

Kerala PSC Assistant Engineer KSEB Electrical Exam 2008 Previous Question Paper

Kerala PSC Assistant Engineer KSEB Electrical Exam 2008 Old Question Papers. Assistant Engineer KSEB Electrical Exam conducted on 24/12/2008. Question Paper of Assistant Engineer KSEB Electrical Exam is given below.

1) The CPU of a computer consists of

- None of the above
- Memory and ALU
- INPUT and OUTPUT Unit
- ALU and Control Unit

2) The capacitance connected between the I/P and O/P of an amplifier affects its high frequency response due to

- MILMAN effect
- MILLER effect
- COLPIT effect
- COLLINS effect

3) Which instrument is used to measure low values of resistance ?

- Maxwell Bridge
- Kelvin Double Bridge
- Wheatstone Bridge
- Anderson Bridge

4) An ideal OP-AMP has

- infinite gain
- infinite input impedance
- infinite bandwidth
- all of the above

5) The number of flip flops required in a decade counter is

- 3
- 4
- 10
- 2

6) For stability and economic reasons we operate the transmission line with power angle in the range

- 10° to 25°
- 65° to 80°

60° to 75°

30° to 45°

7) The transfer function is defined for

Linear and time-variant system

Linear and time-invariant system

Non-linear and time-variant system

All of the above

8) A dc cumulatively compounded motor delivers rated torque at rated speed. If the series fields is short circuited then the armature current and speed will

decrease and increase respectively

both increase

increase and decrease respectively

both decrease

9) The collector current of transistor is always

less than emitter current

none of the above

greater than emitter current

equal to emitter current

10) Which one of the following is not an image file format ?

image.png

image.pdf

image.jpg

image.bmp

11) When resonance occurs in a circuit, the pf is

1

less than 1

0

greater than 1

12) Two devices commonly used to generate light for fiber optic communication system

LED and LCD

LED and TFT

All of the above

LED and ILD

13) While drawing the phasor diagram of a parallel circuit, which one is taken as the reference

- None of the above
- Voltage
- Power
- Current

14) A voltmeter gives 120 oscillations per minute when connected to the rotor of an induction motor. When the stator frequency is 50Hz, slip of the motor is

- 5%
- 4%
- 2.5%
- 2%

15) Steady state stability of a power system is improved by

- reducing fault clearing time
- single pole switching
- using double circuit line
- decreasing generator inertia

16) Base modulation is used in TV transmission because

- All of the above
- Large power O/P and better efficiency
- High degree of linearity
- Power required is small

17) The most commonly used detector in AM receiver is

- Coherent detector
- Ratio detector
- Discriminator
- Envelope detector

18) Which one of the following is a synchronous optical network ?

- TELNET
- INTERNET
- DELNET
- SONET

19) The Hall effect voltage in intrinsic silicon

- changes sign on application of magnetic field
- is positive
- is zero

is negative

20) The value of coefficient of coupling is always

- greater than 1
- none of the above
- equal to 1
- less than 1

21) An analog computer used for resolving a vector into two mutually perpendicular components has a device called

- Register
- Resolver
- Subroutine
- None of these

22) Which one of the following devices is not used for networking ?

- Cub
- Hub
- Switch
- Router

23) The residual magnetism of a self-excited dc generator is lost. To build up its emf again

- the field winding must be replaced
- the field winding connection must be reversed
- its armature connection must be reversed
- field winding should be excited by low voltage DC voltage

24) In an EXCLUSIVE-OR gate, when the O/P is zero, the inputs are

- 1,0
- 0,1
- 1,x
- 1,1

25) Silicon devices are used for high temperature application compared to germanium because

- silicon is more thermally stable
- none of the above
- silicon can dissipate more power
- reverse saturation current is less in silicon

26) Ferranti effect is experienced on long transmission lines when it is lightly loaded

on full load at upf
on full load at 0.8 pf lag
all of the above

27) Which region of the transistor characteristic is used for amplification

active
cut off
saturation
passive

28) The ASCII code is

7 bit code
9 bit code
5 bit code
11 bit code

29) An automatic iron box is an example of

none of the these
an open loop control system
a multi feedback control system
a single feedback control system

30) A series circuit containing passive elements has the following voltage and current

$$v = 100 \sin (314t + 50) \text{ and}$$

$$i = 4 \cos (314t + 13).$$

The circuit elements
must be L, C and R
could be either R and C or R, L and C
must be R and L
must be R and C

31) A cache in a computer is

used to hold more data
used to improve the storage capacity
used to increase the speed of execution
none of the above

32) Which one of the following is not related to modems?

