Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016**

**Subject Code: 2725405** **Date: 25/05/2016**

**Subject Name: Embedded & Linux Programming**

**Time:10:30 am to 01:00 pm** **Total Marks: 70**

**Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

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|---|---|---|---|
| **Q.1** | **(a)** | Explain the generic architecture of multi-component Linux System. | **07** |
| | **(b)** | Describe Linux Systems, Embedded Linux System and Real Time Embedded Linux Systems. | **07** |
| **Q.2** | **(a)** | What do you mean by function parameters? Explain different types of parameters in C. | **07** |
| | **(b)** | Describe various strategies to select the Linux distributions and explain Loading, Debugging and Profiling. | **07** |
| | | **OR** | |
| | **(b)** | Explain different types of loop in C with syntax and example. Also discuss data types and object types in C programming. | **07** |
| **Q.3** | **(a)** | What do you mean by structure? Write syntax with suitable example. Also discuss various operators used in C programming. | **07** |
| | **(b)** | Describe Linuc Kernal Module in detail. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | What do you mean by SoC( System on Chip) in an embedded system. | **07** |
| | **(b)** | Discuss the basic parameters to be taken into account for writing any generic device drives. | **07** |
| **Q.4** | **(a)** | Explain GRUB and LILO Boot Loaders. | **07** |
| | **(b)** | Compare (1) EXT2 and EXT3 file systems and (2) Rootfs and Initramfs. | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | write short notes on (1) Squashfs and (2) JFFS2 | **07** |
| | **(b)** | Explain the different types of device drivers. Discuss any two which you learnt. | **07** |
| **Q.5** | **(a)** | Discuss different set – up for Host and Target Devices and also quote their specialties. | **07** |
| | **(b)** | In context with embedded system, describe Van Neumann and Harward architectures. | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Discuss PCI, PCI-X and PCIe buses in brief. | **07** |
| | **(b)** | Write a short not on CAN Bus and I2C Bus. | **07** |

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