

GPAT - 2023 (2ND SHIFT)  
COMPLETE QUESTION PAPER WITH ANSWER KEY  
(Officially According to NTA)

**Pharma Chem and Allied Subject :**

Que- 1. Alkyl group in Grignard reagent serve as

1. Carbene
2. Free radical
3. Aromatic carbocation
4. Carbanion

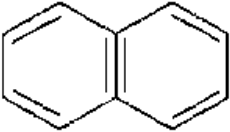
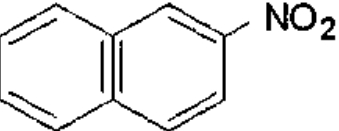
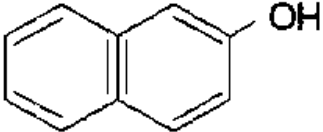
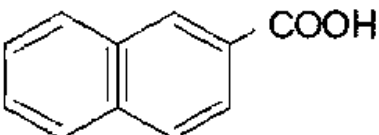
Que- 2. The potential of the calomel electrode depends upon

1. The concentration of potassium chloride solution
2. Concentration of mercuric chloride
3. Concentration of mercury
4. Membrane

Que- 3. The addition of Monobasic Potassium Phosphate to the suspended Bismuth Subnitrate particles cause the A to B owing to the C.

1. A-negative zeta potential, B-decrease, C-adsorption of the negatively charged phosphate anion
2. A-positive zeta potential, B-increase, C-adsorption of the negatively charged phosphate anion
3. A-positive zeta potential, B-decrease, C-adsorption of the negatively charged phosphate anion
4. A-positive zeta potential, B-decrease, C-adsorption of the positively charged hydrogen anion

Que- 4. Which of the following compound would be expected to have greatest florescence?

1. 
2.  c1ccc2ccccc2c1[N+](=O)[O-]
3.  Oc1ccc2ccccc2c1
4.  OC(=O)c1ccc2ccccc2c1

Que- 5. Conversion of cyclic ketone to ring expended cyclic ester takes place by

1. willgerodt rearrangement
2. Michael rearrangement
3. lossen rearrangement
4. Baeyer villager rearrangement

Que- 6. Which of the following is not a sulphonamide derivative?

1. Almotriptan
2. Sumatriptan
3. Rizatriptan
4. Naratriptan

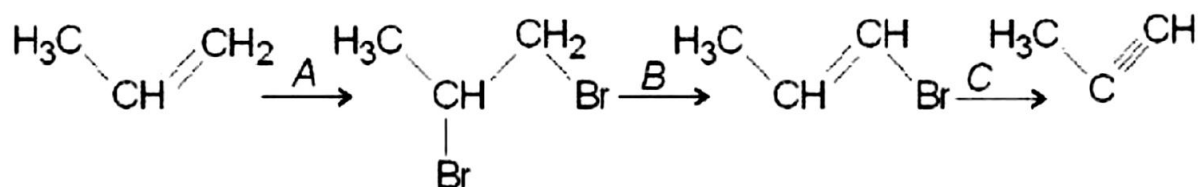
Que- 7. When exposed to carbon monoxide, the base pigment of cytochromes P enzymes absorb light at

1. 450 nm
2. 370 nm
3. 254 nm
4. 600 nm

Que- 8. Carbohydrates have hydrogen oxygen atom ratio of

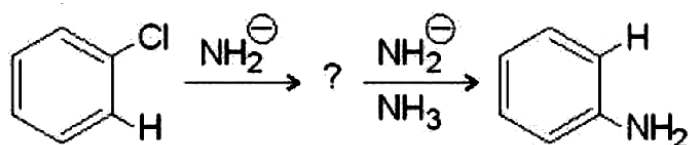
1. 1:2
2. 3:1
3. 1:3
4. 2:1

Que- 9. Identify A, B and C in below reaction



1. A = Br<sub>2</sub>, B = KOH, C = NaNH<sub>2</sub>
2. A = Br<sub>2</sub>, B = HCl, C = NaNH<sub>2</sub>
3. A = Br<sub>2</sub>, B = HCl, C = NaBH<sub>4</sub>
4. A = Br<sub>2</sub>, B = KOH, C = NaBH<sub>4</sub>

Que- 10. Identify intermediate forms in following substitution reaction.



1. Cyclohexa-1,3-dien-4-yne
2. Cyclohexa-1,3-dien-5-yne
3. Cyclohexa-1,4-dien-5-yne
4. Cyclohexa-1.5-dien-3-yne

Que- 11. Match List I with List II

LIST I (name of the drug)		LIST II (Chemical class)	
A.	Zolpidem	I.	Cyclopyrrolone
B.	Zaleplon	II.	Benzodiazepine
C.	Zopiclone	III.	Imidazopyridine
D.	Triazolam	IV.	Pyrazolopyrimidine

Choose the correct answer from the options given below:

1. (A)-(IV); (B)-(III); (C)-(II); (D)-(I)
2. (A)-(II); (B)-(IV); (C)-(III); (D)-(I)
3. (A)-(III); (B)-(IV); (C)-(I); (D)-(II)
4. (A)-(I); (B)-(III); (C)-(IV); (D)-(II)

Que- 12. Addition of HBr to 1,3-butadiene at 40°C yields

1. 80% 1,4-addition product and 20% 1,2-addition product
2. 80% 1,2-addition product and 20% 1,4-addition product
3. 80% 1,2-addition product and 20% 1,3-addition product
4. 80% 1,2-addition product and 20% 1,3-addition product

Que- 13. Which heterocyclic ring is fused to a steroidal nucleus in Danazol?

