GROUP-A DOMAIN SKILLS

1. Three 60 W bulbs are in parallel across the 60 V power line. If one bulb burns open-

A. There will be heavy current in the main line

B. Rest of the two bulbs will not light

C. All three bulbs will light

D. The other two bulbs will light

2. Power factor meters have-

A. Only current coil

B. Only voltage coil

C. Both current and voltage coil

D. Only inductive voltage coil

3. Which plant can never have 100 percent load factor?

A. Peak load plant

B. Base load plant

C. Nuclear power plant

D. Hydro electric plant

4. In context of corona, if the conductors are polished and smooth, which of the following statement is correct?

A. Hissing sound will be more intense

B. Power loss will be least

C. Corona glow will be uniform along the

D. Corona glow will not occur length of the conductor

5. The coils of DC motor starter are wound with wire of_____

A. Copper

B. Kanthal

C. Manganin

D. Nichrome

6. If a circuit does not contain any source of energy or e.m.f, it is known as-

A. Unilateral circuit

B. Bilateral circuit

C. Passive network

D. Active network

7. Fault diverters are basically

A. Fuses

B. Relays

C. Fast switches

D. Circuit breakers

8. A star circuit has clement of resistance R/2. The equivalent delta element will be:

A. R/6

B. 3/2R

C. 2R

D. 4R

9. Empire tape is:

A. Varnished cambric

B. Vulcanised rubber

C. Impregnated paper

D. None of these

10. The number of independent equations to solve a network is equal to-

A. The number of chords
B. The number of branches
C. The number of nodes
D. All of these

11. Which of the following equipment will be most economical for regulating the voltage in distribution feeder?

A. Static condenser
B. Synchronous condenser
C. Tap changing transformer
D. Booster transformer

12. Which of the following is the basic consideration in the design of insulation?

A. Electrical consideration
B. Mechanical consideration
C. Thermal consideration
D. All of these

13. In a power transmission line, grounding is generally done at-

A. The supply end
B. The receiving end
C. Middle of the line
D. None of these

14. "Selsyn" is the trade name given to-

A. Spinning top
B. Synchronous
C. Rotating capacitor
D. Rotating transformer

15. The primary reason for low power factor in supply system is due to the installation of -

A. Induction motors
B. Synchronous motors
C. Single phase motors
D. DC motors

16. In an electric kettle, water boils in 10 minutes. If it is required to be boiled in boiler for 15 minutes using same supply mains, the-

A. Length of heating clement should be decreased
B. Length of heating element should be increased
C. Length of heating element has no effect
D. None of these on heating

17. In a cable, _____ is provided immediately above metallic sheath.

A. Earthing connection
B. Bedding
C. Armoring
D. None of these

18. The stator of a DC machine comprise of:

A. Main poles
C. Frame
B. Inter pole
D. None of these

19. The type-2 system has which of the following?

A. Zero position error and constant velocity error
B. Zero position error as well as velocity error
C. Constant position error and zero velocity error
D. Constant position error as well as velocity error

20. Starter for a DC motor also provides protection to the motor against damage:

A. Due to short circuits in the equipment

B. From the long term over loads

C. From excessive starting currents

D. All of these

21. Which of the following methods does not take into account, the maximum temperature rise under variable load conditions?

