

ENTRANCE TEST - 2025

M Pharm Programme (Non-GPAT)

Total Questions: 60**Roll No.**

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Time Allowed: 70 Minutes**Important Instructions for Candidates:**

1. Candidates shall compulsorily use only **blue/ black ball point pen**. In no case gel/ink pen or pencil should be used.
2. Compulsorily write your **roll number** in the space provided at the top of this page of the question booklet.
3. Fill up the necessary information in the spaces provided on OMR Answer sheet including **Question Booklet Number** and **Question Booklet Series**.
4. OMR Answer sheet has an original copy and a candidate's copy glued beneath it at the top. While making entries in the original copy, candidate should ensure that the **two copies are aligned properly** so that the entries made in the original copy against each item are exactly copied in the candidate's copy.
5. All entries in the OMR Answer Sheet, including answers to questions, are to be recorded in the Original Copy only.
6. **Choose only one correct/most appropriate response** for each question among the options A, B, C and D and darken the circle of the appropriate response completely. Incompletely darkened circle is not correctly read by the OMR scanner and no complaint to this effect shall be entertained.
7. **Do not darken more the one circle of option for any question. A question with more than one darkened response shall be considered wrong.**
8. **There will be negative marking for wrong answers. Each wrong answer will lead to deduction of 0.25 marks per wrong answer from the score.**
9. Only those candidates who obtain positive score in Entrance Test shall be eligible for admission.
10. Do not make any stray mark on the OMR sheet as this may lead to errors while scanning.
11. OMR answer sheet must be handled carefully and it should not be folded or mutilated, as in such case it will not be properly evaluated by the machine.
12. No Electronic gadgets including calculators, mobiles, smart watches, blue tooth etc. shall be permitted inside the examination hall.
13. Rough work, if any, should be done on the blank sheets provided with the question booklet.
14. Ensure that the OMR Sheet is signed by the Examinee as well as by the invigilator.
15. At the end of the examination, fold the OMR Sheet along the crease on the top and tear off the top strip to separate the Original OMR Sheet from the Duplicate Copy.
16. Hand over the Original OMR answer sheet to the invigilator and retain the candidate's copy of OMR, Question Booklet and Admit card for your reference.
17. If any of the information in the response Sheet/Question Paper has been found missing or not mentioned as stated above, the candidate is solely responsible for that lapse.
18. Any deficiency on the OMR shall be the responsibility of the candidate himself/herself.

- Which of the following favors an SN_2 mechanism?
 - Tertiary alkyl halide in polar protic solvent
 - Primary alkyl halide in polar aprotic solvent
 - Allylic carbocation formation
 - Bulky nucleophile
- According to Baeyer's strain theory, which cycloalkane is least stable?
 - Cyclopropane
 - Cyclobutane
 - Cyclopentane
 - Cyclohexane
- Which reagent is used to distinguish between **primary, secondary, and tertiary alcohols**?
 - Fehling's solution
 - Lucas reagent
 - Tollens reagent
 - Benedict's solution
- Which reagent is used to oxidize an aldehyde to a carboxylic acid?
 - LiAlH_4
 - NaBH_4
 - $\text{K}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$
 - H_2/Ni
- Which statement is **true** about the carbonyl carbon in aldehydes and ketones?
 - It is sp^3 hybridized.
 - It has a tetrahedral geometry.
 - It is electrophilic.
 - It is nucleophilic.
- Which of the following will generate a carbanion during a reaction?
 - SN_1 reaction
 - SN_2 reaction
 - Aldol condensation enolate formation
 - Free radical halogenations
- Which of the following is **not a steroid hormone**?
 - Progesterone
 - Testosterone
 - Cortisol
 - Insulin
- Drug levels should be monitored in the treatment of
 - Status asthmatics
 - Diabetes
 - Epilepsy
 - Hypertension
- What is the mechanism of action of sulphonamides?
 - Inhibit protein synthesis at the ribosome
 - Inhibit DNA gyrase
 - Inhibit folic acid synthesis by competing with PABA
 - Inhibit cell wall synthesis
- Which enzyme is responsible for bacterial resistance to penicillins?
 - DNA polymerase
 - Beta-lactamase (penicillinase)
 - Reverse transcriptase
 - RNA polymerase
- What is the primary mechanism of action of NSAIDs?
 - Block sodium channels
 - Stimulate beta-receptors
 - Inhibit cyclooxygenase (COX) enzymes
 - Inhibit acetylcholinesterase
- Which class does Metformin belong to?
 - Sulfonylureas
 - Meglitinides
 - Biguanides
 - Thiazolidinediones

