

A S-3

18/A/C/S-1/4/E

Booklet Series C

033/231, 035/233,
041/234, 070/232

PAPER-I
ELECTRICIAN / ELECTROPLATOR / LIFT MECHANIC / LIFT & ESCALATOR
MECHANIC / WIREMAN
(THEORY & EMPLOYABILITY SKILLS)
SEMESTER - I

TIME : 3 Hrs.

MARKS: 200

Note:- This paper contains two parts – Part A & Part B.

Attempt all the questions.

All questions carry equal marks.

This paper carries negative marking. 25% marks will be deducted for each wrong answer.

PART-A (Theory)

(MARKS: 150)

Choose the correct answer:

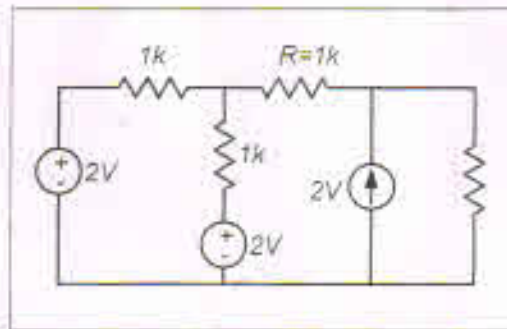
1. A 100W, 220 volt lamps takes a current of –
a) 5/11 A b) 2.2 A c) 0.22 A d) 5/22 A
2. The r.m.s. value of sinusoidal alternating current is given by the relation –
a) $I_m/2$ b) $0.637 I_m$ c) $2I_m/\pi$ d) $I_m\sqrt{2}$
3. In a pure inductive A.C. circuit –
a) Voltage leads the current vector by 90° b) Voltage lags the current vector by 90°
c) Current leads the voltage vector by 90° d) Current is in phase with the voltage vector
4. Primary battery is such a battery –
a) Which can be recharged
b) Which cannot be reconditioned by replacing chemical
c) Which cannot be reused
d) Which cannot be recharged

Contd....2

5. Internal resistance of a battery cell increases with –
 a) Increases in concentration of electrolyte
 b) Increase in distance between two electrodes
 c) Increases in area of the plates inside the electrolyte
 d) Increase in size of the electrodes
6. If cells are connected in series, then _____ will increase.
 a) Current b) Voltage c) Power d) Energy
7. If Z is the electro – Chemical equivalent of a substance of the electrolyte. E is the chemical equivalent of the same substance, then the relation between Z & E will be –
 a) $Z \propto E$ b) $Z = E$ c) $Z < E$ d) $Z > E$
8. Negative electrode or anode of simple voltaic cell is made of –
 a) Copper b) Zinc c) Lead d) Carbon
9. E.C.E stands for –
 a) Electrovalent chemical equivalent b) Electrolysis cathode equivalent
 c) Electro chemical equivalent d) None of these
10. Resistivity of metals is expressed in terms of –
 a) $\mu\Omega$ b) $\mu\Omega \cdot \text{cm} / ^\circ\text{C}$ c) $\mu\Omega \cdot \text{cm}$ d) Ω
11. Permittivity of free space is equal to –
 a) $8.84 \times 10^{-12} \text{ F/m}$ b) $8.84 \times 10^{-13} \text{ F/m}$
 c) $8.84 \times 10^{-11} \text{ F/m}$ d) $8.84 \times 10^{-10} \text{ F/m}$
12. Which resistor will be physically larger in size?
 a) $100 \Omega, 10 \text{ W}$ b) $10 \Omega, 50 \text{ W}$ c) $1 \text{ M}\Omega, 1/2 \text{ W}$ d) $1 \text{ k}\Omega, 1 \text{ W}$
13. Two resistor are said to be connected in parallel when –
 a) Same current passes in turn through both
 b) Both carry the same value of current
 c) Voltage across each resistance are same
 d) Voltage across each resistance are not same

