Table 1: EE513 Connected Embedded Systems Short Questions

|                                      |          |            |                                       | & acs      |             |          |
|--------------------------------------|----------|------------|---------------------------------------|------------|-------------|----------|
| Topic                                | 2019     | R          | 2018                                  | R          | 2017        | R        |
| Micro vs. Monolithic Kernel          | <b>√</b> |            |                                       | <b>✓</b>   | <b>√</b>    |          |
| Das U-Boot                           | ✓        |            |                                       | ✓          | ✓           |          |
| VCAN                                 | ✓        |            |                                       |            |             |          |
| I/O Pins                             | ✓        | <b>√</b>   | ✓                                     |            |             |          |
| Mount Output                         | ✓        |            |                                       |            |             |          |
| Soft vs. Hardlink                    | ✓        |            |                                       |            | ✓           |          |
| Mutex Lock                           | ✓        |            | ✓                                     | ✓          | ✓           |          |
| PS and PL                            | ✓        | <b>  √</b> | ✓                                     |            |             | <b>√</b> |
| UART                                 | ✓        |            |                                       |            |             |          |
| systemd Target Units                 | ✓        |            |                                       | ✓          | ✓           |          |
| PREEMPT patch                        | ✓        | <b>√</b>   | ✓                                     |            | √<br>√<br>√ | ✓        |
| Open-Collector/Drain circuit         | ✓        |            |                                       | ✓          | ✓           |          |
| Watchdog Timer                       | ✓        |            |                                       |            |             |          |
| 6LowPAN stateless header compression |          | <b>√</b>   |                                       |            |             |          |
| Beacon Frames                        |          | <b>√</b>   |                                       |            |             |          |
| LPWAN                                |          | <b>  √</b> | ✓                                     |            |             | ✓        |
| Balanced Signalling                  |          | <b>  √</b> | ✓                                     |            |             | ✓        |
| gitignore                            |          | <b>  √</b> |                                       |            |             |          |
| Qt                                   |          | <b>  √</b> |                                       |            |             |          |
| PWM                                  |          | <b>  √</b> |                                       | ✓          | ✓           |          |
| IoNT vs IIoT                         |          | <b>  √</b> |                                       |            |             | <b>√</b> |
| Phy and DL in CAN                    |          | <b>√</b>   |                                       |            |             |          |
| Voltage Follower                     |          | <b>√</b>   |                                       |            |             | ✓        |
| Wisdom vs. Knowledge                 |          |            | ✓                                     |            | ✓           |          |
| IIoT                                 |          |            | ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ |            |             |          |
| User vs. Kernel Space                |          |            | ✓                                     |            |             |          |
| Zigbee vs. 6LoWPAN                   |          |            | ✓                                     |            | ✓           |          |
| Gtk vs. Qt                           |          |            | ✓                                     |            |             |          |
| 802.15.4                             |          |            |                                       |            |             |          |
| git                                  |          |            | ✓                                     |            |             |          |
| Diode Clamping Circuit               |          |            |                                       | <b>  √</b> | ✓           |          |
| Bounce                               |          |            |                                       | <b>√</b>   |             | ✓        |
| chown vs. chmod                      |          |            | ✓                                     |            |             |          |
| GPIO-KEYS                            |          |            |                                       | <b>  √</b> | ✓           | ✓        |
| PoW in Blockchain                    |          |            |                                       | 🗸          |             |          |
| Distributed vs. Centralised VC       |          |            |                                       | 🗸          | ✓           |          |
| XACML                                |          |            |                                       | 🗸          |             |          |
| No-OS Programming                    |          |            |                                       |            |             | ✓        |
| atime                                |          |            |                                       |            |             | ✓        |
| Data vs. Information                 |          |            |                                       |            |             | ✓        |
| DTO                                  |          |            |                                       |            |             | ✓        |
| Systemd vs. SystemV Init             |          |            |                                       |            |             | <b>√</b> |

Table 2:  $\Xi$ E513 Connected Embedded Systems Long Questions

| Topic | 2019 | R | 2018 | R | 2017 | R |  |
|-------|------|---|------|---|------|---|--|
|       |      |   |      |   |      |   |  |