Test Booklet Series

A

Test Booklet No.

Test Booklet
(Electrical Engg.)

Name of Applicant ..... Answer Sheet No. .....

Applicant ID/Roll No. : ..... Signature of Applicant : .....

Date of Examination : ..... Signature of the Invigilator(s)

Time of Examination : ..... 1. .....

2. .....

Duration : 2 Hour] **[Maximum Marks : 100**

IMPORTANT INSTRUCTIONS

(i) The question paper is in the form of Test-Booklet containing **100 (Hundred)** questions. All questions are compulsory. Each question carries four answers marked (A), (B), (C) and (D), out of which only one is correct. Choose the correct option or the most appropriate option.

(ii) On receipt of the Test-Booklet (Question Paper), the candidate should immediately check it and ensure that it contains all the pages, i.e., **100** questions. Discrepancy, if any, should be reported by the candidate to the invigilator immediately after receiving the Test-Booklet.

(iii) A separate Answer-Sheet is provided with the Test-Booklet/Question Paper. On this sheet there are **100** rows containing four circles each. One row pertains to one question.

(iv) The candidate should write his/her Application ID/Roll number at the places provided on the cover page of the Test-Booklet/Question Paper and on the Answer-Sheet and NOWHERE ELSE.

(v) No second Test-Booklet/Question Paper and Answer-Sheet will be given to a candidate. The candidates are advised to be careful in handling it and writing the answer on the Answer-Sheet.

(vi) For every correct answer of the question **One (1) mark will be awarded**.

(vii) Marking shall be done only on the basis of answers responded on the Answer-Sheet.

(viii) To mark the answer on the Answer-Sheet, candidate should darken the appropriate circle in the row of each question with Blue or Black pen.

(ix) For each question only **one** circle should be **darkened** as a mark of the answer adopted by the candidate. If more than one circle for the question are found darkened or with one black circle any other circle carries any mark, the answer will be treated as incorrect.

(x) The candidates should not remove any paper from the Test-Booklet/Question Paper. Attempting to remove any paper shall be liable to be punished for use of unfair means.

(xi) Rough work may be done on the blank space provided in the Test-Booklet/Question Paper only.

(xii) *Mobile phones (even in Switch-off mode) and such other communication/programmable devices are not allowed inside the examination hall.*

(xiii) No candidate shall be permitted to leave the examination hall before the expiry of the time.

DO NOT OPEN THIS QUESTION BOOKLET UNTIL ASKED TO DO SO.

PART–A

1. Research is
   (A) Searching again and again
   (B) Finding a solution to any problem
   (C) Working in a scientific way to search for the truth of any problem
   (D) None of the above

2. The conceptual framework in which research is conducted is called a
   (A) Synopsis of research
   (B) Research design
   (C) Research hypothesis
   (D) Research paradigm

3. What are the main characteristics of Scientific Research?
   (A) Empirical
   (B) Theoretical
   (C) Experimental
   (D) All the above

4. Which research design will be most appropriate to study the relationship between the level of aspirations and achievement of rural children?
   (A) Experimental Research Design
   (B) Ex Post Facto Research Design
   (C) Historical Research Design
   (D) Survey Research Design

5. The principles of fundamental research are used in:
   (A) action research
   (B) applied research
   (C) philosophical research
   (D) historical research

6. A shift in attitude in respondents between two points during data collection is called
   (A) Reactive effect
   (B) Maturation effect
   (C) Regression effect
   (D) Conditioning effect

7. Ethical Norms in research do not involve guideline for:
   (A) Thesis Format
   (B) Copyright
   (C) Patenting Policy
   (D) Data sharing Policy

8. The primary objective of an experimental research design is to:
   (A) Explore an unknown topic.
   (B) Establish cause-and-effect relationships.
   (C) Describe a population or situation.
   (D) Examine the relationship between variables without manipulation.