13. Which class does **Acyclovir** belong to?
 - A) Neuraminidase inhibitors
 - B) Nucleoside analogue
 - C) Reverse transcriptase inhibitor
 - D) Protease inhibitor
14. Which of the following is a **neuraminidase inhibitor** used for Influenza?
 - A) Zidovudine
 - B) Ribavirin
 - C) Oseltamivir
 - D) Acyclovir
15. Which of the following is a **first-generation H1 antihistaminic**?
 - A) Loratadine
 - B) Cetirizine
 - C) Diphenhydramine
 - D) Fexofenadine
16. Which aminoglycoside is used topically as an ointment?
 - A) Gentamicin
 - B) Neomycin
 - C) Streptomycin
 - D) Amikacin
17. Which of the following is a **barbiturate**?
 - A) Lorazepam
 - B) Alprazolam
 - C) Zolpidem
 - D) Phenobarbital
18. Isoniazid chemically is:
 - A) Pyridine derivative
 - B) Pyrazine derivative
 - C) Nicotinic acid hydrazide
 - D) Aminoglycoside
19. Which of the following is a **potassium-sparing diuretic**?
 - A) Bumetanide
 - B) Spironolactone
 - C) Torsemide
 - D) Indapamide
20. Which of the following is a general anaesthetic?
 - A) Lidocaine
 - B) Procaine
 - C) Halothane
 - D) Benzocaine
21. For According to the Prevention of Cruelty to Animals Act, 1960 Animal means any living creature except ____
 - A) Birds
 - B) Microorganisms
 - C) Insects
 - D) Human beings
22. Which of the following drug contains furanocoumarins
 - A) Orange peel
 - B) Lemon peel
 - C) Buck wheat
 - D) Psoralea
23. Which of the following test will be negative in liquorice
 - A) Shinoda test
 - B) Foam test
 - C) Hemolysis test
 - D) Baljet test
24. Gasket is made of
 - A) Neoprene rubber
 - B) Buna-N
 - C) None of the above
 - D) Both algaeA and B

25. Which sentence is false about Rhubarb?
- It has a special feature of the surface is called a starspot.
 - It is purgative in nature.
 - It is only grown in sub-tropical region.
 - It is belong to family Polygonaceae.
26. Which of the following is the most appropriate cause for Orange-Peel effect
- Inadequate spreading of coating solution before drying
 - Over wetting or excessive film tackiness causing piece of the film to remain adhered to coating pan
 - Overwetting whereby two or more tablet cores are stuck together
 - None of the above
27. Compound having Hausners ration less than 0.25 indicates
- Poor flow
 - Good flow
 - Excellent flow
 - High flow
28. Enteric coating is achieved by using
- HPMC
 - CMC
 - CAP
 - Povidine
29. The Noyes-Whitney equation describes the rate of:
- Drug elimination
 - Drug distribution
 - Drug dissolution from a solid particle
 - Drug metabolism
30. The Area Under the Curve (AUC) after oral administration is a measure of the:
- Peak plasma concentration only.
 - Total extent of systemic drug exposure.
 - Time to reach peak concentration only.
 - Rate of drug metabolism
31. The biological half-life of drug:
- Is a constant physical property of the drug
 - Is a constant chemical property of the drug
 - May be increased in patients with impaired renal failure
 - May be decreased in patients by giving the drug by rapid I.V. injection
32. Which of the following drugs are used in implants?
- Pantoprazole
 - Mannitol
 - Amlodipine
 - Morphine antagonist
33. Chitosan is _____ type of polymer
- anionic
 - cationic
 - neutral
 - non of above
34. The particle size in suspension is
- Less than 10^3 nm
 - 10^2 nm
 - Greater than 10^3
 - 10 nm