14. The electrical resistance of human body is around –
a) 5 ohms b) 25 ohms c) 250 ohms d) 1000 ohms
15. A $3\ \Omega$ resistor having 2A current will dissipate the power of –
a) 2 W b) 4 W c) 8 W d) 12 W
16. The filament of an electric bulb is made of –
a) Carbon b) Nickel c) Aluminium d) Tungsten
17. An current of 6 A is same as –
a) 6 Joule / Second b) 6 Coulomb / Second
c) 6 Watt / Second d) None of these
18. The equation of alternating current is $i=42.4 \sin 628 t$. Then the average value of current is –
a) 42.42 A b) 27 A c) 38 A d) 22 A
19. The rms value of a half wave rectified symmetrical square wave current of 2 A is given by –
a) 0.707 A b) 1 A c) 1.414 A d) 1.732 A
20. A capacitor stores 0.24 coulombs at 10 volts. Its capacitance is –
a) 0.024 F b) 0.12 F c) 0.60 F d) 0.80 F
21. If the sheet of a bakelite is inserted between the plates of an air capacitor, the capacitance will –
a) Decrease b) Increase
c) Becomes zero d) Remains unchanged
22. Three capacitors each of capacity C are given. The resultant capacity $(2/3) C$ can obtained by using them –
a) All in series
b) All in parallel
c) Two in parallel and third in series with this combination
d) Two in series and third in parallel across this combination

23. The power dissipated in a pure capacitor is –
 a) Zero
 b) Proportional to applied voltage
 c) Proportional to the value of capacitance
 d) Both (b) & (c)
24. Three element having conductance G_1 , G_2 and G_3 are connected in parallel. Their combined conductance will be –
 a) $(G_1 + G_2 + G_3)^{-1}$
 b) $G_1 + G_2 + G_3$
 c) $1/G_1 + 1/G_2 + 1/G_3$
 d) $(1/G_1 + 1/G_2 + 1/G_3)^{-1}$
25. Which of the following materials has highest electrical conductivity?
 a) Steel
 b) Aluminium
 c) Copper
 d) Silver
26. If the phase angle between voltage and current of a 1- ϕ AC current is 60° , then power factor is the circuit is –
 a) 0.2
 b) 0.5
 c) 0.707
 d) 1.0
27. The current in the resistor R shown in Figure will be –
 a) 0.2 A
 b) 0.4 A
 c) 0.6 A
 d) 0.8 A



28. Which of the following has positive temperature coefficient?
 a) Germanium
 b) Gold
 c) Paper
 d) Rubber
29. Which law(s) find application in electrolysis?
 a) Ohms' law
 b) Gauss's law
 c) Faradays' law
 d) Coulomb's law

30. Silver coating is provided for –
a) Protective purpose
b) Decorative purpose
c) Bearing surface
d) All of these
31. The permanent magnets are made from which of following materials?
a) Soft iron b) Ferromagnetic c) Paramagnetic d) Diamagnetic
32. The Biot-savart's law is a general modification of –
a) Kirchhoff's law b) Lenz's law c) Ampere's law d) Faradays' law
33. 1 Maxwell is the same as –
a) 10^{-8} weber b) 10^8 weber c) 10^4 weber d) 10^{-4} weber
34. The direction of induced emf can be found by –
a) Laplace's law b) Kirchhoff's voltage law
c) Lenz's law d) Fleming's right hand rule
35. A closed switch has a resistance of -
a) Zero b) About 50 ohms c) About 500 ohms d) Infinite
36. The energy stored in an inductor of inductor L Henry is represented as –
a) $i^2 L$ b) iL^2 c) $(1/2)Li^2$ d) L^2/i
37. The forbidden energy gap for germanium is –
a) 0.3 eV b) 3.5 eV c) 0.72 eV d) 1.1 eV
38. The bandgap of silicon at room temperature is –
a) 1.3 eV b) 0.7 eV c) 1.1 eV d) 1.4 eV
39. The earth wires are made of –
a) Copper b) Aluminium
c) Iron d) Galvanized stranded steel

40. The rating of fuse is always expressed in –
a) Volts b) Amperes c) Ampere-volts d) Ampere hours
41. A fuse is –
a) Always connected in series with the circuit
b) Always connected in parallel with the circuit
c) Normally connected in series with the circuit
d) Normally connected in parallel with the circuit
42. The size of conductor used in power cables depends on –
a) Operating voltage b) Power factor
c) Current to be carried d) Type of insulation used
43. Ohm's law is applied to –
a) Semiconductors b) Electrolytes c) Carbon resistors d) All of these
44. Two wires A and B of the same material and length L and $2L$ have radius R and $2R$ respectively. The ratio of their specific resistance will be –
a) 1:1 b) 1:2 c) 1:4 d) 1:8
45. Ideal voltage sources have –
a) Zero internal resistance b) Infinite internal resistance
c) Low value of current d) Large value of emf
46. Kirchhoff's laws are valid for –
a) Linear circuit only b) Passive time invariant circuits
c) Nonlinear circuits only d) Both linear and nonlinear circuits
47. The unit of impedance is –
a) Ohms b) Siemens c) Mho d) Henry
48. The value of peak factor of a sinusoidal waveform is –
a) Zero b) 1 c) 1.11 d) 1.41