9. The research that aims at immediate application is:
   (A) Action Research
   (B) Empirical Research
   (C) Conceptual Research
   (D) Fundamental Research

10. A null hypothesis is
   (A) when there is no difference between the variables
   (B) the same as research hypothesis
   (C) subjective in nature
   (D) when there is difference between the variables

11. When the researcher rejects a true null hypothesis a ---------- error occurs.
   (A) Type I
   (B) Type A
   (C) Type II
   (D) Type B

12. The researcher is usually interested in supporting ..... when he or she is engaging in hypothesis testing:
   (A) The alternative Hypothesis
   (B) The null Hypothesis
   (C) Both alternative and null Hypothesis
   (D) Neither the alternative or null Hypothesis

13. A research design is often described as the "blueprint" for a research project. This emphasizes its role in:
   (A) Collecting data
   (B) Analysing data
   (C) Providing a strategy and framework for the study
   (D) Presenting findings

14. What is a cross-sectional research design?
(A) A design in which a data is collected at one point of time.
(B) A design in which data is collected over a period of time.
(C) A design in which data is collected from a representative sample of the population.
(D) A design in which data is collected from a non-representative sample of the population.

15. Match the measurement scale to the given variables:

Scale of measurement	**Variable**
(a) Nominal	(i) Height of student
(b) Ordinal	(ii) Time of day
(c) Interval	(iii) Caste
(d) Ratio	(iv) Rank of Army Personnel

Choose the correct answer from the options given below:
(A) (a) – (i), (b) – (ii), (c) – (iii), (d) – (iv)
(B) (a) – (ii), (b) – (iii), (c) – (iv), (d) – (i)
(C) (a) – (iii), (b) – (iv), (c) – (ii), (d) – (i)
(D) (a) – (iv), (b) – (i), (c) – (ii), (d) – (iii)

16. Which is the simplest form of Measurement?
(A) Ordinal (B) Nominal
(C) Ratio (D) Interval

17. The data is obtained through a survey conducted is called:
(A) Primary data (B) Secondary data
(C) Continuous data (D) Qualitative data

18. A survey in which the information is collected from each and every individual of the population is known as:
(A) Sample survey (B) Pilot survey
(C) Biased survey (D) Census survey

19. Interview is an example of which data?
(A) Primary data (B) Secondary data
(C) Both (A) and (B) (D) None of the above

20. What is the process of organizing raw data into rows and columns for systematic analysis called?
(A) Compilation
(B) Presentation
(C) Tabulation
(D) Classification

21. The graphical representation of a frequency distribution is called
(A) Bar chart
(B) Line chart
(C) Histogram
(D) Pie char

22. Identify the correct sequence of research steps:
(A) Selection of topic, review of literature, data collection, interpretation of findings
(B) Review of literature, selection of topic, data collection, and interpretation of findings
(C) Selection of topic, data collection, review of literature, interpretation of findings
(D) Selection of topic, review of literature, interpretation of findings, data collection

23. When a research problem is related to heterogeneous population, the most suitable sampling method is:
(A) Cluster Sampling
(B) Stratified Sampling
(C) Convenient Sampling
(D) Lottery Method

24. A researcher wants to study the long-term effects of a new teaching method on student performance over several years. Which research design would be most appropriate?
(A) Cross-sectional design
(B) Case study design
(C) Longitudinal design
(D) Survey design

25. From the list given below identify those which are called non-probability sampling procedures:
(i) Simple random sampling
(ii) Dimensional sampling
(iii) Snowball sampling
(iv) Cluster sampling
(v) Quota sampling
(vi) Stratified sampling
Choose the correct option
(A) (i), (ii) and (iii)
(B) (ii), (iv) and (v)
(C) (i), (iii) and (v)
(D) (ii). (iii) and (v)

26. Among the following types of sampling techniques, which one is also known as 'Judgmental' sampling?

(A) Quota sampling
(B) Convenience Sampling
(C) Cluster Sampling
(D) Purposive Sampling

27. The primary objective of an experimental research design is to:

(A) Explore an unknown topic.
(B) Establish cause-and-effect relationships.
(C) Describe a population or situation.
(D) Examine the relationship between variables without manipulation.

28. "Students from the pure mathematics background can crack a bank recruitment test"—Which type of hypothesis is this?

(A) Relational Hypothesis
(B) Descriptive hypothesis
(C) Two tailed Hypothesis
(D) Null Hypothesis

29. Parametric tests make assumptions on:

(A) The population size
(B) The underlying distribution
(C) The sample size
(D) The mean sample

30. If the researcher has a nominal data, which non parametric test will he/she can use:

(A) T-test
(B) Z-test
(C) Chi square test
(D) All the above

31. If a researcher needs to verify whether there is a significant difference between the means of two groups to test a hypothesis, which statistical method would he/she employ?

