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ARAB REPUBLIC OF EGYPT

١٨٠٧ / ٥ / E / أول (إجابة)

Ministry of Education

General Secondary Education Certificate Examination 2020

[Third Year Secondary – First Session]

Model Answer to Physics

نموذج إجابة الفيزياء (بالإنجليزية) – (شئل دماغى) – (الدور الأول ٢٠٢٠) - (الإجابة فى خمس صفحات)

Total Mark: 60 Marks

**First Group: Questions (1 – 9) (12 Marks)**

1)	The student is asked to answer (a) or (b). (a) Ohm's law (b) Electromotive force of a source	(One Mark)
2)	The student is asked to answer (a) or (b). (a) The sensitivity of the galvanometer. (b) The Tesla	(One Mark)
3)	The student is asked to answer (a) or (b). (a) The transformer (b) The eddy currents	(One Mark)
4)	(One Mark) a magnetic	
5)	(One Mark) inertia	
6)	(One Mark) 1.5 V	
7)	(Two Marks) First: $\frac{\mu I^2 L}{2\pi d}$ Second: direction of current in both wires	(One Mark) (One Mark)
8)	(Two Marks) mechanical electrical	(One Mark) (One Mark)
9)	(Two Marks) $1.3 \times 10^{-8} \text{ N}$	

(بقية الإجابة فى الصفحة الثانية)

**Second Group: Questions (10 – 18) (12 Marks)**

10)	The student is asked to answer (a) or (b). (a) Lenz's rule (b) Faraday's law	(One Mark)
11)	The student is asked to answer (a) or (b). (a) voltage (b) Graph (1)	(One Mark)
12)	The student is asked to answer (a) or (b). (a) forward (b) constant	(One Mark)
13)	(One Mark) The electron speed	
14)	(One Mark) The motor	
15)	(One Mark) constant	
16)	(Two Marks) <b>First:</b> Efficiency of transformer <b>Second:</b> ideal	
17)	(Two Marks) greater than	
18)	(Two Marks) 180 $\Omega$	

(بقية الإجابة في الصفحة الثالثة)

**Third Group: Questions (19 – 27) (12 Marks)**

19)	The student is asked to answer (a) or (b). (a) The electrical conductivity of the material (b) The electrical resistance	(One Mark)
20)	The student is asked to answer (a) or (b). (a) rise (b) eddy currents	(One Mark)
21)	The student is asked to answer (a) or (b). (a) Volt. Second/Ampere (b) Oscillation/second	(One Mark)
22)	(One Mark) $F = B I L$	
23)	(One Mark) greater than	
24)	(One Mark) normal to the coil plane	
25)	(Two Marks) increasing the current intensity in the primary coil (One Mark) bringing the primary coil closer to the secondary coil (One Mark)	
26)	(Two Marks) greater than $I_g$	
27)	(Two Marks) 0.1 Volt	

(بقية الإجابة في الصفحة الرابعة)

**Fourth Group: Questions (28 – 36) (12 Marks)**

28)	The student is asked to answer (a) or (b). (a) Wien's Law (b) The photon	(One Mark)
29)	The student is asked to answer (a) or (b). (a) $\left( \beta = \frac{\mu I}{2 \pi d} \right)$ (b) $( \tau = \beta I A N \sin \theta )$	(One Mark)
30)	The student is asked to answer (a) or (b). (a) Ampere's right-hand rule (b) Fleming's left-hand rule	(One Mark)
31)	(One Mark) heat	
32)	(One Mark) 0.707	
33)	(One Mark) a direct current	
34)	(Two Marks) First: the spiral springs (One Mark) Second: The ohmmeter (One Mark)	
35)	(Two Marks) First: 0.08 Wb (One Mark) Second: 0.4 m <sup>2</sup> (One Mark) ( وأي إجابة أخرى يجيب عنها الطالب يحصل على الدرجة )	
36)	(Two Marks) First: 1.5 Ω (One Mark) Second: 6 A (One Mark)	

( بقية الإجابة في الصفحة الخامسة )

**Fifth Group: Questions (37 – 45) (12 Marks)**

37)	The student is asked to answer (a) or (b). (a) analog (b) a bar magnet	(One Mark)
38)	The student is asked to answer (a) or (b). (a) two insulated cylindrical halves (b) unidirectional only	(One Mark)
39)	The student is asked to answer (a) or (b). (a) protect the environment and general health (b) define the current direction in the circuit	(One Mark)
40)	(One Mark) emit electrons	
41)	(One Mark) its number of turns	
42)	(One Mark) <u>1</u> <b>10000</b>	
43)	(Two Marks) the resistance of a conductor Ohm's law	(One Mark) (One Mark)
44)	(Two Marks) First: parallel only Second: operate at the same voltage	(One Mark) (One Mark)
45)	(Two Marks) $4 \times 10^{-5} \text{ T}$	

( انتهت الإجابة )