49. The algebraic sum of incoming current is equal to the sum of outgoing current is the statement of –
- | | |
|---------------------------|---------------------------|
| a) Kirchoff's current law | b) Kirchoff's voltage law |
| c) Ohm's law | d) Joule's law |
50. A 12 V battery under fully charged condition has open circuit voltage of –
- | | | | |
|---------|--------------------|--------------------|-----------------------|
| a) 12 V | b) $< 12\text{ V}$ | c) $> 12\text{ V}$ | d) $\leq 12\text{ V}$ |
|---------|--------------------|--------------------|-----------------------|

PAPER - I
SEMESTER - I
(MORNING SESSION)
(TWO YEAR TRADES)

PART- B (EMPLOYABILITY SKILLS) (50)

Choose the correct answer: -

1. Which of the following input device is used in playing computer games?
a) Scanner b) Light pen c) Joy stick d) Digital camera
2. Which of the following is used to capture and store scenery when you go to visit a hill station?
a) CPU b) Photo scanner c) Handheld scanner d) Digital camera
3. A _____ is used for CAD and CAM applications.
a) Printer b) Scanner c) Barcode Reader d) Plotter
4. Two popular pointing devices are _____.
a) MICR and OCR b) Light Pen and Joy Stick
c) Mouse and Joy Stick d) Mouse and Digital Camera
5. 8 bits = _____ byte (s).
a) 3 b) 4 c) 1 d) 2
6. External memory or _____ is a form of permanent storage.
a) Secondary memory b) Primary memory
c) Internal memory d) Random Access memory
7. GUI stands for _____.
a) Group User Interface b) Graphical Utility Interface
c) Graphical User Interface d) Guided User Interface
8. To move a file/ folder from one location to another, use _____ option.
a) Copy and Paste b) Cut and Paste c) Move and Paste d) Delete and Paste

18/A/C/S-1/4/Engg/Non Engg

9. _____ is a list of available commands.
 a) Windows explorer b) Desktop c) Menu d) Icons
10. Different type of indentations are _____.
 a) Left and Right b) First Line and Right
 c) Left and First Line d) Left, First Line and Right
11. Before final printout is taken, you can see the _____ of the worksheet to see how it would appear in the printout.
 a) Print sample b) Page setup c) Print preview d) None of these
12. Broadband refers to _____.
 a) Speed of data transfer b) Amount of data transfer
 c) Both (a) & (b) d) None of these
13. BCC option is used to send a copy of e-mail to _____.
 a) A blind person
 b) Several people without letting them know sender's address
 c) Several people without letting the other recipients know
 d) All of these
14. Fill in the blank with a, an, the or this.
 _____ Aeroplane flies in the air.
 a) A b) An c) The d) This
15. A group of words which makes sense, but not completes sense, is called _____.
 a) Phrase b) Adverb c) Adjective d) Verb
16. Choose the correct answer in responds to the mentioned question.
 "When will you see the movie?"
 a) At 3.15 P.M., tomorrow b) In PVR cinema
 c) At 2.45 P.M. d) At home
17. We should _____ during communication.
 a) Not listen the speaker, carefully b) Interface to the speaker
 c) Listen to the speaker, carefully d) All of these
18. Choose the correct preposition?
 The young gentleman is engaged _____ Miss Brown.
 a) In b) With c) At d) Above

19. Which one from the following is not a cardinal number _____
a) 20 b) 56 c) 18th d) 9
20. Which is a silent letter in the word 'Psychology' ?
a) O b) H c) S d) P
21. Fill in the blank with correct future tense of verb.
'He _____ for you at the station'.
a) Has wait b) are waiting c) Had wait d) Will wait
22. The key of success is _____
a) Commitment b) Discipline c) Hard work d) All of these
23. A normal person can speaks _____ words per minute.
a) 125 – 150 b) 150 – 175 c) 100 – 125 d) 175 – 200
24. Synonym of the word "Blend" is _____
a) Mix b) Award c) Daring d) Proposal
25. Idioms provide _____ in communication.
a) Motivation b) Clarity c) Speed d) Barrier
