

Faculty of Science

B.Sc (Chemistry) II-Year, CBCS -III Semester

Backlog Examinations -June/July, 2022

PAPER: Chemistry-III

Time: 3 Hours

Max Marks: 80

Section - A	
I	کسی آٹھ سوالات کے جوابات لکھو۔
1	1- لوہوں کے بنانا کے طریقے سے Methanide کو کس طرح بنتا ہے؟ $8 \times 4 = 32$
2	2- Numerical theory کے فووفات کہاں سے ایک محدود بناتے۔
3	3- Organic reaction کے فووفات کہاں سے۔ اسی درجہ بندی اور اس حالت سے بناتے۔
4	4- Amide-Eidert کے فووفات سے Phosphoric acid کو کس طرح تیار کیا جاتا ہے۔
5	5- Zn نفاصل (b) NaNO_2 اور Zn کے فووفات سے بناتے۔
6	6- Kocyanide کی تیاری اور دو فووفات سے بناتے۔
7	7- Cyanide کی تیاری اور دو فووفات سے بناتے۔
8	8- Joni Thomson کی تیاری اور دو فووفات سے بناتے۔
9	9- Entropy سے کیا مراد ہے۔ اس کے ذریعے کسی عمل کے واقع ہونے کو بناتے۔
10	10- Haloform نفاصل سے بناتے۔
11	11- Alkyne کو بنانے کے فووفات سے بناتے۔
12	12- Phase rule کی تیاری اور دو فووفات سے بناتے۔
Section - B	
II	نام سوالات کے جوابات لکھو۔
13	(a) Ni(CO)_4 کی تیاری اور دو فووفات سے بناتے۔
14	(b) '4' گروپس اور دو فووفات سے بناتے۔ Complex کی Stereo isomerism کو مثالوں سے بناتے۔
15	(a) Carboxylic acid تریوں کے مشتق (b) amide ellidus Amide ellidus amide کی تیاری اور فووفات سے بناتے۔
16	(b) $\text{Hoffmann Bromamide}$ نفاصل سے بناتے۔ Amines کی تیاری سے بناتے اور Hinsberg کے طریقے سے کس طرح بنتا ہے۔
17	(a) Hinsberg اور Hinsberg کے طریقے سے بناتے۔ Hinsberg کے طریقے سے بناتے اور Hinsberg کے طریقے سے بناتے۔
18	(b) ΔH اور ΔG سے بناتے۔ $\Delta H = -38.3 \text{ kJ}$ اور $\Delta G = -120.5 \text{ kJ}$ سے بناتے۔

16 (a) خطا Error کہا ہے۔ اس کا اظہار اور errors کے درجہ بندی مثالوں سے بناتے۔

(b) $\text{Dealkylation of lead}$ کہا ہے۔ Pb-Ag کے فووفات سے بناتے۔

Faculty of Science
B.Sc (Electronics) II-Year, CBCS –III Semester
Backlog Examinations –June/July, 2022
PAPER: Analog Circuits

Time: 3 Hours

Max Marks: 80

Section-A

I. Answer any eight of the following questions (8x4=32 Marks)

1. Explain the working of a half wave rectifier.
2. Explain the working of shunt capacitive filter.
3. Output load of a half wave rectifier is 1Kohm and its input voltage is 50Vrms. Calculate V_{ac} , V_{dc} and ripple factor.
4. Draw the block diagram of UPS and explain each block briefly.
5. Explain the working of a Series Voltage Regulator using circuit diagram.
6. A Zener regulator has input voltage 10V and load current 4mA. If Zener voltage is 7.8V then find potential difference across load resistor.
7. Explain the concept of emitter follower.
8. Describe the amplifiers based on frequency range
9. An amplifier has a voltage gain of 50. If gain is reduced to 10 by negative feedback, then the value of β
10. What is Barkhausen criterion and explain it.
11. Draw the circuit diagram of Wein's bridge oscillator.
12. A Colpitt's oscillator $C_1=C_2=0.1$ micro farad, $L=2$ mH. Find the frequency of oscillations.

Section-B

II. Answer the following questions (4x12=48 Marks)

- 13.(a) Explain the working of a Full wave rectifier and evaluate the ripple factor and rectifier efficiency.

(OR)

- (b) Draw the circuit of L-section filter and explain its working.

14. (a) Explain the working of a Regulated power supply with the help of neat diagram.

(OR)

- (b) Explain the working of a Switch Mode Power Supply with the help of block diagram.

