

## Examrace

### National Standard Examination in Astronomy (NSEA) Solved Paper 2016 Part-8

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Q: 22.  $\lim_{x \rightarrow -\frac{\pi}{4}} \left( \frac{\sin x + \cos x}{a + \frac{\pi}{4}} \right) =$

(A)  $\infty$

(B)  $-\infty$

(C)  $\frac{1}{\sqrt{2}}$

(D)  $\sqrt{2}$

Answer: (D)

(A) 4.4m, 120 kg

(B) 4.4m, 100 kg

(C) 4.2m, 100 kg

(D) 4.2m, 120 kg

Answer: (B)

Q: 24. The number of real solutions of the equation  $(x - 1)(3^x - 2) = 1$  is

(A) 0

(B) 1

(C) 2

(D) More than 2

Answer: (C)

Q: 25. A car is fitted with a rear view mirror of focal length 20 cm. Another car, 2.8 m behind the first car is  $15 \text{ m.s}^{-1}$  faster than the first car and approaching. The relative speed of image of the second car, with respect to first car at this instant, is

(A)  $1/15 \text{ m.s}^{-1}$

(B)  $1/10m.s^{-1}$

(C)  $1/5m.s^{-1}$

(D)  $2/15m.s^{-1}$

Answer: (A)

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