1. Thiazole
2. Isoxazole
3. Imidazole
4. Pyrazole

Que- 14. Which of the following factor make carbonyl group in acyl compounds. too, susceptible to nucleophilic attack?

1. The tendency of oxygen to acquire electrons even at the expense of gaining positive charge
2. The tendency of oxygen to acquire electrons even at the expense of gaining negative charge
3. The tendency of carbon to loose electrons even at the expense of gaining negative charge <https://www.pyqonline.com>
4. The tendency of carbon to loose electrons even at the expense of gaining positive charge

Que- 15. In atomic absorption spectroscopy, back ground correction performed using a single hollow cathode lamp pulsed first with a low current and then with a high current is called

1. Smith hieftje background correction
2. Continuous source background correction
3. Zeeman effect background connection
4. Hollow cathode background correction

Que- 16. Phenol reacts with chloroform in presence of aqueous sodium hydroxide to give chief product?

1. 2-Chloro Benzaldehyde
2. 2-Hydroxy Benzaldehyde

3. 3-Hydroxy Benzaldehyde
4. 3-Chloro Benzaldehyde

Que- 17. Replacement of the diazonium group by halogen in presence of copper powder is

1. Sandmeyer reaction
2. Gattermann reaction
3. Hofmann reaction
4. Gabriel reaction

Que- 18. Which of the following ICH Harmonized Tripartite Guidelines related to stability, provides the general requirements for stability, testing of new drug substances and products?

1. Q1A (R2)
2. Q1B
3. Q1D
4. Q1E

Que- 19. All the following about back titration are true, EXCEPT

1. It is performed when the rate of reaction between the analyte and reagent is fast.
2. It is performed when the rate of reaction between the analyte and reagent is slow.
3. It is performed when the standard solution lacks stability.
4. It is the process in which excess of standard solution used to react with an analyte is determined by titration with a second standard solution.

Que- 20. Identify pair of C<sub>4</sub> epimers.

1. D-glucose and D-galactose
2. D-glucose and D-fructose
3. D-glucose and D-mannose
4. D-glucose and D-xylulose

Que- 21. \_\_\_\_ is an example of aromatic nucleophilic substitution reaction.

1. Chichibabin
2. Gatterman Koch reaction
3. Kolbes reaction
4. Friedel-Crafts reaction

Que- 22. Amphetamine undergoes one of the following metabolic reaction to convert to 1-phenyl-2-propanol metabolite Via ketone formation

1. hydrolysis
2. oxidation
3. reduction
4. hydroxylation

Que- 23. What is the popular common name for a bioactive compound with chemical name of (m-hydroxyphenyl)- trimethyl ammonium methyl sulphate dimethyl carbamate?

1. Neostigmine
2. Pyridostigmine
3. Physostigmine
4. Metastigmine

Que- 24. A chromatogram of a peak provided a retention time at 5.4 minutes and 0.41 base width of the peak. The number of plates or the peak obtained is

1. 210.7
2. 173.5
3. 78.4
4. 2775.5

Que- 25. Which among the following cephalosporins has an unusual 5-thio-1,2,3,4-tetrazole substituent attached to core heterocyclic nucleus through a Methylene bridge?

1. Cefazolin
2. Cefamandole
3. Cefoxitin
4. Cefadroxil

Que- 26. Which one of the following molecules has a dipole moment?

1. CS<sub>2</sub>
2. CHCl<sub>3</sub>
3. CH<sub>4</sub>
4. CO<sub>2</sub>

Que- 27. In UV spectrophotometer, lamp used to generate UV spectrum is

1. Tungsten
2. Sodium vapor



3. LED
4. Deuterium

Que- 28. Which one of the following is an example of a chelate?

1. Cisplatin
2. Hemoglobin
3. Iodine
4. Ferrocene

Que- 29. A 2.0% saline solution is

1. Hypotonic
2. Hypertonic
3. Isotonic
4. Iso-osmotic

Que- 30. The C-2 epimer of D-glucose is

1. D-Mannose
2. L-Fructose
3. D-Glucose pyranose
4. L-Arabinose

Que- 31. Which of the following factors affect the heat of reaction based on Kirchoff equation?

1. Molecularity
2. Temperature

3. Pressure

4. Volume

Que- 32. Which of the following is correct order of stability of free radicals?

