وزارة التربية والتعليم والتعليم الفني
وحدة تشغيل وادارة مدارس التكنولوجيا التطبيقية
مدرسة WE للتكنولوجيا التطبيقية بالدقهلية

التكنولوجيا التطبيقية
APPLIED TECHNOLOGY
وزارة التربية والتعليم والتعليم الفني

MANSOURA WE SCHOOL
FOR APPLIED TECHNOLOGY

الاختبـــار التكوينى الثالث 2024 - 2025

المـادة	الصـــف	زمن الاختبار
Advanced Physics	الثاني الثانوي	ساعة و نصف

Group (1) : CORRECT the under line TPK1 (6 min)

No.	Question
1	When you scuff your shoes across a nylon carpet produce a dynamic electricity
2	It is called static because the charges flow through the conductor.
3	Charge is a vector quantity

Group (1) : answer the following TPK1(8 min)

No.	Question
4 5	State two things of Uses of static electricity
6	Define insulator
7	Mention the measuring unit for electric charge

Group (1) : True or false with correct answer TPK1 (6 min)

No.	Question
8	Like charges repel each other, while opposite charges attract.
9	When a strip of polythene rod is rubbed with cloth it becomes positively charge
10	Materials that do not allow electric charges to flow freely are called insulator

Group (2) : True or false with correct answer TPK2& TPK3 (8 min)

No.	Question
11	Electrostatic forces are governed by a simple relationship known as Coulomb's law and are most conveniently described by using the concept of magnetic field
12	The two forces between two charges are equal in magnitude but opposite in direction
13	Coulomb found the force F, varied directly with the squared of the distance between the centers of the spheres
14	Coulomb found how the force between the two charged spheres, A and B, depended on their charges

Group (2) : Choose the correct answer TPK2 & TPK3 (6 min)

No.	Question	
15	**What is the unit of the value of the proportionality constant in Coulomb's law**	
16	**electrostatic forces are of great importance in .....**	
	a- chemistry	**b- technological applications**
	c- biology	**d- all of them**
17	**When the distance between two charged particles is halved then the force between them becomes .....**	
	a- doubled	**b- increase four times**
	c- decreases to halve	

Group (2) : Complete the following statements TPK2& TPK3 (6 min)

No.	Question
18	after we charge both plastic rods by rubbing them with the piece of fur, we find that the rods ……. each other.
19	when we rub glass rods with silk, the glass rods also become charged and …….. each other
20	charged plastic rod ……. a charged glass rod

Group (2) : Solve the following TPK2 &TPK3(10 min)

No.	Question
21 22	
23 24	What is the force between two small charged spheres having charges of 20μC and 30μC placed 20 cm apart in air?

Group (3) : correct the under line TPK4 (6 min)

No.	Question
25	The electric field is a scalar quantity
26	The instrument used for measuring the electric field is known as galvanometer
27	the electric field intensity is measured in Newton

Group (3) : Choose the correct answer TPK4 (6 min)

No.	Question	
28	a stationary positive charge has electric field lines pointing	
	A) Inwards	B) Right
	C) outwards	D) Left
29	The force acting on an electric charge inside an electric field depends on	
	A) amount of charges	B) The diameter
	C) the distance between them	D) Both A and C.
30	The type of force between two charges	
	A) Always repulsion force	B) Always attraction force
	C) Independent on the type of electrical charges	D) Depends on the type of electrical charges

Group (3) : Solve the following : TPK4 (8 min)

No.	Question
31 32	A force of 3 N acts on the charge which is found in a uniform electric field E= 12 N/C . Determine the force on the charge

Group (4) : True or false TPK4(6 min)

No.	Question
33	When the capacitor is charged, both plates are charged positively
34	An electric field is only generated surrounding a negative electric charge
35	The electric field exerts force on other charges.
36	The electric field intensity is the electric field lines per unit volume

Group (4) : Choose the correct answer TPK4 (6 min)

No.	Question	
37	The unit of capacitance is	
	A) farad	B) newton
	C) ampere	D) Ohm
38	If a 20 μF capacitor is connected to a 10 V source, the charge is	
	a) 20 μC	b) 200 μC
	c) 2μC	d) 0.5 μC

Group (4) : solve problem : TPK4 (8 min)

No.	Question
39 40	Find the equivalent capacitance