A. Equivalent power method

B. Equivalent current method

C. Method of average losses

D. Equivalent torque method

22. A capacitor is generally a:

A. Bilateral and active component

B. Active, passive, linear and non-linear component

C. Linear and bilateral component

D. Non-linear and active component

23. Arc in a circuit behaves as:

A. A capacitive reactance

B. An inductive reactance

C. A resistance increasing with voltage rise across the arc

D. A resistance decreasing with voltage rise across the arc

24. The minimum dielectric stress in a cable is at

A. Armour

B. Bedding

C. Conductor surface

D. Lead sheath

25. The insulating material for cables should-

A. Be acid proof

B. Be non-inflammable

C. Be non-hygroscopic

D. All of these

26. For root loci, which of the following are the starting points?

A. Open loop zeros

B. Closed loop zeros

C. Closed loop poles

D. Open loop poles

27. Which of the following is a non-linear circuit parameter?

A. Inductance

B. Condenser

C. Wire wound resistor

B. Condenser

28. DC shunt relays are made of:

A. A few turns of thin wire

B. A few turns of thick wire

C. Many turns of thin wire

D. Man turns of thick wire

29. The power transmitted will be maximum when:

A. Corona losses are minimum
B. Reactance is high
C. Sending end voltage is more
D. Receiving end voltage is more

30. A leading power factor implies that-

A. Current leads the voltage
B. Current lags behind the voltage
C. Voltage leads the current
D. None of these

31. An H.R.C. fuse is defined as

A. A ceramic body having metal caps
B. A wire of platinum
C. A heavy cross-section of Copper or Aluminium
D. A ceramic tube having Carbon rod inside it

32. Power factor of an AC circuit is:

A. Sine of the phase angle
B. Cosine of the phase angle
C. Tangent of the phase angle
D. Q-factor of the circuit

33. Large internal faults are protected by:

A. Merz price percentage differential protection
B. Mho and ohm relays
C. Horn gaps and temperature relays
D. Earth fault and positive sequence relays

34. A terminal where more than two branches meet is known as

A. Node
B. Terminus
C. Anode
D. None of these

35. An oxer excited synchronous motor on no-load is known as:

A. Synchronous condenser
B. Generator
C. Induction motor
D. Alternator

36. Over fluxing protection is recommended for-

A. Distribution transformer of the power plant
B. Generator transformer of the power plant
C. Auto-transformer of the power plant
D. Station transformer of the power plant

37. Circuit breakers usually operate under

A. Transient state of short-circuit current
B. Sub-transient state of short-circuit current
C. Steady state of short-circuit current
D. After DC component has ceased