1.  $3^\circ > 2^\circ > 1^\circ > \text{CH}_3^\circ > \text{allyl}$

2.  $3^\circ > 2^\circ > 1^\circ > \text{allyl} > \text{CH}_3^\circ$

3.  $\text{CH}_3^\circ > 3^\circ > 2^\circ > 1^\circ > \text{allyl}$

4.  $\text{allyl} > 3^\circ > 2^\circ > 1^\circ > \text{CH}_3^\circ$

Que- 33. Following statement is correct with respect to voltage sensitive calcium channels :

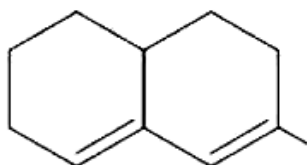
1. L-type Blocker : Nifedipine

2. T-type Blocker: Verapamil

3. N-type Blocker : Mibefradil

4. R-type Blocker : Diltiazem

Que- 34. Predict the theoretical max value for the following compound using Woodward-Fieser rules. Base value for the compound is 215 nm.



1. 240 nm

2. 220 nm

3. 225 nm

4. 235 nm

Que- 35. EDTA is an example of

1. Unidentate Ligand
2. Bidentate Ligand
3. Tridentate Ligand
4. Hexadentate Ligand

Que- 36. Isoquinoline on treatment with oleum at 90°C yields majorly

1. Isoquinoline-3-sulfonic acid
2. Isoquinoline-5-sulfonic acid
3. Isoquinoline-6-sulfonic acid
4. Isoquinoline-7-sulfonic acid

Que- 37. Eicosanoids are polyunsaturated fatty acids of ——— carbons.

1. 30
2. 25
3. 15
4. 20

Que- 38. Efficiency of an reversible engine is given by

1. Clapeyron equation
2. Clausius Clapeyron equation
3. Gibbs-Helmholtz equation
4. Carnot theorem

## Pharmaceutics and Allied Subjects -

Que- 1. Noye-Whitney's equation predicts:

1. an increase of dissolution rate if the particle size is reduced by micronization because of an increase in area
2. relationship between the radius of the diffusing molecule and its diffusion coefficient
3. the influence of electrolyte on the rate constant
4. an equilibrium between the surfactant and the drug molecules at the surface of the solution and in the bulk of the solution

Que- 2. One of the following drugs is not meant for systemic use

1. Netilmycin
2. Sisomicin
3. Neomycin
4. Paramomycin

Que- 3. Indicate which of the following molecular characteristics will be expected to increase the solubility of a simple solute in an aqueous solution

1. A high melting point
2. The presence of polar group
3. A high molecular surface area
4. A high boiling point

Que- 4. Which type of in-vitro-in-vivo correlation compares % drug released Vs % drug absorbed?

1. Level C
2. Level A
3. Multiple level C
4. Level B

Que- 5. Which of the following characteristics is most likely to be associated with a high apparent volume of distribution?

1. Penetration across the blood brain and blood testis barriers
2. Extensive binding to plasma protein
3. Distribution into total body water
4. Extensive binding to tissue constituents

Que- 6. Ostwald's dilution law is applicable to

1. weak electrolytes
2. strong electrolytes
3. non-electrolytes
4. all electrolytes

Que- 7. Which among the following is not used as NSAID?

1. Indomethacin extended release 75 mg
2. Aspirin 75 mg
3. Naproxen 500 mg
4. Mefenamic acid 500 mg

Que- 8. Autoimmunity refers to

1. an automatic trigger of the immune system directed against a specific pathogen

2. Failure to distinguish between self and non-self
3. An automatic segregation of T and B cells
4. Failure of B-cells to interact with T-cells

Que- 9. Ideally BA studies should be carried on \_\_\_\_\_ volunteers,

1. aged
2. children
3. healthy
4. patient

Que- 10. Which of the following is acellular?

1. Bacteria
2. Fungus
3. Virus
4. Amoeba

Que- 11. Given below are two statements, one labelled as Assertion (A) and the other labelled as Reason (R) :

Assertion (A) In case of Salicylic Acid Ointment BP Wool Alcohol Ointment made with white soft paraffin is used.

Reason (R) Wool Alcohol Ointment made with white soft paraffin is used because the medicament is coloured.

In the light of the above statements, choose the most appropriate answer from the options given below :

1. Both (A) and (R) are true and (R) is the correct explanation of (A)
2. Both (A) and (R) are true but (R) is not the correct explanation of (A)

3. (A) is true but (R) is false
4. (A) is false but (R) is true

Que- 12. Recombination process in a cell occurring through the mediation of phages is called

1. transfection
2. transduction
3. conjugation
4. transformation

Que- 13. In a mechanical model of a viscoelastic material, showing both viscosity of liquid state and elasticity of solid-state combined in series is termed as

1. Voigt Element
2. Creep Element
3. Maxwell Element
4. Retardation Element

Que- 14. If  $S$  is the solubility of small particles of radius  $r$ . is the normal solubility (i.e., of a solid consisting of fairly large particles). is the interfacial energy,  $M$  is the molecular weight of the solid,  $\rho$  is the density of the bulk solid,  $R$  is the gas constant and  $T$  is the thermodynamic temperature, then which of the following equation indicates the changes in interfacial free energy that accompany the dissolution of particles of varying sizes causing the solubility of substance to increase with decreasing particle size?

