Faculty of Engineering (Shoubra) Engineering Mathematics and Physics Department		Benha University Mechanical Department- Power Time allowed: 30 minutes @@@

Student Name in Arabic: **Section:** **B.N.**

Choose the correct answer giving reason

1- $\int_0^1 (-\ln x)^n dx = (\Gamma(n), n\Gamma(n), n!, (n-1)!)$, $n > 0$

2- If $\beta(1,n) = 4$, then $\beta(n,3/4) = (2\sqrt{\pi}, \pi, \pi/\sqrt{2}, \pi\sqrt{2})$

3- $\int_0^\infty (\frac{\cos 3t - \cos t}{t})\ dt = (\text{Ln } 9, -\text{Ln } 3, -\text{Ln } 9, \text{Ln } 3)$

4- $L^{-1}\{\frac{e^{-\pi s}}{s^2+9}\} = (\frac{1}{3}\sin 3t\ u(t-\pi), -\frac{1}{3}\sin 3t\ u(t-\pi), \frac{1}{3}\sin(3t-\pi)u(t-\pi))$

مع تحيات د. خالد النجار

Faculty of Engineering (Shoubra) Engineering Mathematics and Physics Department		Benha University Mechanical Department- Power Time allowed: 30 minutes ###

Student Name in Arabic: **Section:** **B.N.**

Choose the correct answer giving reason

1- $\int_0^\infty (3)^{-x^2} dx = (\sqrt{\frac{\pi}{2\text{Ln } 3}}, \frac{\pi}{2\sqrt{\text{Ln } 3}}, \frac{\Gamma(3/2)}{\sqrt{\text{Ln } 3}}, \sqrt{\frac{\pi}{\text{Ln } 3}})$, $n > 0$

2- If $\beta(n,n) = 2$, then $\beta(n,n+1) = (1/2,\ 0,\ 2,\ 1)$

3- $\int_0^\infty t \cos 5t\ e^{-3t}\ dt = (-0.014, -0.47, -0.14, 0.4)$

مع تحيات د. خالد النجار	4- $L^{-1}\{\frac{e^{-as}}{s(s-1)}\}= (e^{t}\,u(t-a),\ e^{t-a}\,u(t-a),\ (1-e^{t-a})u(t-a),\ (e^{t-a}-1)u(t-a))$

Faculty of Engineering (Shoubra) Engineering Mathematics and Physics Department		Benha University Mechanical Department- Power Time allowed: 30 minutes $$$
Student Name in Arabic:	**Section:**	**B.N.**

Choose the correct answer giving reason

1- $\int_{2}^{\infty} e^{(-x^2+4x+7)}dx = (\frac{\sqrt{\pi}}{2}, \frac{e^{-11}\sqrt{\pi}}{2}, e^{11}\Gamma(3/2), \frac{e^{-11}\Gamma(3/2)}{2})$

2- If $\Gamma(4/3) = n$, then $\Gamma(2/3) = (\frac{n}{2}, \frac{2\pi\sqrt{3}}{3n}, \frac{2\pi}{\sqrt{3}n}, \frac{2\pi\sqrt{3}}{9n})$

مع تحيات د. خالد النجار

3- $\int_{0}^{\infty} (\frac{e^{2t}-e^{3t}}{t})\ dt = (-\text{Ln}(3/2),\ \frac{1}{2}\text{Ln}(9/4),\ \frac{1}{2}\text{Ln}(3/2),\ -\frac{1}{2}\text{Ln}(9/4))$

4- $L^{-1}\{\frac{1}{s(s^2+9)}\}= (\frac{\cos 3t-1}{9}, \frac{1-\cos 3t}{3}, \frac{1-\cos 3t}{9}, \frac{\sin 3t}{9})$

Faculty of Engineering (Shoubra) Engineering Mathematics and Physics Department		Benha University Mechanical Department- Power Time allowed: 30 minutes %%%
Student Name in Arabic:	**Section:**	**B.N.**

Choose the correct answer giving reason

1- $\int_{2}^{\infty} e^{(-3x^2+12x)}dx = (\frac{e^{12}\sqrt{3\pi}}{2}, \frac{e^{-12}\sqrt{\pi}}{2\sqrt{3}}, e^{12}\Gamma(3/2), \frac{e^{12}\Gamma(3/2)}{\sqrt{3}})$

3- $\int_{0}^{\infty} t^2 e^{4t}\ dt = (-1/4, -3/100, 1/32, , -1/64)$

2- If $\Gamma(-1/3) = n$, then $\Gamma(1/3) = (-n, -\frac{2\pi\sqrt{3}}{n}, \frac{6\pi}{\sqrt{3}n}, \frac{2\pi\sqrt{3}}{3n})$ **مع تحيات د. خالد النجار**	4- $L^{-1}\{\frac{e^{-2s}}{(s+3)^2}\} = (e^{-3t}\, t\, u(t-2), e^{6}\, e^{-3t}\, t\, u(t-2), e^{6}\, e^{-3t}\, (t-2)\, u(t-2))$