REGULATED D.C. POWER SUPPLY Questions and Answers pdf :-

1. In an unregulated power supply, if load current increases, the output voltage .....

Remains the same
Decreases
Increases
None of the above
Ans : 2

2. In an unregulated power supply, if input a.c. voltage increases, the output voltage .....

Increases
Decreases
Remains the same
None of the above
Ans : 1

3. A power supply which has voltage regulation of ..... is unregulated power supply

0 %
5 %
10 %
8%
Ans : 3

4. Commercial power supplies have voltage regulation .....

of 10%
of 15%
of 25%
within 1%
Ans : 4

5. An ideal regulated power supply is one which has voltage regulation of .....

0%
5%
10%
1%
Ans : 1

6. A Zener diode utilises ..... characteristic for voltage regulation

Forward
Reverse
Both forward and reverse
None of the above
Ans : 2

7. Zener diode can be used as .....

c. voltage regulator only
c. voltage regulator only
both d.c. and a.c. voltage regulator
none of the above
Ans : 3

8. A Zener diode is used as a ..... voltage regulating device

Shunt
Series
Series-shunt
None of the above
Ans : 1

9. As the junction temperature increases, the voltage breakdown point for Zener mechanism .....

Is increased
Is decreased
Remains the same
None of the above
Ans : 2

10. The rupture of co-valent bonds will occur when the electric field is .....

100 V/cm
6 V/cm
1000 V/cm
More than 105 V/cm
Ans : 4

11. In a 15 V Zener diode , the breakdown mechanism will occur by .....

Avalanche mechanism
Zener mechanism
Both Zener and avalanche mechanism

None of the above
Ans : 1

12. A Zener diode that has very narrow depletion layer will breakdown by ..... mechanism

Avalanche
Zener
Both avalanche and Zener
None of the above
Ans : 2

13. As the junction temperature increases, the voltage breakdown point for avalanche mechanism .....

Remains the same
Decrease
Increases
None of the above
Ans : 3

14. Another name for Zener diode is ..... diode

Breakdown
Voltage
Power
Current
Ans : 1

15. Zener diode are generally made of .....

Germanium
Silicon
Carbon
None of the above
Ans : 2

16. For increasing the voltage rating, zeners are connected in .....

Parallel
Series-parallel
Series
None of the above
Ans : 3

17. In a Zener voltage regulator, the changes in load current produce changes in .....

Zener current
Zener voltage
Zener voltage as well as Zener current
None of the above
Ans : 1

18. A Zener voltage regulator is used for ..... load currents

High
Very high
Moderate
Small
Ans : 4

19. A Zener voltage regulator will cease to act as a voltage regulator if Zener current becomes .....

Less than load current
Zero
More than load current
None of the above
Ans : 2

20. If the doping level is increased, the breakdown voltage of the Zener .....

Remains the same
Is increased
Is decreased
None of the above
Ans : 3

21. A 30 V Zener will have depletion layer width ..... that of 10 V Zener

More than
Less than
Equal to
None of the above
Ans : 1

22. The current in a Zener diode is limited by .....

External resistance
Power dissipation

Both (1) and (2)
None of the above
Ans : 3

23. A 5 mA changes in Zener current produces a 50 mA change in Zener voltage. What is the Zener impedance?

1 O
1 O
100 O
10 O
Ans : 4

24. A certain regulator has a no-load voltage of 6 V and a full-load output of 5.82 V. What is the load regulation?

09%
87 %
72 %
None of the above
Ans : 1

25. What is true about the breakdown voltage in a Zener diode?

It decreases when load current increases
It destroys the diode
It equals current times the resistance
It is approximately constant
Ans : 4

26. Which of these is the best description for a Zener diode?

It is a diode
It is a constant current device
It is a constant-voltage device
It works in the forward region
Ans : 3

27. A Zener diode .....

Is a battery
Acts like a battery in the breakdown region
Has a barrier potential of 1 V
Is forward biased
Ans : 2

28. The load voltage is approximately constant when a Zener diode is .....

Forward biased
Unbiased
Reverse biased
Operating in the breakdown region
Ans : 4

29. In a loaded Zener regulator, which is the largest Zener current?

Series current
Zener current
Load current
None of the above
Ans : 1

30. If the load resistance decreases in a Zener regulator, then Zener current .....

Decreases
Stays the same
Increases
None of the above
Ans : 1

31. If the input a.c. voltage to regulated or ordinary power supply increases by 5% what will be the approximate change in d.c. output voltage?

10%
20%
15%
5%
Ans : 4

32. If the load current drawn by unregulated power supply increases, the d.c. output voltage .....

Increases
Decreases
Stays the same
None of the above
Ans : 2

33. If the load current drawn by unregulated power supply increases, the d.c. output voltage .....

Increases
Decreases
Stays the same
None of the above
Ans : 2

34. A power supply has a voltage regulation of 1%. If the no-load voltage is 20 V, what is the full-load voltage?

8 V
7 V
6 V
2 V
Ans : 1

35. Two similar 15 V Zeners are connected in series. What is the regulated output voltage?

15 V
5 V
30 V
45 V
Ans : 3

36. A power supply can deliver a maximum rated current of 0.5 A at full-load output voltage of 20 V. What is the minimum load resistance that you can connect across the supply?

10 O
20 O
15 O
40 O
Ans : 4

37. In a regulated power supply, two similar 15 V zeners are connected in series. The input voltage is 45 V d.c. If each Zener has a maximum current rating of 300 mA, what should be the value of the series resistance?

10 O
50 O
25 O
40 O
Ans : 2

38. A Zener regulator ..... in the power supply

Increases the ripple
Decreases the ripple
Neither increases nor decreases the ripple
Data insufficient
Ans : 2

39. When load current is zero, the Zener current will be .....

Zero
Minimum
Maximum
None of the above
Ans : 3

40. The Zener current will be minimum when .....

Load current is maximum
Load current is minimum
Load current is zero
None of the above
Ans : 1