

Total No. of printed pages = 2

19/5th Sem/DECE502

2021

**MOBILE AND WIRELESS
COMMUNICATION**

Full Marks – 100

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. Draw and explain the working of FAX. 20
2. Write short notes on : 20
 - (i) WiFi and WiMax.
 - (ii) Idea of image processing using charged couple device.
3. Draw and explain the working optical fiber communication system. 20
4. What is the total internal reflection? Define critical angle. Let the refractive index of core and cladding is $a=1.5$, $b=1.4$ respectively. Find the numerical aperture and the critical angle. 20

[Turn over

5. Define Bandwidth-distance product. Write short notes on the following : 20
- (i) Mono mode and multi mode
 - (ii) LED and LASER
 - (iii) Optical Detectors.
6. (a) What is Cryptography ? Explain the differences between public key and private key. 10
- (b) With an example explain the differences between symmetric and asymmetric key cryptography. 10
7. What is the spread spectrum technique in wireless communication ? Explain the direct sequence and frequency hopped spread spectrum technique. 20