38. Two resistors are said to be connected in series when:

A. Same current passes through both terminals

B. Both carry the same value of current

C. Total currents equals the sum of branch currents

D. Sum of IR drops equals the applied e.m.f

39. Efficiency of power transfer when maximum transfer of power occurs is:

A. 100%

B. 80%

C. 75%

D. 50%

40. Materials exhibiting zero value of resistivity are known as-

A. Conductors

B. Semi-conductors

C. Insulators

D. Super-conductors

41. A closed path made by several branches of the network is known as-

A. Circuit

B. Loop

C. Junction

D. Branch

42. The overall efficiency of thermal power plant is equal to:

A. Rankine cycle efficiency

B. Cannot cycle efficiency

C. Regenerative cycle efficiency

D. boiler efficiency x turbine efficiency x generator efficiency

43. In a DC 3 wire distribution system, balancer fields are cross-connected in order to:

A. Boost the generated voltage

B. Balance loads on both sides of the neutral

C. Make both machines inn as unloaded

D. Equalize voltages on the positive and negative motors outers

44. Which of the for lowing should be used for extinguishing electrical fires?

A. Water

B. Carbon tetrachloride fire extinguisher

C. Foam type fire extinguisher

D. CO_2 fire extinguisher

45. Kirchhoff's law is applicable to:

A. Passive networks only

B. AC circuits only

C. DC circuits only

D. Both AC as well as DC circuits

46. The top most conductor in a high transmission line is:

A. Earth conductor

B. R-phase conductor

C. Y-phase conductor

D. B-phase conductor

47. Which of the following statement is incorrect for root locus technique?

A. It is the most useful for single-output systems

B. It provides the pattern of movement of closed loop holes when loop gain varies

C. It is used to obtain closed-loop pole configuration from open-loop poles and zeros

D. None of these

48. The servomechanisms with step displacement input is:

A. Type 3 system
B. Type 2 system
C. Type 1 system
D. Type 0 system

49. The winding where dummy coils are used is sometimes called as-

A. Duplex winding
B. Triplex winding
C. Forced winding
D. None of these

50. A lightning arrester is usually located nearer to a/an-

A. Transformer
B. Isolator
C. Busbar
D. Circuit breaker

51. A resistance having rating 10 ohms, 10W is likely to be a:

A. Metallic resistor
B. Carbon resistor
C. Wire wound resistor
D. Variable resistor

52. Bulbs in street lighting are all connected in :

A. Parallel
B. Series
C. Series-parallel
D. End-to-end

53. In single core cables, armoring is not done to-

A. Avoid excessive sheath losses
B. Make it fie able
C. Either A. or B.
D. None of these

54. In a cable, the maximum stress under operating, condition is at:

A. Insulation layer
B. sheath
C. Armour
D. Conductor surface

55. A thermal protection switch can protect against-

A. Short-circuit
B. Temperature
C. Overload
D. Over voltage

56. Which of the following material is not used for transmission and distribution of electrical power?

A. Copper
B. Aluminium
C. Steel
D. Tungsten

57. Which method can be used for absolute measurement of resistances?

A. Lorentz method
B. Rayleigh method
C. Ohm's law method
D. Wheatstone bridge method

58. Demand factor is defined as:

A. Average load/maximum load
B. Maximum demand/connected load
C. Connected load/maximum demand
D. Average load x maximum load

59. The purpose of the ground wire in transmission system is:

A. To avoid overloading
B. To give good insulation
C. To connect a circuit conductor or other device to an earth plate
D. None of these

60. An alternator coupled to a _____ runs at slow speed, as compared to others.

A. Diesel engine
B. Hydraulic turbine
C. Steam turbine
D. Gas turbine

GROUP-B (GENERAL APTITUDE)

