TEHCNICAL SUBJECTS

INSTRUCTION: Select the correct answer for each of the following questions. Mark <u>only one answer</u> for each item by shading the box corresponding to the letter of your choice on the answer sheet provided. STRICTLY NO ERASURES ALLOWED. Use pencil No. 1 only.

MULTIPLE CHOICE

1.	A 6-volt lead-acid battery has an internal resistance of 0.01 ohm. How much current will flow if the battery has a					
	short circuit? a. 60A	b. 600A	c. infinity	d. zero		
2.	A binary alloy of copper an a. Bronze	d zinc. b. Brass	c. Alnico	d. Steel		
3.	The resistance of a conduct a. increases	tor when its temperature b. remain constant	e is increased, c. varies	d. decreases		
4.	A voltage source of 20V is applied across the terminals of a 2.5-ohm rheostat. Calculate the power dissipated in the rheostat?					
	a. 160W	b. 100W	c. 150W	d. 180W		
5.	Unit of electrical pressure is a. watt	s b. ampere	c. ohm	d. volt		
6.	Two resistors of resistance power absorbed in the 5-of	across a 60-volt source. What is the				
	a. 50 watts	b. 25 watts	c. 125 watts	d. 100 watts		
7.	When using ohms law, E d a. watts	ivided by I would solve for b. amperage	or c. voltage	d. resistance		
8.	In resistance color coding, a. 3	red color is assigned to b. 0	a value c. 2	d. 1		
9. An electric iron takes 3 ¹ / ₂ amps. If the heating element has a resistance of 40 ohms, what is its consumption?						
	a. 0.45 kW	b. 0.49 kW	c. 0.35 kW	d. 0.51 kW		
10.	Another name for a seconc a. Wet cell	lary cell. b. Storage cell	c. Dry cell	d. Disposable cell		
11. Two resistances of 8 and 10 ohms respectively are connected in parallel and take a total current of 9 A. What is the current flowing in the 8-ohm resistance?						
	a. 5 A	b. 4 A	c. 6 A	d. 3 A		
12.	12. What is the resistance must be connected across a 4-ohm resistor in order to give an equivalent resistance of 3 ohms?					
	a. 10 ohms	b. 8 ohms	c. 12 ohms	d. None of these		
13.	 13. How is voltmeter connected in a circuit? a. Connect in short circuit across the load b. Connect in shunt across the load 					

- c. Connect in series across the load
- d. Connect in open circuit with the load

TEHCNICAL SUBJECTS

14.	Component of an atom a. Electron	n that doesn't have any elect b. Proton	trical charge. c. Neutron	d. None of these		
15.	a. increasing theb. increasing the	structed in multiple for the pu emf of the cell capacity of the cell internal resistance of the ce				
16.	A measuring instrumer a. Micrometer	nt used to measure the diam b. Millimeter	neter of circular wires in c. Wire gauge	mills. d. Milliammeter		
17.	The electron in the last a. bound electrons	t orbit of an atom are called s b. free electrons	c. valence electron	s d. charged electrons		
18.	A 400 MCM cable has a. 10.81	37 strands. What is the diar b. 1081	meter if each strand in m c. 104	nills? d. 108		
19.	The copper field coils of a motor was measured at 21°C and found to have a resistance of 68 ohms. After the motor has run for a given time, the resistance is found to be 90 ohms. What is the hot temperature of the winding?					
	a. 106.36°C	b. 166.30°C	c. 103.66°C	d. None of these		
20.	A secondary cell is cha a. 100 coulombs			low much charge is accumulated? s d. 60,000 coulombs		
21.	A cell whose emf is 1.4 across a 1 – ohms res a. 0.4 A		nce of 4 ohms. What cur c. 0.5 A	rent will flow if this cell is connected d. 0.3 A		
22.	What is the diameter o a. 1.6 mm	f a copper wire having a cro b. 7.8 mills	oss sectional area of 3,90 c. 0.6 inch	69 CM? d. None of these		
23.	 3. When n equal resistors are connected in series to a source of emf E volts, each having a resistance of R ohms, which of the following statements is true? a. The voltage drop across one of the resistor is equal to E/n b. The equivalent resistance of the circuit is equal to nR c. The current through each of the resistor is the same d. All of these 					
24.	Give an example of an a. Brass		c. Slate	d. Latex		
25.	the bulb?			20-V line. What is the current through		
	a. 1.2 A		c. 0.012 A	d. 12 A		
26.	Practically all batteries a. 8	have a nominal rating base b. 24	d on the hour rate c. 16	of discharge. d. 12		
27.	The energy stored in a a. an electrical		c. a mechanical	d. a chemical		
28.	The most common usa a. limit a current	age of resistors in electronic	circuits is to b. introduce a voltag	e drop		

