Printed Pages : 1 Roll No. | | | | | | | | | | | NCS065

B. TECH.

THEORY EXAMINATION (SEM–VI) 2016-17

CONCURRENT SYSTEMS

Time : 3 Hours *Max. Marks : 100*

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION-A

1 Explain the following: **(10×2=20)**

a) What are concurrency and its advantage?
b) What is the difference concurrency computing and distributed computing?
c) Define Parallel random access machine.
d) Define the role of processors in concurrent systems.
e) Define role of hiding in process calculus.
f) Give formal definition of transition systems.
g) Give an example of pi calculus with syntax.
h) What are the advantages and disadvantages of Concurrent systems?
i) What is duck typing?
j) Is concurrency systems are related with parallel systems? if yes, how?

SECTION-B

2 Attempt any five of the following: **(10×5=50)**

a) What do you understand by concurrency systems and its need in today's computing environment?
b) Explain The "Dining Philosophers", a classic problem that involves concurrency and shared resources?
c) Explain reduction semantics in CCS.
d) What is process modeling? Explain with example.
e) What are Labeled transition systems in concurrent systems?
f) What are the essential features in process calculus?
g) Define Concurrency Workbench? Explain with example.
h) Differentiate Pi calculus and asynchronous Pi calculus.

SECTION-C

Attempt any two of the following: **(15×2=30)**

3. Explain Labeled and unlabeled transition systems? Also explain tools of CTMC.

4. What are the Agents and how they are related with mobility workbench?

5. Explain-
   a) Strong and weak type systems.
   b) Type safety and Memory safety

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