1.  $\text{Log}(S_0 / S) = 2\gamma Mr / 2.303RT\rho$

2.  $\text{Log}(S / S_0) = 2\gamma M r / 2.303 R T \rho$
3.  $\text{Log}(S_0 / S) = 2\gamma M r / 2.303 R T \rho$
4.  $\text{Log}(S / S_0) = 2\gamma M / 2.303 R T \rho$

Que- 15. Match List I with List II

List-I (Dissolution apparatus)		List II (Name)	
A.	Type 1	I.	Reciprocating holder
B.	Type 5	II.	Paddled overdisk
C.	USP App 6	III.	Basket type
D.	USP App 7	IV.	cylinder apparatus

Choose the correct answer from the options given below:

1. (A)-(III); (B)-(II); (C)-(IV); (D)-(I)
2. (A)-(IV); (B)-(I); (C)-(II); (D)-(III)
3. (A)-(II); (B)-(III); (C)-(I); (D)-(II)
4. (A)-(I); (B)-(II); (C)-(III); (D)-(IV)

Que- 16. A clear, sweetened hydroalcoholic liquid containing medicament, is known as

1. Elixir
2. Syrup
3. Tincture
4. Decoction

Que- 17. The Schick test is used to determine susceptibility to

1. Measles



2. Diphtheria
3. Polio
4. Typhoid

Que- 18. Absorption of Vitamin B<sub>12</sub> is facilitated by

1. Hydrogel
2. Glycoprotein
3. Lipoprotein
4. Mucoprotein

Que- 19. A sample of glucose was decomposed at 140° C in a solution containing 0.030 M HCl. The velocity constant, k, was found to be 0.0080 hr<sup>-1</sup>. If the spontaneous rate constant, is 0.0010 hr<sup>-1</sup>, and the catalysis due to hydroxyl ions in this acidic solution is considered as negligible, then the catalytic coefficient. kH is

1. 0.22 per mole per hour
2. 0.233 per mole per hour
3. 0.27 per mole per hour
4. 0.29 per mole per hour

Que- 20. Match List I with List II

List- I (Name of Emulsifier)		List- II (Remark)	
A.	Triethanolamine oleate	I.	Surface-active agent (non-ionic)
B.	N-cethyl N-ethy morpholinium ethosulfate (Atlas G-263)	II	Hydrophilic colloid

C.	Polyxyethelene sorbitan mono oleate (Atlas Tween 80)	III.	Surface-active agent (anionic)
D	Gelatin	IV.	w/o Emulsifier (HLB = 4.3)
		V	Surface active agent (cationic)

Choose the correct answer from the options given below:

1. (A)-(II); (B)-(IV); (C)-(V); (D)-(III)
2. (A)-(III); (B)-(V); (C)-(I); (D)-(II)
3. (A)-(V); (B)-(IV); (C)-(II); (D)-(III)
4. (A)-(IV); (B)-(III); (C)-(V); (D)-(I)

Que- 21. Which of the following equipment is based on the principle of Pohlman liquid whistle? <https://www.pyqonline.com>

1. Ultrasonifier
2. Mechanical stirrer
3. Silverson homogeniser
4. Colloid mill

Que- 22. Which of the following is the correct choice of particle size measurement technique in scoring order of size?

- a. Sieve
  - b. Anderson Pipette
  - c. Coulter counter
  - d. Light scattering
1. a. b. c, d
  2. b, d, c, a

3. a, c, b. d

4. d, a. c, b

Que- 23. Which one of the following is an example of ointment prepared by trituration and containing liquids and solids?

1. Salicylic and Sulphur Ointment BPC

2. Whitfield's Ointment BPC

3. Hamamelis Ointment BPC

4. Resorcinol Ointment Compound BPC

Que- 24. Which of the following drugs does not bind to haemoglobin?

A. Chlorpromazine

B. Phenobarbital

C. Phenothizine

D. Phenytoin

Choose the most appropriate answer from the options given below :

1. B, C and D only

2. B and C only

3. C and D only

4. A only

Que- 25. 'Picking' is a term used to describe

1. Separation of tablet into two or more layers

2. The situation when the surface material from a tablet that is sticking to and being removed from the tablet's surface by a punch

3. Unequal distribution of colour on a tablet
4. Partial or complete separation of the top and bottom crowns of a tablet from the main body of the tablet

Que- 26. Enzyme asparaginase is obtained from

1. Clostridium histolyticum
2. Bacillus subtilis
3. Erwinia caratovora
4. Kluyveromycas lactis

Que- 27. Which of these is not a colligative property?

