


**II SEMESTER M.TECH. (COMPUTER NETWORKING AND  
ENGINEERING/SOFTWARE ENGINEERING)**
**END SEMESTER EXAMINATIONS, APRIL/MAY 2019**
**SUBJECT: PROGRAM ELECTIVE-II CLOUD COMPUTING [ICT 5232]  
REVISED CREDIT SYSTEM  
(02/05/2019)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **ALL** the questions.
- ❖ Missing data if any, may be suitably assumed.

- 1A. Compare the three cloud computing delivery models, SaaS, PaaS, and IaaS, from the point of view of application developers and users. Discuss the security and the reliability of each model. Analyze the differences between PaaS and IaaS. 5
- 1B. Explain any three architecture styles used for cloud applications. 3
- 1C. What is meant by routing tasks in cloud workflow scenario? Explain the two types of routing tasks and their semantics. 2
- 2A. Apply weighted fair queueing for the set of jobs given in Table Q.2A and identify the scheduling order. The tasks in various queues are as follows. Queue1 :GFDA, Queue2:BHI, Queue3:CE. Weight of Queue1 and Queue3 is 1. And weight of Queue2 is 2.

Table Q.2A

Task name	Arrival time(ms)	Completion time(ms)
A	0	20
B	2	5
C	5	15
D	10	20
E	15	6
F	12	8
G	10	5
H	0	10
I	6	6

- 2B. Explain different security threats to cloud computing. 5
- 2C. What is meant by virtual provisioning? Compare it with traditional provisioning. 3
- 3A. Explain hot and cold physical to virtual conversion processes with neat diagrams. 2
- 3B. What is meant by storage tiering? Explain. 5
- 3C. Who are the actors identified to classify the attack in cloud computing environment? 3
- 4A. Use the start-time fair queueing(SFQ) scheduling algorithm to compute the virtual 2
- ICT 5232 5

start-up and the virtual finish time for two threads 'a' and 'b' with weights  $w_a = 1$  and  $w_b = 5$  when the time quantum is  $q = 15$ . The thread b blocks at time  $t = 24$  and wakes up at time  $t = 60$ . Plot the virtual time of the scheduler function of the real time.

- |     |  |   |
|-----|--|---|
| 4B. | Discuss different types of Distributed Denial Of Service attacks in cloud systems  | 3 |
| 4C. | What is trust? How to determine trust in cloud environment?  | 2 |
| 5A. | With neat diagrams explain memory over commitment techniques   | 5 |
| 5B. | An organization debating whether to install a private cloud or to use a public cloud, (e.g., the AWS, for its computational and storage needs) asks your advice. What information will you require to base your recommendation on, and how will you use each one of the following items: (i) the description of the algorithms and the type of the applications the organization will run; (ii) the system software used by these applications; (iii) the resources needed by each application; (iv) the size of the user population; (v) the relative experience of the user population; (vi) the costs involved. | 3 |
| 5C. | What is VLAN trunking and tagging? With neat diagram explain an example for the VLAN trunking.   | 2 |