PHYSICS 1 – SYGS – SEM IV

PRACTICE TEST QUESTION

diameter of the wire increased. a) remains same b) decreases c) increases d) reduces to zero 2 According to Huygens's theory; "No back wave" only forward propagation of a wavefront is effective then for 'obliquity factor' 0 is a) 0° b) 90° c) 180° d) reduces to zero 3 Diffraction effect can be observed in a) only sound waves b) only light waves c) only ultra-sonic wave d) sound and light waves both 4 Direction of first secondary maximum in the Fraunhofer diffraction pattern at a single slit is given by (a = width of the slit) a) a sin0= \(\frac{\gamma}{2}\) b) a cos0= \(\frac{3\gamma}{2}\) c) a sin0= \(\frac{\gamma}{2}\) d) a sin0= \(\frac{3\gamma}{2}\) 5 The angle between pass axis of polarization and analyser is 45°. The percentage of polarized light passing through analyser is a) \(\frac{75\%}{6}\) b) \(\frac{25\%}{6}\) c) \(\frac{100\%}{6}\) d) \(\frac{50\%}{6}\) Transverse nature of light was confirmed by the phenomenon of of light. a) \(\frac{86\%}{100\%}\) c) \(\frac{100\%}{100\%}\) d) \(\frac{1000\%}{1000\%}\) d) \(\frac{1000\%}{1000\%}\) d) \(\frac{1000\%}{1000\%}\) d) \(\frac{1000\%}{1000\%}\) d) \(\frac{1000\%}{1000\%}\) d) \(\frac{10000\%}{1000\%}\) d) \(1000000000000000000000000000000000000	1	Fresnel's diffraction due to a narrow wire; the fringe width if the
b) decreases c) increases d) reduces to zero According to Huygens's theory; "No back wave" only forward propagation of a wavefront is effective then for 'obliquity factor' θ is a) 0° b) 90° c) 180° d) reduces to zero Diffraction effect can be observed in a) only sound waves b) only light waves c) only ultra-sonic wave d) sound and light waves both Direction of first secondary maximum in the Fraunhofer diffraction pattern at a single slit is given by (a = width of the slit) a) a sinθ = λ/2 b) a cosθ = 3λ/2 c) a sinθ = λ d) a sinθ = 3λ/2 The angle between pass axis of polarization and analyser is 45°. The percentage of polarized light passing through analyser is a) 75% b) 25% c) 100% d) 50% Transverse nature of light was confirmed by the phenomenon of of light. a) Refraction b) Diffraction c) Dispersion d) polarization In the case of linearly polarized light, the magnitude of the electric field vector a) Is parallel to the direction of propagation		diameter of the wire increased.
c) increases d) reduces to zero According to Huygens's theory; "No back wave" only forward propagation of a wavefront is effective then for 'obliquity factor' θ is		a) remains same
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7 In the case of linearly polarized light, the magnitude of the electric field vector a) Is parallel to the direction of propagation		
vector a) Is parallel to the direction of propagation	7	, ,
a) Is parallel to the direction of propagation	'	
		
		b) does not change with time

	c) increases linearly with time
	d) varies periodically with time
8	Which of the following is a uniaxial crystal?
	a) Borax
	b) Mica
	c) Quartz
	d) Selenite
9	The number of nibbles, which make up one byte is
	a) 2
	b) 4
	c) 6
	d) 12
10	A full adder consists of
	a) AND gate
	b) NAND gate
	c) EXOR and AND gate
	d) EXOR and OR gate
11	Flipflops can be used to store
	a) one byte data
	b) one bit data
	c) two bit data
	d) two byte data
12	Any sequential logic circuit consists of
	a) only flip flops
	b) only logic gates
	c) flip flops and logic gates
	d) only combinational logic gates.
13	$(4DCB)_{16} = (?)_8 = (?)_{10}$
	$_{a)}$ (46713) ₈ and (19915) ₁₀
	$_{\rm b)}~(467)_{\rm 8}~{\rm and}~(19915)_{10}$
	$_{c)}$ (46713) ₈ and (115) ₁₀
	d) (48713) ₈ and (29915) ₁₀
14	Half-adders have a major limitation in that they cannot
	a) Accept a carry bit from a present stage
	b) Accept a carry bit from a next stage
	c) Accept a carry bit from a previous stage
4 =	d) Accept a carry bit from the following stages
15	How many AND, OR and EXOR gates are required for the configuration of
	full adder?
	a) 1, 2, 2
	b) 2, 1, 2
	c) 3, 1, 2
	d) 4, 0, 1