1. Osmotic pressure
2. Depression of freezing point
3. Elevation in boiling point
4. Polymorphism

Que- 28. Sarong SpA semiautomatic equipment is used for the

1. Filling and packaging line for topical pharmaceutical aerosols
2. Filling of hard gelatin capsule
3. Production of suppositories
4. Inserting rubber closure in vials

Que- 29. Ri Hingers hypothesis relates

- (a) energy used in size reduction
- (b) new surface area produced

- (c) equivalent shape
- (d) Reynold's number

1. a and b
2. b and c
3. a and c
4. a and d

Que- 30. Given below are two statements :

Statement I : Rubber stoppers cannot Withstand pyrogen-destructive temperatures.

Statement II : In case of rubber stopper for injections reliance must be on an effective sequence of washing, thorough rinsing with WFI prompt sterilization. and protective storage to ensure adequate pyrogen control.

In the light of the above statements, choose the most appropriate answer from the options given below:

1. Statement I and Statement II are correct
2. Statement I and Statement II are incorrect
3. Statement I is correct but Statement II is incorrect.
4. Statement I is incorrect but Statement II is correct

Que- 31. In 1798 Edward Jenner published his work on ———.

1. Vaccination
2. Prescription writing
3. Isolation of morphine
4. Isolation of codeine

Que- 32. Match List I with List II

List-I (Parts of the valve assembly)		List- II (purpose of parts)	
A.	Gasket	I.	Links the dip tube and the stem and the actuator
B.	Spring	II.	Prevents the leakage
C.	mounting cup	III.	Holds the Gasket in place
D.	Housing	IV.	Holds the valve in place

Choose the correct answer from the options given below:

1. (A)-(III); (B)-(II); (C)-(IV); (D)-(I)
2. (A)-(II); (B)-(III); (C)-(IV); (D)-(I)
3. (A)-(IV); (B)-(I); (C)-(II); (D)-(III)
4. (A)-(III); (B)-(I); (C)-(IV); (D)-(II)

Que- 33. Conjugation of a drug includes the following except :

1. Glucuronidation
2. Sulfate formation
3. Hydrolysis
4. Methylation

Que- 34. Absolute solubility does not rely on standard condition of

1. pH
2. pressure
3. temperature
4. volume

Que- 35. Modified Lowry's procedure is used to characterize

1. Protein-Content in allergen product
2. Protein profile in allergen product
3. Potency of allergen product
4. Storage condition of allergen product

Que- 36. Vanishing cream is an ointment that may be classified as

1. water soluble base
2. oleaginous base
3. absorption base
4. emulsion base

Que- 37. In terms of the kinetics. degradation in suspension is

1. first order
2. second order
3. pseudo zero order
4. zero order

Que- 38. While preparing the following:

Rx

Salicylic acid : 3g

Sulfur ppt: 7g

Lanolin : 10 g

White petroleum : 10 g

The pharmacist should :

1. use a rubber spatula to weigh and levigate the salicylic acid

2. mix the powders using geometric dilution in a mortar
3. place on an ointment tile and levigate the ingredients using geometric dilution
4. All of the above

### **Pharmacognosy and Allied Subjects-**

Que- 1. The following are adulterants of clove except one, choose the most appropriate option :

1. Mother Clove
2. Clove Stalk
3. Blown Clove
4. Clove Bud

Que- 2. Unicellular conical, warty trichomes, paracytic stomata, xylem vessels with annular thickening are important microscopical features of which plant

1. Datura metel
2. Cassia angustifolia
3. Digitalis purpurea
4. Atropa belladonna

Que- 3. Sesquiterpenes are biosynthesised from ——— in plants.

1. Farnesyl-pyrophosphate
2. Geranyl farnesyl pyrophosphate
3. Terpenes
4. Degraded products of terpenes



Que- 4. The alcohol solution of Sudan-III and tincture of alkana are the reagents used for identification of following type of secondary metabolites

1. resins
2. alkaloids
3. fixed oils
4. volatile oils

Que- 5. Aloe contains \_\_\_\_\_ type of glycosides.

1. C-glycosides
2. O-glycosides
3. S-glycosides
4. N-glycosides

Que- 6. Ayurvedic fermented preparation includes

1. Churnas
2. Tailas
3. Bhasmas
4. Aristas and Asavas

Que- 7. Modified borntrager's test is used to detect the presence of which type of glycosides

1. O-type of glycosides
2. C-type of glycosides
3. S-type of glycosides
4. N-type of glycosides

Que- 8. Terpene indole alkaloid derived from L-Tryptophan via secologanin is

1. Morphine
2. Codeine
3. Ajmalicine
4. Thebaine

Que- 9. Chemically volatile oils differ from fixed oils in one of the following characters

1. mixtures of eleoptenes and steroptenes
2. presence of flavonoids
3. presence of plant acids
4. hydrophilic in nature

Que- 10. Which one of the following drug is skeletal muscle relaxant?

