




**DEPARTMENT OF MATHS**

**GDCR**

**ICT USED BY FACULTY**

**2023-24**

CHANGE OF SCALE PROPERTY:  
 $f(x) = F(x)$  then  $(F(x))' = \frac{1}{a} F\left(\frac{x}{a}\right)$   
Proof  $\rightarrow L(f(ax)) = \frac{1}{a} L(F(x))$   
 $= \int_0^\infty e^{-sx} f(ax) dx$   
 $= \int_0^\infty e^{-s \cdot \frac{x}{a}} f(x) \frac{dx}{a}$   
 $= \frac{1}{a} \int_0^\infty e^{-\frac{s}{a} x} f(x) dx$   
 $= \frac{1}{a} F\left(\frac{s}{a}\right)$   
 $\therefore L(f(ax)) = \frac{1}{a} F\left(\frac{s}{a}\right)$

 **GPS Map Camera**



Google

**Rajnandgaon, Chhattisgarh, India**  
**32RH+CQ3, Rajnandgaon, Chhattisgarh 491441, India**  
**Lat 21.090923°**  
**Long 81.029748°**  
**20/10/22 12:47 PM GMT +05:30**