

ಕರ್ನಾಟಕ ಪ್ರೌಢ ಶಿಕ್ಷಣ ಪರೀಕ್ಷಾ ಮಂಡಳಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560 003

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD,
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ಪತ್ರಿಕೆ - 03 / Paper - 03

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SSLC MAIN EXAMINATION – 2021

**ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಮೆಕ್ಯಾನಿಕಲ್ ಅಂಡ್ ಎಲೆಕ್ಟ್ರಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್ - 2
& ಇಂಜಿನಿಯರಿಂಗ್ ಗ್ರಾಫಿಕ್ಸ್ - 2**

**Subjects : Elements of Mechanical & Electrical Engineering - 2
& Engineering Graphics - 2**

(ಇಂಗ್ಲಿಷ್ ಮಾಧ್ಯಮ / English Medium)

(CCE-RF / CCE-RR)

ಉತ್ತರಗಳ ಸಂಕೇತಗಳು

KEY ANSWERS

ಸಂಕೇತ ಸಂಖ್ಯೆ : 71-E (RF/RR)

Code No. : 71-E (RF/RR)

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಮೆಕ್ಯಾನಿಕಲ್ ಅಂಡ್

ಎಲೆಕ್ಟ್ರಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್ - 2

**Subject : ELEMENTS OF MECHANICAL AND
ELECTRICAL ENGINEERING-2**

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 50]

[Total No. of Questions : 50

ಗರಿಷ್ಠ ಅಂಕಗಳು : 50]

[Max. Marks : 50

ಈ ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗಳಿಗೆ ಅಥವಾ ಅಪೂರ್ಣ ಹೇಳಿಕೆಗಳಿಗೆ ನಾಲ್ಕು ಆಯ್ಕೆಗಳನ್ನು ನೀಡಲಾಗಿದೆ. ಅವುಗಳಲ್ಲಿ ಸರಿಯಾದ ಉತ್ತರವನ್ನು ಆರಿಸಿ ನಿಮಗೆ ನೀಡಲಾಗಿರುವ ಓ.ಎಂ.ಆರ್. (OMR) ಉತ್ತರ ಪತ್ರಿಕೆಯಲ್ಲಿ ನೀಲಿ ಅಥವಾ ಕಪ್ಪು ಶಾಯಿಯ ಬಾಲ್ ಪಾಯಿಂಟ್ ಪೆನ್‌ನಿಂದ ಸರಿಯಾದ ಆಯ್ಕೆಯನ್ನು ಗುರುತಿಸಿ : 50 × 1 = 50

2001 (MA)

[Turn over

Four choices are given for each of the following questions / incomplete statements. Choose the correct answer among them and shade the correct option in the OMR Sheet given to you with a black / blue ball point pen.

50 × 1 = 50

1. In two-stroke engine power is developed
(A) once in two revolutions (B) at half the revolution
(C) in every revolution (D) in every stroke
Ans. : (C) in every revolution
2. The function of carburetor is to
(A) provide air-fuel mixture (B) supply pure air
(C) supply fuel only (D) cool the engine
Ans. : (A) provide air-fuel mixture
3. The part of the engine which stores energy during power stroke and supply the same for the other three strokes is
(A) piston (B) crank
(C) connecting rod (D) flywheel
Ans. : (D) flywheel
4. In a diesel engine heat is supplied at constant
(A) temperature (B) pressure
(C) volume (D) enthalpy
Ans. : (B) pressure
5. The inner diameter of engine cylinder is called as
(A) bore (B) stroke
(C) clearance (D) pitch
Ans. : (A) bore
6. Compression ratio of diesel engines may have a range of
(A) 8 to 10 (B) 15 to 10
(C) 16 to 20 (D) 10 to 15
Ans. : (C) 16 to 20
7. The minimum number of rings in a piston is
(A) two (B) three
(C) four (D) six
Ans. : (B) three

8. Which type of engine do most cars have ?
(A) two-stroke cycle engine (B) rotary wankel engine
(C) free piston engine (D) four-stroke cycle engine
Ans. : (D) four-stroke cycle engine
9. The common component between a petrol engine and a diesel engine is
(A) Coiled tubes (B) Expansion valve
(C) Evaporator (D) Flywheel
Ans. : (D) Flywheel
10. Piston compression rings are made of which one of the following materials ?
(A) Bronze (B) Cast iron
(C) White metal (D) Aluminium
Ans. : (B) Cast iron
11. The device used to increase the pressure of air by compression is
(A) air hoist (B) air lift
(C) air compressor (D) air blower
Ans. : (C) air compressor
12. The ratio of the discharge pressure to the inlet pressure of air is called
(A) Expansion ratio (B) Compression ratio
(C) Compressor efficiency (D) Volumetric efficiency
Ans. : (B) Compression ratio
13. The absolute pressure of air at the outlet of a compressor is called
(A) discharge pressure (B) back pressure
(C) critical pressure (D) inlet pressure
Ans. : (A) discharge pressure
14. The commonly used refrigerant in vapour absorption refrigerator is
(A) carbon dioxide (B) sulphur dioxide
(C) ammonia (D) methyl chloride
Ans. : (C) ammonia
15. The chilling of freezing unit of refrigerator is called as
(A) Compressor (B) Cooling fan
(C) Carburetor (D) Condenser
Ans. : (D) Condenser