1. Datura stramonium
2. Atropa belladonna
3. Hyoscyamus niger
4. Chondrodendron tomentosum

### **Pharmacology and Allied Subjects -**

Que- 1. Fight or flight responses are mediated by

1. Parasympathetic division of Autonomous nervous system
2. Sympathetic division of Autonomous nervous system

3. Serotonergic nervous system
4. Histaminergic nervous system

Que- 2. Which one of the following is an autosomal dominant syndrome in its inheritance?

1. Gilbert's syndrome
2. Crigler-Naijar syndrome Type-I
3. Dubin-Johnson syndrome
4. Rotor syndrome

Que- 3. One of the following match is correct choose it :

1.  $M_1$  Acetylcholine receptors confined to brain  $M_2$  Acetylcholine receptors neural  $M_3$  Acetylcholine receptors are cardiac  $M_4$  Acetylcholine receptors glandular
2.  $M_1$  Acetylcholine receptors neural  $M_2$  Acetylcholine receptors confined to brain  $M_3$  Acetylcholine receptors are cardiac  $M_4$  Acetylcholine receptors glandular
3.  $M_1$  Acetylcholine receptors neural  $M_2$  Acetylcholine receptors cardiac  $M_3$  Acetylcholine receptors are confined to glandular  $M_4$  Acetylcholine receptors confined to brain
4.  $M_1$  Acetylcholine receptors glandular  $M_2$  Acetylcholine receptors neural  $M_3$  Acetylcholine receptors are confined to brain  $M_4$  Acetylcholine receptors cardiac

Que- 4. \_\_\_\_\_ is a protein marker Which can be detected within three hours of acute ischemic kidney injury from patient's urine.

1. N-acetyl-  $\beta$ -D-glucose aminidase

2. Glutathione-S-transferase
3. Neutrophil gelatinase associated lipocalin
4.  $\gamma$ -glutamyl transpeptidase

Que- 5. which of the following genes responsible for graft rejection in humans?

1. Highly polymorphic HLA genes
2. APP genes
3. hMSH2 gene
4. FMR1 gene

Que- 6. Match List I with List II

LIST I		LIST II	
A.	Vibrations in skeletal muscles of larynx	I.	Facial contractions
B.	Involuntary contraction of skeletal muscles that is regulated by the brain	II.	Regulate voice
C.	Contraction of skeletal muscles in the legs	III.	Shivering
D.	Pull of skeletal muscles on attachments to skin of face	IV	Assists return of blood to the heart
		V	Causes facial expressions

Choose the correct answer from the options given below:

1. (A)-(II); (B)-(III); (C)-(IV); (D)-(I)
2. (A)-(III); (B)-(IV); (C)-(I); (D)-(V)

3. (A)-(II); (B)-(III); (C)-(IV); (D)-(V)
4. (A)-(III); (B)-(IV); (C)-(V); (D)-(I)

Que- 7. Most common type of megaloblastic anemia caused by malabsorption of vitamin B<sub>12</sub> and characterized by decreased production of hydrochloric acid in the stomach and a deficiency of intrinsic factor is

1. Iron deficiency anemia
2. Sideroblastic anemia
3. Pernicious anemia
4. Aplastic anemia

Que- 8. Which of the following is not an ACE inhibitor?

1. Captopril
2. Tarandopril
3. Verapamil
4. lisinopril

Que- 9. Which of the following combination is correct?

1. Nucleoside reverse transcriptase inhibitors (NRTIs)- Ritonavir
2. Protease inhibitors - Indinavir
3. Integrase inhibitors - Saquinavir
4. Non-nucleoside reverse transcriptase inhibitors (NNRTIs)-Tenofovir

Que- 10. Choose the most appropriate answer:

- A. Enterobius vermicularis-pin worm
- B. Strongyloids stercoralis-Thread worm

- C. Wuchereria bancrofti-Filarial worm
- D. Dracunculus medinensis-Guinea worm

1. Only B and C are correct
2. Only A and B are correct
3. A, B, C and D are correct
4. Only B, C and D are correct

Que- 11. \_\_\_\_ activates G-protein gated potassium channel resulting in membrane hyperpolarization.

1.  $\alpha_1$  adrenergic receptor
2.  $\alpha_2$  adrenergic receptor
3.  $\beta_1$  adrenergic receptor
4.  $\beta_2$  adrenergic receptor

Que- 12. Which among the following statement is correct with respect to their mechanism of antidiabetic action? <https://www.pyqonline.com>

1. Dapagliflozin/Canagliflozin-Sodium glucose cotransport-2 inhibitors
2. Glipizide/Gliclazide-Dipeptidyl peptidase-4 inhibitors
3. Linagliptin/Alogliptin-AMPK activators
4. Acarbose/voglibose- $K^+$ ATP channel blockers

Que- 13. Prominent biochemical features of Gran's disease are

1. Decreased ionized calcium in body fluids
2. Decreased  $T_4$  and  $T_3$  in circulation
3. Increased ionized calcium in body fluids
4. Increased  $T_4$  and  $T_3$  in circulation

Que- 14. Laboratory findings of which one of the following disease include markedly elevated serum amylase levels during the first 24 hours followed by rising serum lipase levels Within 72-96 hours?