(A) Chi-square test
(B) Correlation coefficient
(C) Sign-test
(D) Student's t-test

32. Chi-square is used to analyse:

(A) Scores (B) Ranks

(C) Frequencies (D) None of these

33. On which of the following does the critical value for a chi-square statistic rely?

(A) The degrees of freedom (B) The sum of the frequencies

(C) The row totals (D) The number of variables

34. Calculated value of chi-square is always.....

(A) Positive (B) Negative

(C) Zero (D) None of these

35. Which of the following best describes the purpose of using ANOVA in research?

(A) ANOVA is used to compare the means of two groups.

(B) ANOVA is use to compare the means of more than two groups.

(C) ANOVA is used to determine the correlation between two variables.

(D) ANOVA is used to determine the interaction effect between dependent variables.

36. What do ANOVA calculate?

(A) T-Ratio (B) Chi-square

(C) Z-Ratio (D) F-Ratio

37. What is the primary goal of factor analysis?

(A) To predict a dependent variable from multiple independent variables.

(B) To reduce a large number of variables into a smaller set of underlying factors.

(C) To determine the causal relationship between variables.

(D) To calculate the correlation between two variables.

38. Which assumption is required for factor analysis?

(A) Extreme collinearity exists among variables.

(B) Variables have a skewed distribution.

(C) A linear relationship exists among variables.

(D) There are many outliers in the data.

39. When using Principal Component Analysis (a common method for factor analysis), what does the first principal component capture?
(A) The minimum variance.
(B) The mean deviation.
(C) The maximum variance.
(D) The average variance.

40. Which statistical measure is used to assess the sampling adequacy for conducting factor analysis?
(A) Kaiser-Meyer-Olkin (KMO) measure.
(B) Bartlett's test of sphericity.
(C) Eigenvalue.
(D) All of the above.

41. The process by which we estimate the value of dependent variable on the basis of one or more independent variable is called:
(A) Correlation
(B) Regression
(C) Residual
(D) Slope

42. The major characteristic of correlation analysis is to seek out
(A) Differences among variables
(B) Variations among variables
(C) Association among variables
(D) Regression among variables

43. A correlation coefficient (r) of –1.0 indicates a:
(A) Perfect positive correlation
(B) Weak positive correlation
(C) No correlation
(D) Perfect negative correlation

44. The statistical tool that studies the degree of association between two variables is called:
(A) Regression
(B) Standard error
(C) Index numbers
(D) Correlation

45. Which type of correlation analysis is appropriate for examining the relationship between variables with non-linear relationships?
(A) Pearson's correlation
(B) Spearman's rank correlation
(C) Both Pearson's and Spearman's
(D) Neither Pearson's nor Spearman's

46. What is the primary goal of cluster analysis?
    (A) Classifying data into predefined groups.
    (B) Predicting a continuous value.
    (C) Grouping similar data points together based on their characteristics.
    (D) Reducing the number of variables in a dataset.

47. The primary purpose of conjoint analysis is to:
    (A) Identify which customer segments are most profitable.
    (B) Determine the price elasticity of demand for an existing product.
    (C) Quantify the value that consumers place on different features of a product or service.
    (D) Predict sales volume for a new product with absolute certainty.

48. The most common type of conjoint analysis, which presents respondents with sets of product profiles and asks them to choose the one they prefer most, is known as:
    (A) Adaptive Conjoint Analysis (ACA).
    (B) Choice-Based Conjoint (CBC).
    (C) Full-Profile Conjoint Analysis.
    (D) Self-Explicated Conjoint Analysis.

49. Which statement is an accurate representation of a "trade-off" in conjoint analysis?
    (A) A decision to buy a product from one brand over another.
    (B) A decision to delay a purchase until a later date.
    (C) A customer choosing a larger screen over longer battery life for a phone.
    (D) A customer buying a product with all the most desired features.

50. What is the primary purpose of discriminant analysis?
    (A) To determine the effect of independent variables on a continuous dependent variable.
    (B) To identify the underlying structure or dimensions within a set of variables.
    (C) To classify cases into two or more distinct, pre-defined groups based on a set of predictor variables.
    (D) To cluster data points into a specific number of groups based on their similarities.

PART–B

(Electrical Engg.)

