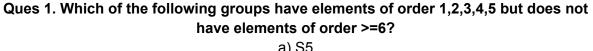
## IIT JAM 2024 Mathematics Answer Key (Unofficial)



a) S5

b) S6

c) A5

d) A6

Ans. D

## Ques 2. Group = $S_{13}$

A. 3 an element order 60.

an element of order 35.

C. ∃ an element forder 42.

Ans. C

Ques 3. A=

. I-2AAT is invertible or not.

Ans. Invertible

$$A = \begin{bmatrix} 0 & 1 & 2 & 3 \\ 1 & 0 & 1 & 2 \\ 2 & 1 & 0 & 1 \\ 3 & 2 & 2 & 0 \end{bmatrix}$$

Ques 4.

Ques 5

the dimension of this set.

Ans. 6

Ques 6.  $\lim_{n\to \infty} (1/(n^3+1) + 2^2/(n^3+2) + 3^2/(n^3+3) + .....n^3/(n^3+n)$  is equal to? Ans. 1/3 In(2)

## Ques 7. As x tends to infinity the solution of ode $y^1 + y^3 - y = 0$ Ans. -1

Ques 8. If  $0 \le x \le 1$ ,  $0 \le y \le 1$ ,  $\frac{1}{4} \le xy \le \frac{1}{2}$ , find area Ans.  $\frac{1}{4}$ 

Ques 9. which two are isomorphic among U8 , U10 , U12  $$\operatorname{Ans.}$  U8 & U12

Ques 10 .  $f(x) = Sin^{-1}x$ , coeff. of 6 in Taylor's series expansion of (f(x)) 2 ?

Ans. 1/10