DCE
data phone
Telephone
data-set

33) When two capacitors C1 and C2 are connected in series, the equivalent value of capacitance is

$C_1 C_2 / (C_1 + C_2)$

$C_1 C_2$

$C_1 + C_2$

$C_1 - C_2$

34) When the supply frequency is decreased the capacitive reactance

increases

decreases

unpredictable

remains the same

35) Rise time of an under damped system is

Time taken by the response to reach 50 %

time taken by the response to reach 95%

time taken by the response time to rise from 0 to 100%

None of the above

36) Main disadvantage of FM is

Complex circuits

Adjacent channel interference

Limited line of sight range

Low operating voltage

37) An instantaneous change in voltage is not possible in

a current source

a capacitor

an inductor

resistor

38) Which one of the following power semiconductors can be turned on and turned off using the gate ?

Power MOSFET

GTO

SCR

Power transistor

39) The roots of the characteristic equation are called

Poles

Eigen vectors

Eigen values

Zeroes

40) Which of the following terms is not associated with a sample and a hold circuit?

- Sample mode
- Aperture time
- Conversion time
- Acquisition time

41) The rms value of sine wave is

- 0
- 0.5
- 1
- 0.707

42) While measuring power in a three phase circuit using two wattmeters, one of the meter reads zero when

- pf of the circuit is 1
- pf is zero
- pf is 0.6
- when the pf is 0.5

43) Which of the following is used for serial access storage only?

- Core memory
- RAM
- Maganetic disk
- Magnetic tape

44) Transmission lines are transposed to

- prevent interference with neighbouring telephone lines
- reduce copper loss
- reduce skin effect
- prevent short-circuit between any two lines

45) The decimal equivalent of binary 10111 is

- 4
- 23
- 16
- 20

46) The outstanding characteristic of a direct coupled amplifier is its

- temperature stability
- avoidance of frequency sensitive components

economy
ability to amplify DC and low frequency signals

47) The major application of Zener diode is

Voltage regulation
Rectifier
Amplifier
Chopper

48) For rural electrification in a country like India with complex network it is preferable to use

Air break CB
MOCB
Oil CB
Vacuum CB

49) BJT can be used in the following mode for amplification applications

All of the above
CE
CC
CB

50) KVL states that the algebraic sum of the voltage drop around a closed loop in an electric circuit is

equal to 1
equal to the input voltage
equal to 2
equal to zero

51) A computer can execute only programs written in

High level language
Assembly language
Machine language
None of the above

52) An amplifier can be converted to an oscillator using

positive feedback
null feedback
zero feedback
negative feedback

**53) PUSH and POP operations are connected with
PROCESSOR**

ALU
MEMORY
STACK

54) In a computer program, the process of executing the same instruction over and over is called

None of these
Circulating
Branching
Looping

55) The form factor is the ratio of

average value to rms value
peak value to average value
peak value to rms value
rms value to average value

56) A CLASS C power amplifier is one in which the operating point is chosen such that the output current

never flows
always flows
zero for less than one half of I/P cycle
zero for more than one half of I/P cycle

57) The full scale input voltage to an ADC is 10V. The resolution required is 5mV. The minimum number of bits required for ADC is

8
12
10
11

58) Star delta starter is used for starting

Synchronous motor
Squirrel Cage Motor with delta connected stator winding
DC Motor
Universal Motor

59) Which amplifier configuration has the lowest output impedance ?

CC
CE
CO
CB

60) When a 3-phase synchronous motor is running at synchronous speed, the damper winding produces

Torque aiding developed torque

Eddy current torque

Damping torque

Zero torque

61) How many layers are available in OSI ?

7

4

6

5

62) The surge impedance of 50 km long underground cable is 50 ohms. For a 25 km length it will be

100

25

50

75

63) The energy stored in the magnetic field is given by

$1/2 L^2 I^2$

$1/2 L I^2$

$1/2 L V^2$

$1/2 L^2 V^2$

64) The voltage gain of an emitter follower is always

more than 1

less than 1

1

greater than or equal to 1

65) The insulation of modern EHV line is designed based on

RI

Corona

Switching voltage

Lightning voltage

66) A resistance is connected in series with an inductive coil. The phase difference between the current and applied voltage

decreases with increase in frequency

remains constant

none of the above

increases with increase in supply frequency

67) A 3-phase breaker is rated at 2000 MVA, 33 kV. Its making current will be

- 49 kA
- 35 kA
- 89 kA
- 70 kA

68) A 3-phase synchronous generator is operating at constant load while the excitation is adjusted to give unity pf current. If the excitation is now increased the pf will become