51. If x is real and $|x^2 - 2x = 3|$, then possible values of $|-x^3 + x^2 - x|$ include

(A) 2, 4 (B) 2, 14

(C) 4, 52 (D) 14, 52

52. Find the sum to n terms of the series 10 + 84 + 734 + ...

(A) $\frac{9(9^n + 1)}{10} + 1$ (B) $\frac{9(9^n - 1)}{8} + 1$

(C) $\frac{9(9^n + 1)}{8} + n$ (D) $\frac{9(9^n + 1)}{8} + n^2$

53. A 3 V dc supply with an internal resistance of 2 Ω supplies a passive non-linear resistance characterized by the relation $V_{NL} = I^2_{NL}$. The power dissipated in the non-linear resistance is

(A) 1.0 W (B) 1.5 W

(C) 2.5 W (D) 3.0 W

54. Signal flow graph is used to obtain the

(A) Stability of a system

(B) Transfer function of a system

(C) Controllability of a system

(D) Observability of a system

55. For a feedback control system of type 2, the steady state error for a ramp input is

(A) Infinite (B) constant

(C) zero (D) indeterminate

56. The phase lead compensations used to

(A) Increase rise time and decrease overshoot

(B) decrease both rise time and overshoot

(C) increase both rise time and overshoot

(D) decrease rise time and increase overshoot

57. The two wattmeter method is used to measure active power on a three-phase, three-wire system. If the phase voltage is balanced, then the power reading is
(A) affected by both negative sequence and zero sequence voltages
(B) affected by negative sequence voltage but not by zero sequence voltage
(C) affected by zero sequence voltage but not by negative sequence voltage
(D) not affected by negative sequence or zero sequence voltages

58. Instrument transformers are known to introduce magnitude and phase errors in measurements. These are primarily due to
(A) improper connections on the primary side
(B) measurement errors inherent in the meter connected to the secondary
(C) open and short circuit parameters of the instrument transformers
(D) None of these

59. A certain oscilloscope with 4 c.m by 4 c.m screen has its own sweep output fed to its input. If the x and y sensitivities are same, the oscilloscope will display a
(A) Triangular wave
(B) Diagonal line
(C) Sine wave
(D) Circle

60. For a given frequency, the deflecting torque of an induction ammeter is directly proportional to
(A) Current^2 (B) Current^3
(C) $\sqrt{\text{Current}}$ (D) Current

61. A DC Series motor driving an electric train faces a constant power load. It is running at rated speed and rated voltage. If the speed has to be brought down to 0.25 p.u., the supply voltage has to be approximately brought down to
(A) 0.75 p.u. (B) 0.5 p.u.
(C) 0.25 p.u. (D) 0.125 p.u.

62. The magnetising current in a transformer is rich in
(A) 3rd harmonic (B) 5th harmonic
(C) 7th harmonic (D) 13th harmonic

63. In a constant voltage transformer (CVT) the output voltage remains constant due to

(A) Capacitor
(B) input inductor
(C) saturation
(D) tapped winding

64. In a transformer, zero voltage regulation at full load is

(A) Not possible
(B) possible at unity power factor load
(C) possible at leading power factor load
(D) possible at lagging power factor load

65. Under no load condition, if the applied voltage to an induction motor is reduced from the rated voltage to half the rated value,

(A) the speed decreases and the stator current increases
(B) both the speed and the stator current decreases
(C) the speed and the stator current remain practically constant
(D) there is negligible change in the speed but the stator current decreases

66. A shunt reactor of 100 MVAR is operated at 98% of its rated voltage and at 96% of its rated frequency. The reactive power absorbed by the reactor is:

(A) 98 MVAR
(B) 104.02 MVAR
(C) 96.04 MVAR
(D) 100.04 MVAR

67. A 3-phase, 11 kV, 50 Hz, 200 kW load has a power factor of 0.8 lag. A delta connected 3-phase capacitor is used to improve the power factor to unity. The capacitance per-phase of the capacitor in micro-farads is

(A) 3.948
(B) 1.316
(C) 0.439
(D) 11.844

68. A power station consists of two synchronous generators A & B of ratings 250 MVA and 500 MVA with inertia 1.6 p.u. and 1.0 p.u. respectively on their own base MVA ratings. The equivalent p.u. inertia constant for the system on 100 MVA common base is

(A) 2.6
(B) 0.615
(C) 1.625
(D) 9.0

69. A transmission line has a total series reactance of 0.2 p.u. Reactive Power compensation is applied at the mid point of the line and it is controlled such that the mid point voltage of the transmission line is always maintained at 0.98 p.u. If voltage at both ends of the line maintained at 1.0 p.u., then the steady state power transfer limit of the transmission line is

(A) 9.8 p.u. (B) 4.9 p.u.

