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FOR KARNATAKA CLASS 10 PREPARATION

Karnataka SSLC Model Question Paper 2027 for Elements Of Electrical Engineering IV (Paper 1)

EXAM	YEAR	TYPE
Karnataka Class 10	2027	Sample Paper

51

ಕರ್ನಾಟಕ ಶಾಲಾ ಪರೀಕ್ಷೆ ಮತ್ತು ಮೌಲ್ಯನಿರ್ಣಯ ಮಂಡಲಿ.

6 ನೇ ಅಡ್ಡ ರಸ್ತೆ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – **560003**

KARNATAKA SCHOOL EXAMINATION AND ASSESSMENT BOARD.

6 th Cross, Malleshwaram Bengaluru-560003

2026-27 ರ ಎಸ್, ಎಸ್, ಎಲ್, ಸಿ. ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ –1

S S L C MODEL QUESTION PAPER-1:2026-27

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಎಲೆಕ್ಟ್ರಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್-IV

Subject: ELEMENTS OF ELECTRICAL ENGINEERING –IV

ಸಂಕೇತ ಸಂಖ್ಯೆ: 51 **Subject Code No: 51**

ಸಮಯ : 3 ಗಂಟೆ 15 ನಿಮಿಷಗಳು] [TIME :3 Hours 15 Minutes

ಗರಿಷ್ಠ ಅಂಕ : 80] [Max.Marks:80

General instruction to the candidate:

1. This question paper consists of 17 questions.

2. Follow the instructions given against the questions.

3. Figures in the right-hand margin indicate maximum marks for the questions.

4. The maximum time to answer the paper is given at the top of the question paper.
   It includes 15 minutes for reading the question paper.

[Turn over

Note: Answer all the questions

I. Four alternatives are given for each of the following questions / incomplete statements. Select the most appropriate alternative and write it in the answer book along with its alphabet. 10X1=10

1. The S I unit of time period is

   (A) Hertz (B) Seconds
   (C) Volt (D) Watt

2. For a sine wave Average value is

   (A) 0.637 (B) 1.11
   (C) 0.707 (D) 1.41

3. The core of the alternator is made of

   (A) Brass (B) Silicon steel
   (C)Aluminium (D) Copper

4. An A C Motor converts

   (A) Mechanical energy in to DC electrical energy

   (B) Mechanical energy in to chemical energy

   (C) AC electrical energy into mechanical energy

   (D) Mechanical energy in AC electrical energy

5. In step up transformer

   (A) $N_1 > N2$ (B) $I1 = I_2$
   (C) $N_1 < N_2$ (D) $N_1 = N_2$

6. Electrical heater is an example for

   (A) Magnetic effect (B) Heating effect
   (C) Lighting effect (D) Chemical effect

7. Which among the following is a renewable sources of energy

(A) Diesel energy (B) Solar energy

(C) Nuclear energy (D) Tidal energy

8. Which of the power plant uses water?

(A) Hydroelectric power plant (B)Wind power plant

(C) Solar power plant (D) Diesel power plant

9. An impurity that donates electron is called

(A) Acceptor impurity (B) Pentavalent impurity

(C) Trivalent impurity (D) Donar impurity

10. A pure semiconductor is called

(A) Extrinsic semiconductor (B) P-type semiconductor

(C) Intrinsic semiconductor (D) N-type semiconductor

II. **Answer all the questions**

11. a) Define A.C ----2

b) Explain the following terms. **----3**

i) Average value

ii) Amplitude

c) Draw the neat diagram of sine wave and mark the following:

i) Negative half cycle **----5**

ii) Frequency

12. a) Define A C Motor. **----2**

b) List any six parts of A C generator. **----3**

c) Explain the phenomenon of electromagnetic induction. **----5**

13 .a) List the applications of transistor. **----2**

b) Explain with neat diagram mutually induced emf. **----3**

c) Draw the neat diagram of wound rotor induction motor and Label the parts. **----5**

14. a) Define semiconductor. **----2**

b) Write any three applications of transformer. **----3**

c) Draw the neat diagram of transformer and label the parts. **----5**

15. a) What are the sources of energy. **----2**

b) Write short notes on thermal power plant. **----3**

c) Draw the neat diagram of wind power plant and label the parts. **----5**

16. a) Draw the symbolic representation of PNP-transistor. **----2**

b) Write the comparison between renewable and Non- renewable sources of energy. **----3**

c) Draw the neat diagram of fluorescent lamp and label the parts. **----5**

17. a) Define doping. **----2**

b) Explain the following terms. **----3**

i) Time period

ii) Power factor

c) Explain with neat diagram forward biasing of diode. **----5**