(\$)3 (Sem-5) ELE M 2

dgets	(c) UCD screen 7 1 :01 2 1 electronic ga		
	display. display.		
ELECTRONICS			
	(m) (major) svitos (m)		
	Paper: 5.2 Paper: 5.2 Paper		
riving bulk	(d) Quan(sinoritaled to current as compared to		
M.	Full Marks: 60		
	Time: 3 hours		
The figures in the margin indicate full marks for the questions			
1. Choo	ose the correct answer : following 1×7=7		
(a)	One of the semiconductors used in		
	fabrication of LED is agastov tuqtuo (ii)		
	(ii) germanium towoq tuqtuo (iii)		
SULLISI	(iii) gallium arsenide algain and (ii)		
(b) '	The most sensitive photodetector is		
	(i) PIN-photodiode		
0	(ii) avalanche photodiode		
	(iii) photomultiplier tube		
A/300	(Turn Over)		

(c)	LCD screens used in electron	ic gadgets
	are display.	
	(i) passive ONTO ALE	
	(ii) active (10[BM ·)	
	hybrid stages (iii)	
(d)	Quantum well lasers need current as compared	
	semiconductor lasers.	to bulk
	(i) very high	
narks	(ii) very low	vest set?
CLEEPED	(iii) moderate	may ans
(e) -∀×1	Solar cells are connected in sparallel combinations to enha	
ni be	e(i) output current and ho	(a) One
	(ii) output voltage	
	silicon germaniam power (iii)	**
(f)	The display device that	consume
is	highest electrical power is	ay The
	(i) LCD display	(6)
	(ii) LED display	(10)
	(iii) plasma display	(68)
A/300		(Continued)

- One of the popular electrooptic crystals used in fabrication of optical modulator sumulated emission of light
- example of electronic devices that emit hight based on the processes.
- stinguish between direct and indirect
- band gap semiconducinos (iii) b type is used for fabrication of LEDs and why?
- 2. Write short answer for the following:
 - (a) Calculate the wavelength of light emitted from an LED when the semiconductor material has energyband gap of 1.43 eV.
 - How does a solar cell convert sunlight into electricity?
 - Explain briefly about working principle of photomultiplier tube.
 - (d) An LED is driven by 5 V DC voltage through a current limiting resistance of 470 Ω and yields 1 mW of output light power. If the current passing through the LED is 20 mA, calculate overall quantum efficiency of the LED.