(C) 19.6 p.u. (D) 5 p.u.

70. A 500 MW, 21 kV, 50 Hz, 3-phase, 20 pole synchronous generator having a rated p.f. = 0.9, has a moment of inertia 27.5×10^2. The inertia constant (H) will be

(A) 2.44 s (B) 2.71 s

(C) 4.88 s (D) 5.42 s

71. The neutral of 10 MVA, 11 KV alternator is earthed through a resistance of 5 Ω. The earth fault relay is set to operate at 0.75 A. The CT's have a ratio of 1000/5. What percentage of the alternator winding is protected ?

(A) 85% (B) 88.2%

(C) 15% (D) 11.8%

72. The plug setting of a negative sequence relay is 0.2 A. The current transformer ratio is 5 : 1. The minimum value of line to line fault current for the operation of the relay is

(A) 1 A (B) 1/1.732 A

(C) 1.732 A (D) 0.2/1.732 A

73. A negative sequence relay is commonly used to protect

(A) An alternator (B) A Transformer

(C) A transmission line (D) A bus bar

74. In a biased differential relay the bias is defined as a ratio of

(A) Number of turns of restraining and operating coil

(B) Operating coil current and restraining coil current

(C) Fault current and Operating coil current

(D) Fault current and restraining coil current

75. In load flow analysis, the load connected at a bus is represented as
(A) Constant current drawn from the bus
(B) Constant impedance connected at the bus
(C) Voltage and frequency dependent source at the bus
(D) Constant real and reactive power drawn from the bus

76. High Voltage DC (HVDC) transmission is mainly used for
(A) Bulk power transmission over long distances
(B) Inter-connecting two systems with the same nominal frequency
(C) Eliminating reactive power requirement in the operation
(D) Minimizing harmonics at the converter stations

77. The conductors of a 10 km long, single phase, two wire line are separated by a distance of 1.5 m. The diameter of each conductor is 1 cm. If the conductors are of copper, the inductance of the circuit is
(A) 50.0 mH (B) 45.3 mH
(C) 23.8 mH (D) 19.6 mH

78. A 800 kV transmission line is having per phase line inductance of 1.1 mH/km and per phase line capacitance of 11.78 mH/km. Ignoring the length of the line, its ideal power transfer capability in MW is
(A) 1204 MW (B) 1504 MW
(C) 2085 MW (D) 2606 MW

79. Which semiconductor power device out of the following is not a current triggered device?
(A) Thyristor (B) G.T.O.
(C) Triac (D) MOSFET

80. Which of the following does not cause permanent damage of an SCR?
(A) High Current
(B) High rate of rise of current
(C) High temperature rise
(D) High rate of rise of voltage

81. The Typical ratio of latching current to holding current in a 20 A thyristor is

(A) 5.0 (B) 2.0

(C) 1.0 (D) 0.5

82. A Six pulse thyristor rectifier bridge is connected to a balanced 50 Hz three phase ac source. Assuming that the dc output current of the rectifier is constant. The lowest frequency harmonic component in the ac source line current is

(A) 100 Hz (B) 150 Hz

(C) 250 Hz (D) 300 Hz

83. A single-phase, 230 V, 50 Hz ac mains fed step down transformer (4 : 1) is supplying power to a half wave uncontrolled ac-dc converter used for charging a battery (12 V dc) with the series current limiting resistor being 19.04 Ω. The Charging current is

(A) 3.43 A (B) 1.65 A

(C) 1.22 A (D) 1.0 A

84. A Three-Phase fully controlled bridge converter is feeding a load drawing a constant and ripple free load current of 10 A at a firing angle of 30°. The approximate % THD and rms value of fundamental component of the input circuit will respectively be

(A) 31% and 6.8 A (B) 31% and 7.8 A

(C) 66% and 6.8 A (D) 66% and 7.8 A

85. If a diode is connected in anti parallel with a thyristor,then

(A) Both turn off power loss and turn off time decreases

(B) Turn-Off Power loss decreases but turn-off time increases

(C) Turn-Off Power loss increases but turn-off time decreases

(D) None of the above

86. An electric motor, developing a starting torque of 15 N-m, starts with a load torque of 7 N-m on its shaft. If the acceleration at start is 2 rad / sec^2, the moment of inertia of the systems must be (neglecting viscous and coulomb friction)