1. Acute pancreatitis
2. Cirrhosis of liver
3. Jaundice
4. Cystic fibrosis of lungs

Que- 15. Exenatide is a

1. Glucagon like peptide 1 (GLP1) receptor agonist
2. Diphenyl Peptidase-4 (DPP4) inhibitors
3. Facilitator of glucose transport across the cell
4. Inhibitor of glucose absorption in the GIT

Que- 16. Which of the following is a third generation cephalosporin?

1. Cefazoline
2. Cefuroxime
3. Cefotaxime
4. Cefepime

Que- 17. Deficiency of ——— enzyme is found in Hers' disease.

1. muscle glycogen phosphorylase
2. liver glycogen phosphorylase
3. phosphofructokinase
4. glucose-6-phosphatase

Que- 18. One of the following is correct match or mechanisms. Select it.

1. Methotrexate-Inhibition of microtubules, Vinca alkaloids -Inhibition of Purine synthesis, Bleomycin-Inhibition of RNA, 5-Fluoro Uracil-DNA damage
2. Methotrexate-Inhibition of Purine synthesis, Vinca alkaloids-Inhibition of Microtubules, Bleomycin-DNA damage, 5-fluoro Uracil-inhibition of 2-deoxythymidylate
3. Methotrexate-DNA damage, Vinca alkaloids-Inhibition of microtubules, Bleomycin-Inhibition of 2-deoxythymidylate, 5-Fluoro Uracil-RNA damage
4. Methotrexate-DNA damage, Vinca alkaloids-RNA damage, Bleomycin-Inhibition of Purine synthesis, 5- Fluoro Uracil-Inhibition of 2-deoxythymidylate

Que- 19. Para aminohippuric acid (PAH) clearance test is employed to measure

1. Renal blood flow
2. Liver blood flow
3. Cerebral blood flow
4. Venous blood flow

Que- 20. The  $\beta$ -adrenergic antagonist propranolol (20-120 mg/kg) is prescribed to around 50% of maniac patients receiving Lithium is to mitigate the side effect

1. Anxiety
2. Tremor
3. Hypertension
4. Bradycardia



Que- 21. Which class of antibody opsonizes antigens for phagocytosis through two different pathways?

1. immunoglobulin G (I<sub>g</sub>G)
2. Immunoglobulin M (I<sub>g</sub>M)
3. Immunoglobulin A (I<sub>g</sub>A)
4. Immunoglobulin E (I<sub>g</sub>E)

Que- 22. Anti-rheumatoid drug which is contraindicated in patients with renal and hepatic impairment

1. Sulfasalazine
2. Methotrexate
3. Corticosteroids
4. Azathioprine

Que- 23. Which among the following is an amino-alcohol analogue that has weak visceral anticholinergic activity but is a strong nicotinic drug?

1. Biperiden
2. Orphenadrine
3. Poldine
4. Propantheline

Que- 24. Which one of the following interferes with the release of cholinergic neurotransmitter, acetylcholine by the neurons of autonomic nervous system?

1. Reserpine
2. Guanethidine

3. Hemicholinium
4. Botulinum toxin

Que- 25. Which one of the following types of hepatitis can lead to fulminant hepatitis causing massive hepatic cell death more frequently among infected pregnant women, showing third trimester mortality as high as 30%?

1. Hepatitis A
2. Hepatitis B
3. Hepatitis C
4. Hepatitis E

Que- 26. Phocomelia is caused by

1. Glibenclamide
2. Indapamide
3. Xipamide
4. Thalidomide

Que- 27. Valproate and Carbamazepine can be used as first line drugs for the management of following type of seizure.

1. Both partial seizure and Tonic-clonic seizure
2. Both Tonic-clonic seizure and Status epilepticus
3. Only Febrile seizures
4. Both Febrile seizures and Status epilepticus

Que- 28. Which phase of cell cycle is the shortest phase in terms of time?

1. G<sub>1</sub>
2. S
3. M
4. G<sub>2</sub>

### Other Subjects -

Que- 1. Identify the schedule for which the following cautionary labelling is mandatory as per Drugs and Cosmetics Act.

1. Use within one month of opening
2. Name and concentration of preservative **DROPPED**
3. Not for injection
4. If irritation persists or increases, discontinue use and consult physician. Keep container tightly closed.

Que- 2. The more appropriate purpose of spiral scrapper in Swenson-Walker crystalliser is <https://www.pyqonline.com>

1. agitation of sample (solution)
2. conveying the crystals
3. prevent an accumulation of crystals on the cooling surface
4. provides desired temperature to the sample (solution)

Que- 3. If  $u$  is velocity of fluid,  $\rho$  is density of fluid,  $L$  is length of the pipe,  $D$  is diameter of the pipe,  $f$  is friction factor and  $\Delta P_1$  is pressure drop, then the equation  $\Delta P_1 = (2fu^2 L\rho) \div D$  represents.