16. The S.I. unit of pressure is
(A) kN/m^2 (B) N/m^2
(C) kN/cm^2 (D) N/cm^2
Ans. : (B) N/m^2
17. Which has minimum freezing point ?
(A) Freon-12 (B) Freon-22
(C) Carbon dioxide (D) Ammonia
Ans. : (B) Freon-22
18. In summer air conditioning the air is
(A) cooled and dehumidified (B) cooled and humidified
(C) heated and humidified (D) heated and dehumidified
Ans. : (A) cooled and dehumidified
19. A refrigerant should have the
(A) high boiling point property
(B) high specific heat property
(C) high latent heat property
(D) high specific volume property
Ans. : (C) high latent heat property
20. The air refrigeration is preferably used in aircrafts because
(A) it uses air which is available in plenty in the atmosphere
(B) it has high COP
(C) it is cheaper
(D) its weight per ton of the refrigeration is low
Ans. : (D) its weight per ton of the refrigeration is low
21. Carriage is part of a
(A) lathe (B) drilling machine
(C) grinding machine (D) milling machine
Ans. : (A) lathe
22. Reaming is the process of
(A) enlarging a drilled hole
(B) producing counter shape to hole
(C) finishing a drilled hole
(D) smoothing and squaring the surface around the hole
Ans. : (C) finishing a drilled hole

23. Embossing a diamond shaped pattern on the surface of workpiece is called
(A) taper turning (B) knurling
(C) parting-off (D) plain turning
Ans. : (B) knurling
24. The slowest speed in lathe is adopted for the operation
(A) step turning (B) boring
(C) forming (D) thread cutting
Ans. : (D) thread cutting
25. The machining operation performed on a lathe to obtain a flat surface at the end of the workpiece is called
(A) chamfering (B) facing
(C) counterboring (D) grooving
Ans. : (B) facing
26. In a lathe apron is used to control the movement of
(A) head stock (B) tail stock
(C) chuck (D) carriage
Ans. : (D) carriage
27. In a drilling machine the linear motion of drill is called as
(A) feed (B) travel
(C) depth of cut (D) speed
Ans. : (A) feed
28. A part of drilling machine among the following is
(A) Spindle (B) Tail stock
(C) Four jaw chuck (D) Mandrel
Ans. : (A) Spindle
29. The grooves on the drill bits are called as
(A) body clearance (B) tong
(C) flute (D) land
Ans. : (C) flute
30. The operation of producing flat seat on drilled hole is called
(A) spot facing (B) drilling
(C) tapping (D) dieing
Ans. : (A) spot facing

31. As per the Fleming's left hand rule the thumb will give
(A) direction of induced e.m.f.
(B) direction of rotation of coil
(C) direction of magnetic flux
(D) direction of motion of magnet
Ans. : (B) direction of rotation of coil
32. By which law the direction of the induced e.m.f. will be identified ?
(A) Lenz's law
(B) Fleming's left hand rule
(C) Fleming's right hand rule
(D) End rule
Ans. : (C) Fleming's right hand rule
33. The magnitude of induced e.m.f. in a coil is directly proportional to the rate of change of flux linkages. This law is known as
(A) Lenz's law
(B) Kirchhoff's law
(C) Ohm's law
(D) Faraday's law of electromagnetic induction
Ans. : (D) Faraday's law of electromagnetic induction
34. What does e.m.f. stand for ?
(A) electromotive force
(B) electromagnetic force
(C) electromated force
(D) electronic magnetic force
Ans. : (A) electromotive force
35. Who has stated the right hand rule ?
(A) Oersted (B) Fleming
(C) Einstein (D) Maxwell
Ans. : (B) Fleming
36. As per electromagnetic induction, the e.m.f. is induced in a
(A) coil (B) bobbin
(C) galvanometer (D) voltmeter
Ans. : (A) coil

37. Generator works on the principle of
(A) right hand rule (B) left hand rule
(C) electromagnetic induction (D) end rule
Ans. : (C) electromagnetic induction
38. Example of self-induced e.m.f. is
(A) motor (B) regulator
(C) electric iron (D) choke
Ans. : (D) choke
39. The ratio of r.m.s. value to the average value is called
(A) Power factor (B) Q-factor
(C) Form factor (D) Rating factor
Ans. : (C) Form factor
40. D.C. can be converted into A.C. by
(A) Rectifier (B) Regulator
(C) Transformer (D) Inverter
Ans. : (D) Inverter
41. Instantaneous value at 90° and 270° is called
(A) average value (B) cycle
(C) amplitude (D) time period
Ans. : (C) amplitude
42. Alternating current changes its magnitude and
(A) deflection (B) direction
(C) di-polar (D) depletion
Ans. : (B) direction
43. Half cycle in sine wave has
(A) 360° (B) 270°
(C) 90° (D) 180°
Ans. : (D) 180°
44. S.I. unit of frequency is
(A) hertz (B) henry
(C) maxwell (D) lenz
Ans. : (A) hertz
45. Electrical power is measured by
(A) ammeter (B) voltmeter
(C) wattmeter (D) ohm-meter
Ans. : (C) wattmeter

46. The material used for heating element in electric heater is
(A) nichrome (B) nickel
(C) copper (D) aluminium
Ans. : (A) nichrome
47. Capacitor is used in electric
(A) heater (B) fan
(C) iron (D) lamp
Ans. : (B) fan
48. Majority charge carriers in P-type semiconductor are
(A) electrons (B) protons
(C) holes (D) neutrons
Ans. : (C) holes
49. PN-junction can be used as a/an
(A) regulator (B) oscillator
(C) amplifier (D) rectifier
Ans. : (D) rectifier
50. I.C. means
(A) Integrated Circuit (B) Internal Circuit
(C) Incomplete Circuit (D) Inverter Circuit
Ans. : (A) Integrated Circuit
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