

UNIVERSITY OF MYSORE



Estd. 1916

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No.AC.2(S)/384/14-15

Dated: 10-06-2015

NOTIFICATION

Sub: Introduction of Diploma Certification course on High performance Computing (HPC)

Ref: 1. Proceedings of Faculty of Science & Technology Meeting held on 02-02-2015.
2. Proceedings of the Meeting of Academic Council held on 27-03-2015.

The Board of Studies in **Computer Science (PG)** at its meeting held on 21-11-2014 has resolved to introduce the Diploma Certification course on High performance Computing (HPC) to be offered by the department of studies in Computer Science in collaboration with HPC lab, set up under UPE grants. This will be effect from 2015-16.

The Faculty of Science and Technology and the Academic Council at their meetings held on 02-02-2015 and 27-03-2015 respectively have approved the above proposals and the same is notified.

The Details of Diploma Certification course on High performance Computing (HPC) is annexed.

DRAFT APPROVED BY THE REGISTRAR

[Handwritten Signature]
16/6
REGISTRAR
10/06/15
12/6

To

1. The Registrar (Evaluation), University of Mysore, Mysore.
2. The Chairperson, BOS/DOS in Computer Science, MGM.
3. The Dean, Faculty of Science & Technology, DOS in Earth Science, MGM.
4. The Director, College Development Council, UOM, Mysore.
5. The Coordinator, Online & Outreach programme, Parakalamatta, MGM.
6. The Deputy/Assistant Registrar (Evaluation), University of Mysore, Mysore.
7. The Supdt A.B., Academic Section / PMEB, UOM., Mysore.
8. The P.A. to the Vice-Chancellor/Registrar/Registrar(Evaluation), UOM., Mysore.
9. The Case Worker, AC.7, Academic Section, University of Mysore, Mysore.
10. The Section Guard File(Supdt.AC.2), A.B., A.C., UOM.
11. The Schedule File.

Introduction of Diploma Certification Course on High Performance Computing

(It is in connection with the HPC lab set up under UPE grants)

Preamble

University of Mysore has come up with a High Performance Computing (HPC) lab which is set up to offer the state of art research and training programs. A HPC lab is set up in the Department of Computer Science and it is made available for researchers, faculty members and students. This project is supported by University with potential Excellence (UPE) scheme grants from University Grant Commission (UGC), New Delhi. As a part of deliverables of this project, we suggest to offer a diploma certification course on high performance computing to create awareness among youngsters on high performance computing and share knowledge on parallel processing techniques. This course is conducted at the Department of Studies in Computer Science. No examinations are conducted from the University of Mysore and No certificates are issued in convocation of University of Mysore for this course. However, department level examinations shall be conducted and a course completion certificate will be issued by the Department of Studies in Computer Science for all successful students in collaboration with High Performance Computing lab.

Course structure

Duration:	16 weeks
Time:	Evening Batches, weekly 3 days (Total 6 hours per week)
Eligibility:	<ul style="list-style-type: none">• B.Sc. graduate with Mathematics as one of the major subject.• Students perusing post graduation on regular basis can also apply.
Maximum intake	30
Course Fees	To be decided by University of Mysore.

Course offered

Sl. No.	Title of the course
Course 1	Parallel Architecture
Course 2	Parallel Programming

Syllabus

Parallel Architecture		
Sl. No	Course Content	Duration
Unit 1	Introduction to advanced computer architecture, Concept of Multiprocessors, Interconnection networks, Analysis and performance metrics	08 hours of theory and 4 Hrs of Practical
Unit 2	Parallel processing and performance tweaking on multiprocessor architecture,	08 hours of theory and 4 Hrs of Practical
Unit 3	Shared memory architecture	08 hours of theory and 4 Hrs of Practical
Unit 4	Message passing architecture, Network Building Cluster Building	08 hours of theory and 4 Hrs of Practical

Parallel Programming		
Sl. No	Course Content	Duration
Unit 1	Introduction to parallel programming, Advanced parallel programming libraries and compilers, Setting up Parallel Programming Environment. Performance issues in parallel programming.	04 hours of theory and 08 Hrs of Practical
Unit 2	Introduction to OpenMP, OpenMP using C.	04 hours of theory and 08 Hrs of Practical
Unit 3	Programming MPI (Message Passing Interface).	04 hours of theory and 08 Hrs of Practical
Unit 4	Introduction to Parallel Programming using General Purpose Graphical Processing Unit (GPGPU) with CUDA.	04 hours of theory and 08 Hrs of Practical

Regulations :

- The attendance requirement is as per the norms of the university.
- Each student shall be evaluated by the respective instructor who offers the course. The evaluation of a candidate in a paper has C1, C2 and C3 components, where both C1 and C2 are purely based on continuous assessment each carrying 25 and 25 marks. The C3 component is based on the semester end examination for 50 marks. A candidate is said to be successful in a paper if he / she secures at least 40% marks due to all C1, C2 and C3 put together in that particular paper. The modalities for C1 and C2 shall be decided by the respective instructor in consultation with the department council.
- The semester end examination (C3 component) is purely based on written examination the pattern of which shall be decided by the department council.
- The candidate, who is successful in both the papers, shall be issued a certificate by the Department of Studies in Computer Science in collaboration with High Performance Computing lab. The certificate is only a completion certificate and hence no grading of students shall be mentioned.