(A) 0.25 kgm^2 (B) 0.25 Nm^2

(C) 4 kgm^2 (D) 4 Nm^2

87. A Three-Phase,440V, 50Hz ac mains fed thyristor bridge is feeding a 440 V dc, 15 kW, 1500 rpm separately excited dc motor with a ripple free continuous current in the dc link under all operating conditions, neglecting the losses, the power factor of the ac mains at half the rated speed is

(A) 0.354 (B) 0.372

(C) 0.90 (D) 0.955

88. A Three-Phase semi converter feeds the armature of separately excited dc motor, supplying a non-zero torque, for steady state operation the motor armature current is found to drop to zero at certain instances of time. At such instances, the voltage assumes a value that is

(A) Equal to the instantaneous value of the ac phase voltage

(B) Equal to the instantaneous value of the motor back e.m.f

(C) Arbitrary

(D) Zero

89. A PWM switching scheme is used with a three phase inverter to

(A) Reduce the THD with modes filtering

(B) Minimize the load on the DC side

(C) Increase the life of the batteries

(D) Reduce low order harmonics and increase high order harmonics

90. Triangular PWM control, when applied to a three-phase BJT based voltage source inverter, introduces

(A) Low order harmonic voltages on the dc side

(B) Very high order harmonic voltage on the dc side

(C) Low order harmonic voltage on the ac side

(D) Very high order harmonic voltage on the ac side

91. The output voltage waveform of a three-phase square wave inverter contains

(A) only even harmonics (B) both odd and even harmonics

(C) only odd harmonics (D) None of the above

92. When a line commutated converter operates in the inverter mode

(A) It draws both real and active power from the ac supply

(B) It delivers both real and active power to the ac supply

(C) It delivers both real power to the ac supply

(D) It draws reactive power from the ac supply

93. A Three-Phase fully controlled thyristor bridge converter is used as line commutated inverter to feed 50 kW power 420 V dc to a three phase, 415 V (line), 50 Hz ac mains. Consider dc link current to be constant, the rms current of thyristor is

(A) 119.05 A (B) 79.37 A

(C) 68.73 A (D) 39.38 A

94. A dc to dc transistor chopper supplied from a fixed voltage dc source feeds a feeds a fixed R-L load and a freewheeling load. The chopper operates at 1 kHz and 50% duty cycle. Without changing the value of the average dc current through the load, if it is desired to reduce the ripple constant of load current,the control action needed will be

(A) Increase the chopper frequency keeping its duty cycle constant

(B) Increase the chopper frequency and duty cycle in equal ratio

(C) decrease only the chopper frequency

(D) decrease only the duty cycle

95. In a thyristor dc chopper which type of commutation results in best performance?

(A) Voltage commutation (B) Current commutation

(C) Load commutation (D) Supply commutation

96. A solar cell of 350 V is feeding power to an ac supply of 440 V, 50 Hz through a 3-phase fully controlled bridge converter. A large inductance is connected in the dc circuit to maintain the dc current at 20 A. If the solar cell resistance of 0.5 Ω, then each thyristor will be reverse biased for a period of

(A) 125° (B) 120°

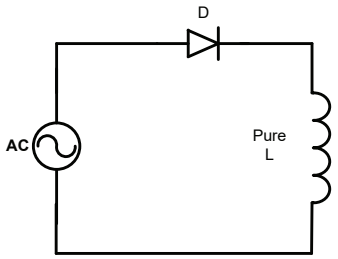
(C) 60° (D) 55°

97. When the firing angle α of a single–phase, fully controlled rectifier feeding constant d.c current into a load is 30°, the displacement power factor of the rectifier is

(A) 1 (B) 0.5

(C) $1/\sqrt{3}$ (D) $\sqrt{3}/2$

98. In the circuit adjacent figure the diode connects the ac source to a pure inductor L. The diode conducts for



(A) 90° (B) 180°

(C) 270° (D) 360°

99. A single-phase fully bridge converter supplies a load drawing constant and ripple free load current. If the triggering angle is 30° ,the input power factor will be

(A) 0.65 (B) 0.78

(C) 0.85 (D) 0.866

100. The core flux of a practical transformer with a resistive load

(A) is strictly constant with load changes

(B) increases linearly with load

(C) increases as the square root of the load

(D) decreases with increased load

ROUGH WORK