1. Hagen Poiseuille equation
2. Bernoulli equation

3. Fannings equation
4. Reynolds equation

Que- 4. Match List I with List II

LIST I		LIST II	
A.	Penicillin	I.	Single cell protein
B.	Pruteen	II.	Ion exchange chromatography for recovery
C.	Streptomycin	III.	Primary metabolite
D.	Amino acids	IV.	Phenyl acetic acid as precursor

Choose the correct answer from the options given below:

1. (A)-(II); (B)-(I); (C)-(IV); (D)-(III)
2. (A)-(IV); (B)-(I); (C)-(II); (D)-(III)
3. (A)-(III); (B)-(II); (C)-(I); (D)-(IV)
4. (A)-(II); (B)-(III); (C)-(IV); (D)-(I)

Que- 5. Who is the primary source of information for doctors' prescribing behaviour? <https://www.pyqonline.com>

1. Competitor
2. wholesaler
3. Fellow doctor
4. Retailer

Que- 6. Schedule 'O' governs the standards for

1. Disinfectant fluids
2. List of equipment to run a pharmacy

3. Life period (expiry) of drugs
4. Manufacturing and analytical records of drugs

Que- 7. The number of persons elected as the member of the Pharmacy Council of India from the teaching profession is:

1. five
2. Six
3. Seven
4. Eight

Que- 8. The fluid flows through the filter medium by virtue of

1. pressure difference across the filter
2. temperature difference across the filter
3. Volume difference across the filter
4. potential difference across the filter

Que- 9. Match the photopharmaceutical with the plant species from which they are produced :

LIST I (Compound)		LISTTI (Plant species)	
A.	Cardinolides	I.	Ruta graveolens
B.	Rutin	II.	Catharanthus roseus
C.	Ajamalicine	III.	Papaver somnifera
D	Codeine	IV	Digitalis lanata

Choose the correct answer from the options given below:

1. (A)-(IV); (B)-(I); (C)- (II); (D)-(III)
2. (A)-(I); (B)-(III); (C)-(II); (D)-(IV)

3. (A)-(III); (B)-(I); (C)-(III); (D)-(IV)
4. (A)-(II); (B)-(IV); (C)- (I); (D)-(III)

Que- 10. Specific requirements for manufacture of sterile products and parenteral preparations are prescribed in Which of the following. part of the Schedule-M?

1. PART-IV
2. PART-IB
3. PART-IC
4. PART-ID

**DROPPED**

Que- 11. The good management principle revolves around the three R's these are

1. Ration, Rotation and Responsibility
2. Reward, Recognition and Responsibility
3. Research, Recreation and Responsibility
4. Reverse engineering, Research and Responsibility

## Answer Key

Pharma Chem and Allied Subjects	Pharmaceutics and Allied Subjects	Pharmacognosy and Allied Subjects	Pharmacology and Allied Subjects	Other Subjects
1. (4)	1. (1)	1. (4)	1. (2)	1. ( )
2. (1)	2. (3)	2. (2)	2. (1)	2. (1)
3. (3)	3. (2)	3. (1)	3. (3)	3. (3)
4. (3)	4. (2)	4. (4)	4. (1)	4. (2)
5. (4)	5. (4)	5. (1)	5. (1)	5. (4)
6. (3)	6. (1)	6. (4)	6. (1)	6. (1)
7. (1)	7. (2)	7. (2)	7. (3)	7. (2)
8. (4)	8. (2)	8. (3)	8. (3)	8. (1)
9. (1)	9. (3)	9. (1)	9. (2)	9. (1)
10. (2)	10. (3)	10. (4)	10. (3)	10. ( )
11. (3)	11. (3)		11. (2)	11. (2)
12. (1)	12. (3)		12. (1)	
13. (2)	13. (3)		13. (4)	
14. (2)	14. (4)		14. (1)	
15. (1)	15. (1)		15. (2)	
16. (2)	16. (1)		16. (3)	
17. (1)	17. (2)		17. (2)	
18. (1)	18. (2)		18. (2)	
19. (1)	19. (2)		19. (1)	
20. (1)	20. (2)		20. (2)	
21. (1)	21. (1)		21. (1)	
22. (3)	22. (1)		22. (2)	
23. (1)	23. (4)		23. (1)	
24. (2)	24. (1)		24. (4)	
25. (2)	25. (2)		25. (2)	
26. (2)	26. (3)		26. (4)	
27. (4)	27. (4)		27. (1)	
28. (2)	28. (3)		28. (3)	
29. (2)	29. (1)			
30. (1)	30. (1)			
31. (2)	31. (1)			
32. (4)	32. (2)			
33. (1)	33. (3)			
34. (1)	34. (1)			
35. (4)	35. (1)			
36. (2)	36. (4)			
37. (4)	37. (4)			
38. (4)	38. (3)			