**DEPARTMENT OF INFORMATION TECHNOLOGY**

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SHRI VILE PARLE KELAWANI MANDAL'S

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**Academic Year 2023-24**

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**Class : SY IT**

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**Subject : Design and Analysis of Algorithms**

**Assignment:**

**Q.** Multiply following two matrices using strassen’s matrix multiplication algorithm.

Matrix A= Matrix B=

**Ans.**

A= \* B= : C=

* **Some Important Formulas:**

P = (A11 + A22) \* (B11 + B22)

Q= (A22 +A21) \* B11

R = А11 \* (В12 – В22)

S = А22 \* (B21 - A11)

T = ( A11 + A12) \* В22

U = (A23 - А11) \* (В11 + В12)

V = (A12 - A22) (B11 + B22)

C11= P + S - T + V

C12= R + T

C21 = Q + S

C22= P + R - Q + U

A= \* B= : C=

c11= (a11\*b11)+(a12\*b21)

c12= (a11\*b12)+(a12\*b22)

c21= (a21\*b11)+(a22\*b21)

c22= (a21\*b12)+(a22\*b22)

c11= (1\*5)+(2\*7)=19

c12= (1\*6)+(2\*8)=22

c21= (3\*5)+(4\*7)=43

c22= (3\*6)+(4\*8)=50

C=

**Ans:-** C=