- 15.(a) Explain the frequency response of RC coupled amplifier. Derive the equation of voltage gain in low frequency range.

(OR)

- (b) Explain the advantages of negative feedback amplifier. Derive an expression for

Faculty of Science

B.Sc (Electronics) II-Year, CBCS –III Semester Regular Examinations –Jan, 2023

PAPER: Analog Circuits

Time: 3 Hours

Max Marks: 80

Section-A

- I. Answer any *eight* of the following questions (8x4=32 Marks)
1. What are the advantages of bridge rectifier over full wave rectifier?
 2. Explain the working of π section filter.
 3. A transformer with 20V secondary voltage is supplied to an half wave rectifier having load resistance 200Ω . Determine the dc output voltage and PIV.
 4. Write a brief note on regulated power supply.
 5. What are the advantages of switch mode power supply?
 6. If the dc output voltage is 600V with no load attached to power supply but decreases to 500V at full load. Find the percentage voltage regulation.
 7. Discuss briefly about multistage BJT amplifiers.
 8. Define the terms open loop gain and closed loop gain.
 9. A two stage RC coupled amplifier has input resistance of each stage equal to $1k\Omega$. If $R_c = 2k\Omega$ and $\beta = 100$ find the total voltage gain.
 10. Explain Barkhausen criterion.
 11. Distinguish mono stable and bistable multivibrators.
 12. A tuned collector oscillator circuit used in the local oscillator of a radio receiver makes use of a tuned circuit with $L = 60\mu H$ and $C = 400pF$. Calculate the frequency of oscillations.

Section-B

- II. Answer the following questions (4x12=48 Marks)
- 13.(a) With neat diagram explain the working of full wave rectifier. Derive an expression for its efficiency and ripple factor.
(OR)
(b) What is a filter circuit? Describe capacitor filter and derive expression for its ripple factor.
- 14.(a) What is voltage regulation? Distinguish between series and shunt regulators.
(OR)
(b) What are the advantages of three terminal regulators? Explain a three terminal IC regulator with the help of its block diagram.
- 15.(a) Discuss in detail about classification of amplifiers.
(OR)
(b) Explain the effect of negative feedback on input and output voltages.
- 16.(a) What is an oscillator? Explain the principle and describe working of a CE transistor phase shift oscillator.
(OR)
(b) Draw the circuit diagram of an astable multivibrator and explain its operation.

Faculty of Science

B.Sc(Electronics) II-Year, CBCS-III Semester Backlog Examinations –June, 2023

PAPER: Analog Circuits

Time: 3 Hours

Max Marks: 80

Section-A

- I. Answer any *eight* of the following questions (8x4=32 Marks)
1. Explain the terms ripple factor and efficiency.
 2. Why Π - section filter is preferred over L-section filter
 3. A half wave rectifier circuit supplies 50mA dc to 200Ω load. Find the dc output voltage and PIV.
 4. How the zener diode acts as a voltage regulator?
 5. With neat circuit diagram briefly explain the block diagram of regulated power supply.
 6. A 10 V regulated dc power supply has a regulation of 0.005%. Find the magnitude of variation in output voltage.
 7. Explain different coupling schemes used in amplifiers.
 8. Explain the effect of negative feedback on gain.
 9. In a negative feedback amplifier, the gain without feedback is 100, feedback ratio is $1/25$ and the input voltage is 50mV. Calculate output voltage.
 10. Why do we use three RC sections in phase shift oscillator?
 11. Mention the applications of multivibrators.
 12. Calculate C_2 of a Colpits oscillator if $L=100\text{mH}$, $C_1=0.1\mu\text{F}$ and resonant frequency $f=100\text{kHz}$

Section-B

- II. Answer the following questions (4x12=48 Marks)
- 13.(a) With neat diagram explain the working of half wave rectifier. Derive an expression for its efficiency and ripple factor.
(OR)
(b) What is a filter circuit? Describe induction filter and derive expression for its ripple factor.
- 14.(a) What are three terminal IC regulators? Give the basic circuit of IC 7805 regulator.
(OR)
(b) Explain the working of SMPS with a neat block diagram. What are the applications of SMPS.
- 15.(a) Draw the circuit diagram of RC coupled amplifier and discuss its frequency response.
(OR)
(b) Discuss how the bandwidth in an amplifier is increased by introducing negative feedback.
- 16.(a) Draw the circuit diagram of Wien Bridge oscillator and derive expression for its frequency of oscillation.
(OR)
(b) What is a multivibrator? What are different types of multivibrators? And Explain Astable Multivibrator with neat diagram.