- Unity
- Leading
- Zero
- Lagging

69) The impulse ratio of a rod gap is

- between 1.2 and 1.5
- between 1.6 and 1.8
- 1
- between 2 and 2.2

70) For a closed loop system to be stable, the poles of the CLTF must lie

- none of the above
- on the left half of the S plane
- on the right half of the S plane
- at the origin

71) Which amplifier configuration is used by a push-pull configuration

- Class C
- Class AB
- Class B
- Class A

72) www stands for

- Wide world web
- World wide web
- Wide world weight
- World wide weight

73) Modulation is a process to vary

- Carrier signal by the signal to be transmitted

Signal to be transmitted as well as to vary carrier signal by the signal to be transmitted

none of the these

Signal to be transmitted

74) For a given cross-sectional area of transformer core, stepped cores are used

to reduce the magnetizing current

to provide more mechanical strength to the core

to reduce the core loss

to reduce the conductor material

75) Thyrites are used for protection against

corona

damping

surge current

over current

76) Which one of the following is not a power semiconductor device ?

SCR

GTO

IGBT

CRS

77) While finding the Thevenin equivalent circuit between two terminals, V_{th} is equal to

Open circuit terminal voltage

emf of the battery nearest to the terminals

Short circuit terminal voltage

Net voltage available in the circuit

78) The most important part of an operational amplifier is

Differential amplifier

Subtractor

Adder

Integrator

79) The following protocol is used used for accessing web pages

SMTP

FTP

PTTP

HTTP

80) Input impedance of a transmission line at any distance from the load can be determined using

- Gant chart
- none of the above
- Smith chart
- Ben chart

81) Micro-programming is a technique for
programming input and output
programming the control steps of a computer
programming the microprocessors
writing small programs

82) How many state equations are required to represent a system described by a third order differential equation ?

- 2
- 4
- 2
- 3

83) $A + AB$ is equal to

- AB
- A
- $A + B$
- B

84) Transformer cores are laminated to reduced

- Ohmic loss
- Eddy current loss
- Both eddy current and hysteresis loss
- Hysteresis loss

85) The following mark up is used for creating webpages

- HTPP
- COBOL
- PASCAL
- HTML

86) A 3-phase synchronous motor is operating at a load angle of 20° and with excitation voltage equal to the applied voltage. The synchronous reactance drop in terms of excitation voltage

- 38.2%
- 69.46%

34.73%

32.9%

87) For maximum transfer of power, internal resistance of the source should be

less than load resistance

more than load resistance

Zero

equal to the load resistance

88) The transfer function of a system is given by $T(S) = K/[s^3(1+sT)]$. The type and the order of the system are

3 and 2

3 and 4

2 and 3

3 and 3

89) The zero point characteristics for the Potier diagram can be obtained by loading the alternator using

Lamp load

Water load

DC motor

Synchronous motor

90) What is the value of modulation index in AM?

above 100

between 0 and 1

between -1 and 0

above 1

91) The specification for a standard 74 series TTL gate reads propagation delay as 33ns and power dissipation is 1mV. This circuit is

Low speed TTL

Standard Schottky TTL

Low power Schottky TTL

High speed TTL

92) Three identical impedances are connected in delta to a 3-phase supply of 400 Volts. The line current is 34.65 A and the total power taken is 14.4 kW. The resistance of the load in each phase is

10 ohms

16 ohms

12 ohms

20 ohms

93) Donor type impurities

all of the above

have five valence electrons

used to make n-type semiconductors

create excess free electrons

94) Which one of the following is not a method of power generation?

MHD

CHD

Thermal

Hydroelectric

95) The phase shift between the output and input of a CE amplifier configuration is

270°

360°

90°

180°

96) The gain of the amplifier is usually expressed in

Amperes

mho

Decibels

Volts

97) Superposition theorem is applicable only for circuits which are

Linear and Bilateral

Bilateral

Linear

Non-linear

98) Which of the following is not a programming language ?

ALGOL

EIFFEL

ADA

SUSE LINUX

99) Power in a single phase circuit can be measured

using 3 ammeters

using one wattmeter

using 3 volltmeters

using all the above 3 methods

100) The peak overshoot of a second order system is

depends on damping ratio

is zero

is a constant

independent on damping ratio