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Started on	Wednesday, 27 January 2021, 3:05 PM
State	Finished
Completed on	Wednesday, 27 January 2021, 3:20 PM
Time taken	15 mins
Grade	<b>10.00</b> out of 10.00 ( <b>100</b> %)

Question 1
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Correct

Mark 2.00 out of

2.00

Find the value of 
$$\int_0^\infty 2x^4e^{1-x}dx$$
 .

Select one or more:

- a. It diverges to  $\infty$ .
- b. 12e
- c.48
- d. 48e

Your answer is correct.

The correct answers are: 12e

,48e

, 48

## Question 2

Correct

Mark 2.00 out of

2.00

Which among the following is a correct integral representation of Gamma function?

Select one:

$$\bigcirc$$
 a.  $\Gamma(x)=\int_0^1 t^{x-1}e^{-t}dt$ 

$$lacksquare \int_0^\infty t^{x-1}e^{-t}dt$$

**√** 

$$igcup {f c}$$
 . C.  $\Gamma(x)=\int_0^1 t^x e^t dt$ 

$$\bigcirc$$
 d.  $\Gamma(p)=\int_{1}^{\infty}x^{p-1}e^{-x}dx$ 

Your answer is correct.

The correct answer is:  $\Gamma(x)=\int_0^\infty t^{x-1}e^{-t}dt$ 

## Question 3

Correct

Mark 2.00 out of

2.00

Evaluate the value of  $\int_0^\infty x^3 e^{-rac{1}{2}x^2} dx$  .

Select one:

- a. not defined
- b :

- $c. \frac{1}{2}$
- d. 4

Your answer is correct.

The correct answer is: 2

## Question 4

Correct

Mark 2.00 out of

2.00

Which among the following is NOT correct?

Select one:

**\** 

$$igcup b. rac{\int_0^1 x^{p-1} (1-x)^{q-1} dx}{\int_0^1 t^{q-1} (1-t)^{p-1} dt} = 1$$

- c. For nonnegative integer values, Gamma function is not defined.
- $\bigcirc$  d.  $\Gamma\left(rac{3}{4}
  ight)\Gamma\left(rac{1}{4}
  ight)=\sqrt{2}\pi$

Your answer is correct.

The correct answer is:  $eta\left(rac{2}{7},rac{5}{7}
ight)=eta\left(rac{3}{7},rac{4}{7}
ight)$ 

## Question 5

Correct

Mark 2.00 out of

2.00

Find the value of  $\int_0^{\frac{\pi}{4}} \sin^2 2x \, \cos^4 2x \, dx$ .

Select one:

- $\bigcirc$  a.  $\frac{\pi}{32}$



- $\circ$  c.  $\frac{\sqrt{\pi}}{32}$
- O d.  $\frac{\sqrt{\pi}}{64}$

Your answer is correct.

The correct answer is:  $\frac{\pi}{64}$