

EndSem

● Graded

Student

ABHISHEK PARDHI

Total Points

88 / 100 pts

Question 1

Q1-output

4 / 4 pts

✓ + 4 pts Correct: 10 for all ranks

+ 0 pts Incorrect

Question 2

Q2-Match

3 / 3 pts

✓ + 3 pts Correct: B A

+ 0 pts Incorrect

Question 3

Q3-output-count

4 / 4 pts

✓ + 4 pts Correct 0 0\n1 100\n2 50

+ 0 pts Incorrect

Question 4

Q4-IPM

3 / 3 pts

✓ + 1 pt $Y > X$

✓ + 2 pts Correct reason: Large data --> more bcst time

+ 0 pts Incorrect

Question 5

Q5-bug-datatype

6 / 6 pts

✓ + 2 pts a) Yes

✓ + 2 pts b) Incorrect due to overflow

✓ + 2 pts Correct bug Lines 10, 22, 23

+ 1 pt No explanation/incomplete answer

+ 0 pts Incorrect

Question 6

Q6-fill-reduce

6 / 6 pts

✓ + 6 pts Correct: MPI_INT, MPI_MAX, newcomm

+ 0 pts Incorrect

Question 7

Q7-indexed

7 / 7 pts

✓ + 2 pts Blocklengths and Displacements are incorrectly set

✓ + 5 pts In line 16, Blocklengths[i] = N-i, displacements[i] = i*N +i;

+ 0 pts Incorrect

Question 8

Q8-c2c

8 / 8 pts

8.1 block cyclic

4 / 4 pts

✓ + 4 pts Correct: $4P/N$. Both number of communications and number of computations is correct

+ 2 pts Incorrect final answer

+ 0 pts Incorrect

8.2 block

4 / 4 pts

✓ + 4 pts Correct: $2P/N$. Both number of communications and number of computations is correct

+ 2 pts Incorrect final answer

+ 0 pts Incorrect

Question 9

Q9-IO

8 / 8 pts

9.1 a-config

3 / 3 pts

✓ + 1 pt First Entry Correct (config 2)

✓ + 1 pt Second Entry Correct (config 4)

✓ + 1 pt Third Entry Correct (config 1)

+ 0 pts Incorrect

9.2 b-reason

2 / 2 pts

+ 0 pts Incorrect

✓ + 2 pts Correct: (i) Large data => More time (ii) higher SC, higher SS, and more aggregators per node give better performance

+ 1 pt Partially Correct/ Need complete explanation

9.3 c-obs

3 / 3 pts

✓ + 3 pts Correct (i) More variation for 16G file size (ii) More time for 16G file size

+ 0 pts Incorrect

+ 1.5 pts Partial Correct/Need complete explanation

Question 10

Q10-comm-matrix

8 / 8 pts

✓ + 8 pts Correct

+ 0 pts Incorrect

Question 11

Q11-Scheduling

10 / 15 pts

11.1 a-start

5 / 5 pts

✓ + 5 pts Correct

+ 4 pts Minor typo

+ 3 pts Few errors

+ 0 pts Incorrect

11.2 b-wait

0 / 5 pts

+ 5 pts Correct

+ 4 pts Minor typo

+ 3 pts Few errors

✓ + 0 pts Incorrect

11.3 c-idle nh

5 / 5 pts

✓ + 5 pts Correct

+ 4 pts Minor error

+ 0.5 pts No derivation

+ 0 pts Incorrect

Question 12

Q12-IPM

5 / 7 pts

12.1 a-profile

2 / 3 pts

+ 3 pts Correct order: B A C

✓ + 2 pts Partially correct: B C A - this is untrue for production supercomputer

+ 0 pts Incorrect

12.2 b-reasons

3 / 4 pts

✓ + 2 pts Reason 1: A and C > B : Large Data--> More Time

+ 2 pts Reason 2 : C > A: C has more simultaneous inter-node communication and A has many intra-node communications

✓ + 1 pt Attempted to explain

+ 0 pts Incorrect/ Unclear

Question 13

Q13-start-end

8 / 8 pts

13.1 a-fill

4 / 4 pts

✓ + 2 pts Start:Correct

✓ + 2 pts End:correct

+ 0 pts Incorrect

13.2 output (2+2)

4 / 4 pts

✓ + 2 pts a.out 4 4 8 : Correct

✓ + 2 pts a.out 4 8 16 Correct

+ 0 pts Incorrect

Question 14

Q14-bug

4 / 4 pts

✓ + 1 pt Code will not run

✓ + 3 pts Fix and the line number(s)

+ 0 pts Incorrect

Question 15

Q15-NN

4 / 9 pts

15.1 a-max

4 / 4 pts

✓ + 4 pts Correct

+ 0 pts Incorrect

15.2 b-interference

0 / 5 pts

+ 5 pts Correct

✓ + 0 pts Incorrect