UG Admission Test, 2017
Subject: Economics

Full Marks : 50   **Duration : 1 hour 30 minutes**

Answer to each question should be given only in the space allotted below the question. Rough works may be done on pages specified for the purpose at the end of the booklet.

1. Supporters of technology say that it solves problems and makes life better. Opponents argue that technology creates new problems that may threaten or damage the quality of life. Using one or two examples, discuss these two positions. Which view of technology do you support? Why?   20

2. If $f(x+y, x-y) = xy$, find the arithmetic mean of $f(x, y)$ and $f(y, x)$.   5

3. If the circle $x^2+y^2+4x+22y+c=0$ bisects the circumference of the circle $x^2+y^2-2x+8y-d=0$, then find the value of $c+d$.   5

4. Find the equation of the tangent to the curve $y = 1-e^{x/2}$ at the point of intersection with the y-axis.   5

5. If $y = \sin x°$ and $u = \cos x$, find the value of $\frac{dy}{dx}$ 5

6. Evaluate $\int_{0}^{\pi/4} \frac{sinx + cosx}{9 + 16sin2x} dx$ 5

7. Find the differential equation of the curve $\frac{x}{c-1} + \frac{y}{c+1} = 1$ 5

ROUGH WORKS