions of system software from Grade 10:
- ✓ Various types of operating systems in terms of cost, size, hardware needed and platform
- ✓ processing techniques (managed by systems software)

Communication Technologies: Networks

- ✓ physical aspects of a network
- ✓ Communication (NIC, Wi-Fi, WiMAX, 3G)
- ✓ Data transmission
- ✓ Media (reinforce from Grade 10)
- ✓ Physical layout (topology – star)
- ✓ Physical limitations (bandwidth)
- ✓ Connection (router/bridge)
- ✓ Size (PAN/HAN, LAN, WAN)
- ✓ Overview of network innovation
- ✓ VoIP
- ✓ Virtual Private Networks (VPN)
- ✓ Location-based computing (3G, wireless, GPS)

Communication Technologies: Electronic Communications

- ✓ Mobile/wireless e-communication
- ✓ E-mail and blogging
- ✓ Micro blog, SMS, instant messaging
- ✓ Media: video casting, podcasting, VoIP, video conferencing
- ✓ Mobile technology
- ✓ Mobile devices such as cell phones, smart phones, feature phones
- ✓ Mobile browser – description and examples
- ✓ Wireless technologies
- ✓ Access points

- ✓ GPS, 3G, 4G, WiMAX, Bluetooth, etc.
- ✓ Difference in range and bandwidth (non-technical)
- ✓ Protocols
- ✓ How protocols control data, e.g. POP3, SMTP, VoIP
- ✓ Security
- ✓ Passwords, firewalls, encryption

Systems Technologies: Computer Management

- ✓ Extend computer management issues regarding safeguarding against threats
- ✓ Safety and security
- ✓ Human error (GIGO, accidents)
- ✓ Threats
- ✓ Physical access
- ✓ Theft
- ✓ Flash drives and portable media
- ✓ Hardware failure
- ✓ Storage
- ✓ Power
- ✓ Network vulnerability
- ✓ Virus, worm, Trojan, rootkit, spoofing, phishing
- ✓ Remedies, Backup, UPS, passwords, rights, firewalls, anti-virus, validation

Social implications term 1 and 2

- ✓ network use policies and practices
- ✓ How the advancement of ICT affects the human race
- ✓ Computers providing solutions to issues of national and international importance such as
- ✓ Capabilities and limitations of ICTs
- ✓ Social issues applicable to term 2 content such as social engineering, impact of social websites
- ✓ List and discuss computer and human error and the effects thereof such as:
- ✓ Accuracy and validity – data input
- ✓ Data types used
- ✓ Verification and validation of data
- ✓ Software bugs
- ✓ Hardware failure
- ✓ Hardware configurations
- ✓ Preventative actions

Solution Development

- ✓ Algorithms/tracing:
- ✓ What is software development?
- ✓ Visual tools for designing a solution eg. Flowchart, TOE chart, IPO diagram
- ✓ 1_Dim arrays: structure, populating array, traversing through arrays, basic operations eg. Sum, average, max, min, range
- ✓ Linear search
- ✓ Simple nested loops, While loops, Accessing text files.