61. Dholera (known for geothermal borewell) is located in which State?

A. Bihar
B. Himachal Pradesh
C. Maharashtra
D. Gujarat

62. Who among the following is known as 'Mother of Indian Revolution'?

A. Rani Laxmi Bai of Jhansi
B. Bhikaji Rustom Cama
C. Annie Besant
D. Sarojini Naidu

63. Lance Armstrong, a sportsperson of international repute, belongs to which of the following countries?

A. USA
B. Ukraine
C. Spain
D. Brazil

64. Who built the famous Konark Sun temple?

A. Narasimhadeva I
B. Angabhima deva I
C. Konkanivarman
D. Narasimhavarman II

65. Which of the following act as a transmission channel of blood to the heart in the human body?

A. Arteries
B. Muscle fibres
C. Nerves
D. Veins

66. Which among the following temples of India is known as Black Pagoda?

A. Sun Temple, Konark
B. Brihadeeswarar Temple, Tanjore
C. Lord Jagannath Temple, Puri
D. Meenakshi Temple, Madurai

67. Who has become the first ever lyricist to enter the Guinness book of World Records?

A. Gulzar
B. Javed Akhtar
C. Anand Bakshi
D. Sameer Anjan

68. During the Delhi Sultanate, who among the following were called the Barids?

A. Craftsmen

B. Bodyguards of the Sultan

C. Officer-in-charge of State exchequer

D. The spy/newspaper

69. Who is heading the one-man judicial commission to investigate Rohith Vemula suicide case?

A. V. Eswaraiah

B. V.V. Subba Rao

C. Ashok Kumar Roopanwal

D. Sengupta

70. When a moving bus stops suddenly, the passengers are pushed forward because of the -

A. Friction between the ground and the bus

B. Friction between the passengers and the ground

C. Inertia of the passengers

D. Inertia of the bus

71. "Father of renaissance of Western India" was-

A. B.M. Malabari

B. M.G. Ranade

C. R.G. Bhandarkar

D. K.T. Telang

72. Which State has become the first State to achieve 100% primary education status?

A. Mizoram

B. Manipur

C. Kerala

D. Assam

73. Which of the following acts as a resistance against germs in the body?

A. Carbohydrates

B. White corpuscles

C. Vitamins

D. Red corpuscles

74. Michael Faraday discovered-

A. Electromagnetism

B. Benzene, liquid gases and optical glass

C. The induction of electric current

D. All of these

75. Mandla Plant Fossils National Park is located in which State?

A. Madhya Pradesh

B. Tamil Nadu

C. Gujarat

D. Haryana

76. The Medaram tribal festival is celebrated in which State of India?

A. West Bengal

B. Kerala

C. Telangana

D. Tamil Nadu

77. The most commonly used bleaching agent is -

A. Alcohol

B. Carbon dioxide

C. Chlorine

D. Sodium Chloride

78. The National Science Day is celebrated on which ale in India?

A. March-1 B. April-21

C. February-28 D. June-23

79. For what purpose, the Stand Up India scheme has been launched?

A. To promote entrepreneurship among SC/ST

B. To promote entrepreneurship among rural youth

C. To promote entrepreneurship among women

D. To promote entrepreneurship among SC/ST and Women

80. Which of the following pairs has won 2016 Australian Open women's double title?

A. Julia Goerges and Anta-Lena Groenefeld

B. Sania Mirza and Martina Hingis

C. Andrea Hlavackova and Lucie Hradecka

D. Bethanie Mattek-Sands and Lucie Safarova

GROUP-C ENGLISH TEST

81. Choose the correct antonym of the given word from the options given below.

BAREFACED

A. Dressed B. Capped

C. Closed D. Concealed

82. Choose the one word which can best substitute the phrase given below.

Not letting light pass through.

A. Opaque B. Transparent

C. Translucent D. Blind

83. Choose the one word which can best substitute the phrase given below.

The identification of a disease by its symptoms.

A. Prescription B. Prognosis

C. Diagnosis D. Biopsy

84. In the following question, each sentence has four portions marked P, Q, R and S. Choose the portion which must be changed so that the sentence becomes correct.

Having climbed (P)/ the mountain, (Q)/ they have felt (R)/ a real sense of achievement. (S)

A. P B. Q

C. R D. S

85. Choose the correct synonym of the given word from the options given below.

VANQUISH

A. Put out B. Abandon

C. Replace D. Conquer

86. Choose the correct synonym of the given word from the options given below.

JUGULAR

A. Magical
B. Juggling
C. Bright
D. of throat

87. Choose the correct antonym of the given word from the options given below.

VOCIFEROUS

A. Laudable
B. Quiet
C. Dangerous
D. Powerful

88. Complete the sentence using the most appropriate word from the options given. A large majority of students _____ absent from the college yesterday.

A. were
B. was
C. has been
D. have been

89. In the following question, each sentence has four portions marked P, Q, R and S. Choose the portion which must be changed so that the sentence becomes correct.

A gang (P)/ of armed thieves has (Q)/ raided (R)/ the house of Mr. Gupta late last night. (S)

A. P
B. Q
C. R
D. S

90. Choose the misspelt word.

A. Bureaucracy
B. Debilitate
C. Complaisance
D. Laborious

91. Complete the sentence using the most appropriate word from the options given. The building was so old and dilapidated that it was not_____

A. Habitable
B. Habitat
C. Habitability
D. Habituating

92. Choose the misspelt word.

A. Yamer
B. Pellucid
C. Unwholesome
D. Translucent

Directions (Q. 93-95): Read the passage given below and answer the given questions.

Computers are making inroads into our society whether India is ready for them or not. Also coming with them, are potential threats in the form of office automation, factory automation, computer-controlled machine tools, expert systems, artificial intelligence machines, network datacom systems and so on, each one with the potential to theoretically displace entire chunks of the workforce. The stated response of most economists and sociologists to such a situation is to advise massive retraining of the workforce. But this is just a short-term solution. In a computer system which, for instance, automatically manufactures a chemical product, where previously 100 people

used to make it with multiple divisions of labour, how many can be retained and for which functions? The only jobs that would remain would be those of receiving the raw materials at the plant site, manual inspection, handling emergencies in the machinery and inspection of the finished product.

93. Which one of the following statement best reflects the underlying idea of the passage?

A. Computers are a necessary evil

B. Computers will prove a menace to larger sections of the workforce in India

C. The idea of computerization may still be rejected

D. Computers will go a long way in solving the rejected problem of unemployment

94. Which one of the following explanations best helps to bring out the precise meaning of "office automation"?

A. Methods and machines to make office work more and more automatic especially by means of electronic control

B. Person in an office, who appears to act work more and more automatic involuntarily or without active intelligence

C. A machine in office-premises, self- moving, able to work or be worked without attention

D. Self-governed officials in a group

95. According to the author, which one of the following statement is true?

A. India is ready to usher in the age of computers

B. India is in dire need of computer system for her industrial development

C. India has been resisting with all her might the invasion of computers

D. Computers are a threat to the work force which stands in danger of being reduced

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