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DHANALAKSHMI SRINIVASAN COLLEGE OF ARTS & SCIENCE FOR WOMEN (AUTONOMOUS)

(For Candidates admitted from 2019-2020 onwards)

UG DEGREE EXAMINATIONS APRIL - 2021

B.Sc.,- CHEMISTRY

GENERAL PHYSICS - II

Time: 3 Hrs

Max.Marks: 75

		PART - A							
CH	OOSE THE CORRECT ANSV	WER			(10X1=10)				
1.	Electrons were discovered by								
	a) Millikan	b) Goldstein		c) Einstein	d) Thomson				
2.	The wave associated with a mov	ving particle is called							
	a) Longitudinal wave	b) Mechanical wave		c) De- Broglie way	ve d) Planck's wave				
3.	The Nucleus consist of								
	a) Neutrons			b) Protons					
	c) Neutrons and Protons			d) Electrons and N	eutrons				
4.	Proton has the charge								
	a) 1637 times of an electron			b) 1737 times of ar	n electron				
	c) 1837 times of an electron			d) 1937 times of an electron					
5.	Which of the following can be used for the generation of Laser Pulse?								
	a) Ruby laser	b) Carbon dioxide lase	er	c) Helium neon las	ser d) Nd-YAG laser				
6.	What is the need to achieve pop	ulation inversion?							
	a) To excite most of the atoms		b) To	bring most of the a	toms to ground state				
	c) To achieve stable condition		reduce the time of	of production of laser					
7.	The most commonly used semic	conductor is							
	a) Germanium	b) Silicon		c) Carbon	d) Sulphur				
8.	An LED								
	a) Emits light when reverse biased			b) Senses light when reverse biased					
	c) Emits light when forward bia	sed		d) Acts as a variable resistance					
9. Which of the following are known as universal gates?									
	a) EX- NOR b) AN	D & OR	c) XO	R & OR d)	NAND & NOR				
10.	. Convert 10100011 from binary t	to decimal							
	a) 121	b) 163		c) 199	d) 212				

ANSWER ALL THE QUESTIONS

(5X7=35)

11. a) Explain photoelectric equation

(OR)

- b) Describe De Broglie concept of matter wave. Derive De Broglie wavelength.
- 12. a) Write in detail about Nuclear forces and its characteristics

(OR)

- b) Explain nuclear fission with an example.
- 13. a) What are the conditions needed for laser actions

(OR)

- b) Explain stokes and anti-stokes lines
- 14. a) Draw the circuit diagram and explain the working of Zener diode

(OR)

- b) Explain the working principle and applications of LED
- 15. a) Discuss the conversion of Decimal to Binary with an example.

(OR)

b) Describe the Demorgan's theorem in detail.

PART - C

ANSWER ANY THREE QUESTIONS

(3X10=30)

- 16. Establish Einstein's Photoelectric Equation. Describe an experiment of verify this equation.
- 17. Describe the construction and working of Betatron
- 18. Explain the energy level diagram of He-Ne Laser with diagram
- 19. Explain with block diagram about the working of a RADAR
- 20. State and prove NAND and NOR as an universal logic gates.