

# 20 Lecture - MTH101

## Important Mcqs

**What is the derivative of  $\ln(x)$ ?**

- a)  $x$
- b)  $1/x$
- c)  $\ln(x)$
- d)  $0$

**Solution: b)  $1/x$**

**What is the derivative of  $e^x$ ?**

- a)  $x$
- b)  $e^x$
- c)  $\ln(x)$
- d)  $0$

**Solution: b)  $e^x$**

**What is the derivative of  $\ln(u)$ , where  $u$  is a function of  $x$ ?**

- a)  $1/u$
- b)  $u/\ln(u)$
- c)  $u'/\ln(u)$
- d)  $\ln(u)/u'$

**Solution: c)  $u'/u$**

**What is the derivative of  $e^u$ , where  $u$  is a function of  $x$ ?**

- a)  $e^u$
- b)  $u'e^u$

c)  $e^{(u/x)}$

d)  $e^{(u^2)}$

**Solution: b)  $u'e^u$**

**What is the derivative of  $\ln(ax)$ , where  $a$  is a constant?**

a)  $1/x\ln(a)$

b)  $a/x$

c)  $x\ln(a)$

d) 0

**Solution: a)  $1/x\ln(a)$**

**What is the derivative of  $e^{(ax)}$ , where  $a$  is a constant?**

a)  $ae^x$

b)  $e^{(ax)}$

c)  $x^a$

d)  $a^x$

**Solution: a)  $ae^{(ax)}$**

**What is the derivative of  $\ln(x^n)$ , where  $n$  is a constant?**

a)  $n\ln(x)$

b)  $n/x$

c)  $x/n$

d) 0

**Solution: b)  $n/x$**

**What is the derivative of  $e^{(nx)}$ , where  $n$  is a constant?**

a)  $e^{(nx)}$

b)  $n^x$

c)  $ne^{(nx)}$

d)  $e^{(n^x)}$

**Solution: c)  $ne^{(nx)}$**

**What is the derivative of  $\ln(e^x)$ ?**

a)  $x$

b)  $1$

c)  $e^x$

d)  $\ln(x)$

**Solution: b)  $1$**

**What is the derivative of  $e^{(\ln(x))}$ ?**

a)  $x$

b)  $e^x$

c)  $\ln(x)$

d)  $1$

**Solution: a)  $x$**