

FULL

Roll No.

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

B.E / B. Tech (~~Part Time~~) END SEMESTER EXAMINATIONS April / May 2019

COMPUTER SCIENCE AND ENGINEERING
Semester V

CS 8503 - SYSTEM SOFTWARE INTERNALS
(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is meant by assembler directive? List any two assembler directives.
2. Differentiate literal and a constant.
3. State the prime purpose of bootstrap loader.
4. Define linker.
5. Define macro instruction.
6. Give the syntax for concatenating macro parameters
7. Define virtualization.
8. Highlight the need for dynamic class loading.
9. Necessitate the usage of garbage collection.
10. Compare and contrast grid computing from distributed computing.



Part – B (5 x 16 = 80 marks)
(Question No.11 is Compulsory)

11. Explain the two passes of SIC assembler. List and describe Machine-dependent assembler features. (16)
12. a) i) With an example explain the design of absolute loader. (8)
ii) Explain the machine independent loader features. (8)
(OR)
b) i) Discuss the steps involved while processing an object program using linking loader and linkage editor. (10)
ii) Give a modular design of relocating loader. (6)
13. a) i) Explain the basic macro processor functions. (8)
ii) Explain the machine independent macro processor features. (8)
(OR)
b) Illustrate the architecture of Virtual Machine and explain in detail. (16)
14. a) Explain the organization of JVM through i) stack ii) method area iii) the heap store iv) PC register (16)
(OR)
b) Explain in detail the registers in P-Code Virtual Machine. (16)
15. a) Explain implementing system software through a real time example. (16)
(OR)
b) i) Discuss in detail the three types of code profilers. (10)
ii) Elaborate the key features for carrying out migration. (6)