PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Sixth Semester)

Branch – **COMPUTER TECHNOLOGY**

DISCIPLINE SPECIFIC ELECTIVE – II
PARALLEL COMPUTING

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1   During execution of instructions, a copy of instructions is placed in the ____.
(i) Cache   (ii) Register   (iii) Ram   (iv) System heap

2   Multiprocessor are classified as _____.
(i) SIMD   (ii) SISD   (iii) MIMD   (iv) MISD

3   MPI Stands for _____.
(i) Method passing interface   (ii) Message Passing information
(iii) Message passing interface   (iv) Method passing information

4   In MPI gloabal communication involve more than two process is ___ function.
(i) Synchronous   (ii) Collective
(iii) A synchronous   (iv) Symmetric

5   Open CL is a low-level API for ____ computing.
(i) homogeneous   (ii) soft
(iii) hybrid   (iv) heterogeneous

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6   a   Narrate the history of parallel computing.
OR
    b   Analyze the concepts of systems and programming.

7   a   Explain Multiprocessor with a neat sketch.
OR
    b   State the importance of shared memory.

8   a   Discuss about MPI.
OR
    b   Describe the concepts of Distributed memory.

9   a   How to evaluate effectiveness of MPI programs?
OR
    b   Explain about computation overlap.

10 a   Summarise Graphic Processor.
OR
    b   State the uses of Open CL.

SECTION -C (30 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks   (5 x 6 = 30)

11 a   Analyze modeling parallel computation.
OR
   b   Examine the impact of communication and parallel computation complexity.

12 a   Enumerate Parallelization of loops in detail.
OR
   b   Elucidate Open MP to write Multithread program with an example.

13 a   Explain briefly about Message Pasing Interface.
OR
   b   Apply the basic MPI Operations in communication process.

14 a   Discover the importance of Process-to-Process Communications.
OR
   b   Examine Collective MPI Communication in detail.

15 a   Give an outline anatomy of GPU programmers view.
OR
   b   Classify the importance of execution model and memory model.

Z-Z-Z   END