TEHCNICAL SUBJECTS c. generate heat d. all of these 29. A 200-V lamp has a hot resistance of 400 ohms. The power rating in watts of the lamp is a. 100 W b. 200 W c. 600 W d. 250 W 30. A battery is charged at 15 A for 10 hours. If the charging voltage is 120 V, what is the charging cost at 1.00 per kW-hr? c. 12 pesos a. 15 pesos b. 18 pesos d. 20 pesos 31. How much current is produced by a 60-V source connected across a 12-k Ω resistance? b. 7.2 A c. 20 mA a. 5 A d. 5 mA 32. If 18 resistances, each of a value of 36 ohms, are connected in parallel, then the total resistance is b. 2 ohms c. 648 ohms d. 54 ohms a. 36 ohms 33. A wire whose resistance is r ohms is being cut into four equal parts. If these parts are to be connected in parallel, how much is the equivalent resistance in ohms? a. r/12 b. r/16 c. r/8 d. r/4 34. The resistance of the material in inversely proportional to its c. cross-sectional area b. temperature d, all of these a. length 35. An ammeter is connected _____. a. across the load b. in series with the load c. in series-parallel across the load d. none of these 36. If the number of valence electrons is exactly four, the material is b. a semi-conductor c. an insulator d. a superconductor a. a conductor 37. Commercial unit of an electrical energy. a. Joule b. Watt-hour c. Megawatt d. Kilowatt-hour 38. What is the resistance that must be connected in parallel with a 1.0-ohm resistance to give an equivalent resistance of 0.2 ohm? b. 0.25 ohm c. 1.20 ohm a. 0.75 ohm d. 0.50 ohm 39. When a battery is discharged in use, its voltage is the theoretical voltage. b. 96 a. 86.73 c. 63.78 d. 73.86 40. A water heater takes 2.5 A at 230 V. What is its hot resistance? b. 980 W d. 200 W a. 20 W c. 500 W 41. An electric iron draws 15 A at 220 V. It is desired to reduced the current to 12 A by connecting a series rheostat. What is the resistance of the rheostat? a. 3.66 ohms b. 4.55 ohms c. 5.12 ohms d. 1.86 ohms 42. The ability of a conductor to allow current flow. a. Resistance b. Coefficient of resistance c. Conductance d. Permeability

43. Blue is assigned to what digit value in the resistance color code? a. 5 b. 6 c. 7

d. 4

TEHCNICAL SUBJECTS

- 44. Three 120-ohm resistor are connected in series-parallel. The equivalent resistance of the combination is c. 180 ohms a. 360 ohms b. 80 ohms d. 40 ohms
- 45. A 25-W incandescent bulb rated at 120 V and operated on a 120 V line has burnt out and has to be replaced as soon as possible. There are several lamps available but not of the same rating. Which of the bulbs below should be used to approximate the power consumption of the busted bulb?
 - a. 20 watts, 110 volts b. 100 watts, 240 volts
 - c. 50 watts, 240 volts d. 75 watts, 220 volts
- 46. A resistor of 3 ohms is connected in parallel with one of 2-ohm resistance. If the combination is connected in series with a 4-ohm resistor, what is the equivalent resistance of the whole combination of three resistors? b. 5.8 ohms d. 5.2 ohms a. 6.4 ohms c. 4.5 ohms
- 47. A substance that cannot be decomposed any further by a chemical reaction. b. Element c. Molecule a. Ion
 - d. None of these
- 48. A resistance of 4 0hms is connected in series to a parallel connection of two 8-ohm resistance. The total resistance is a. 6 ohms b. 20 ohms c. 8 ohms d. 12 ohms
- 49. One horsepower is equivalent to how many watts? a. 746 b. 764 c. 674 d. None of these
- 50. A resistor of 4-ohm resistance is connected in parallel with a series combination of two resistors, 3-ohm and 1ohm respectively. What is the equivalent resistance of the whole combination? d. None of these a. 8 ohms b. 3 ohms c. 5 ohms

*** END ***

SUBMIT THIS TEST QUESTION SET TOGETHER WITH THE ANSWER SHEET TO YOUR WATCHERS. BRINGING THE TEST QUESTION SET OUT OF THE ROOM WILL BE A GROUND FOR DISCIPLINARY ACTION.