Suggested Teaching Guidelines for

Resource Management and Accounting – PG-DHPCSA Sept, 2023

Duration: 20 class room hours + 30 Lab hours

Objective: To introduce Resource Management and Accounting in HPC.

Prerequisites: Knowledge of Computer Fundamentals

Evaluation method: CCEE Theory exam– 40% weightage

Lab exam (Case Study based) – 40% weightage

Internal exam – 20% weightage

List of Books / Other training material

Course ware: No specific courseware for modules, faculty may share some course materials

Reference:
- http://docs.adaptivecomputing.com/
- http://slurm.schedmd.com/documentation.html

Note: Each session mentioned is for theory and of 2 hours duration. Lab assignments are indicatives, faculty need to assign more assignments for better practice.

Session 1
Lecture:
- o Batch systems
- o Resource manager
- o Scheduler

Session 2 & 3
Lecture:
- o OPEN PBS installation and configuration
- o Submitting and managing jobs
- o Writing the batch script

Session4 & 5
Lecture:

- o Slurm installation and configuration
- o Submitting and managing jobs
- o Writing the batch script

Session 6 & 7
Lecture:
- o Application level check pointing
- o Managing nodes
- o Setting server scheduling policies

Session 8
Lecture:
- o Scheduler Algorithm

Session 9 & 10

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Lecture:

- o SLURM Accounting

Assignments –Lab:

- o OPEN PBS installation and configuration
- o Slurm installation and configuration
- o Submitting jobs
- o Managing jobs
- o Scheduling policies configuration