35. Specific gravity of syrup is
A) 1.80
B) 1.30
C) 1.50
D) 3.10
36. HLB value of SLS is
A) 40
B) 10
C) 12
D) None
37. o/w microemulsion containing hydrophilic surfactants produces
A) Translucent emulsion
B) Transparent emulsion
C) Milky white emulsion
D) Intense white emulsion
38. Which of the following is a water-soluble suppository base?
A) Cocoa butter
B) Witepsol
C) Fattibase
D) Polyethylene Glycol (PEG)
39. What is the function of a granulating agent in drug formulation?
A) Promote cohesive compacts
B) Added if the required dosage is inadequate so that necessary bulk can be produced
C) Tablets can disintegrate easily
D) Used as solubilizer
40. Which of the following is not a prodrug
A) Enalapril
B) Lisinopril
C) Ramipril
D) Levodopa
41. Alcohol should not be given with
A) Clonidine
B) Sulphonamides
C) Metronidazole
D) Reserpine
42. Drug levels should be monitored in the treatment of
A) Status Asthmatics
B) Diabetes
C) Epilepsy
D) Hypertension
43. According to the Prevention of Cruelty to Animals Act, 1960 Animal means any living creature except____
A) Birds
B) Microorganisms
C) Insects
D) Human beings
44. Renin–Angiotensin–Aldosterone System (RAAS) is primarily involved in the regulation of which cardiovascular disorder
A) Atherosclerosis
B) Arrhythmias
C) Hypertension
D) Ischemic heart disease
45. Which of the following is the most common cause of cirrhosis of the liver?
A) Chronic viral hepatitis
B) Alcohol abuse
C) Autoimmune hepatitis
D) Biliary obstruction

46. Rutin is a major flavonoid glycoside present in buckwheat has the following basic chemical moiety,
 A) Flavonol
 B) Flavanone
 C) Flavone
 D) Isoflavone
47. The action mechanism of anticancer drugs belonging to plant alkaloids:
 A) Inhibition of DNA-dependent RNA synthesis
 B) Cross-linking of DNA
 C) Mitotic arrest at a metaphase
 D) Nonselective inhibition of aromatases
48. Which of the following cytochrome P450 isoenzymes is involved in the metabolism of largest number of drugs and has been implicated in some dangerous drug interactions
 A) CYP2C9
 B) CYP2E1
 C) CYP1A2
 D) CYP3A4
49. Chemical test for Caffeine is:
 A) Keris test
 B) Hal-Phens test
 C) Murexide test
 D) Boarfoeds test
50. Which of following has the highest chemical shift value?
 A) CH_3I
 B) CH_3Br
 C) CH_3F
 D) CH_3Cl
51. Alginic acid is found in the
 A) Cell wall of red algae
 B) Cell wall of brown algae
 C) Cell wall of blue algae
 D) Cell wall of green algae
52. Which is the most important drug in the treatment of organophosphate poisoning?
 A) Adrenaline
 B) Atropine sulphate
 C) Diazepam
 D) Pralidoxime
53. H_1 anti-histaminics are beneficial in:
 A) All types of allergic disorders
 B) Bronchial asthma
 C) Certain type I allergic reactions only
 D) Certain type IV allergic reactions only
54. Rauwolfia show the properties of
 A) Sedative
 B) Stimulating the central of peripheral nervous system
 C) Increase the uterine contraction
 D) All of the above
55. The drug of choice for trigeminal neuralgia is:
 A) Aspirin
 B) Imipramine
 C) Carbamazepine
 D) Valproic acid
56. Sennosides A & B were first isolated in crystalline form by
 A) Lemli
 B) airbairn
 C) Stoll
 D) Tutin

57. Ezetimibe acts by which one of the following mechanisms

- A) Enhancing excretion of bile acids
- B) Decreasing absorption of cholesterol
- C) Inhibiting HMG-CoA reductase
- D) Inhibiting intracellular lipase

58. The drugs employed for anti-*H. pylori* therapy include the following, except:

- A) Ciprofloxacin
- B) Clarithromycin
- C) Tinidazole
- D) Amoxicillin

59. Sesquiterpenes are formed from -----
- in the plants GPAT 2013

- A) Farnesyl pyrophosphate
- B) Geranyl pyrophosphate
- C) Coloring material
- D) Degraded products of triterpenes

60. The TCA cycle occurs in?

- A) Mitochondrial matrix
- B) Cytosol
- C) Nucleus
- D) Ribosomes

Sr. No. **15081**.....

ENTRANCE TEST-2024

2-Year M Pharm Programme

Total Questions : 60
Time Allowed : 70 Minutes

Roll No.

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SEAL

Q.1. Atropine over dosage may causes all of the following except

- (a) Miosis
- (b) Increased heart rate
- (c) Relaxation of GIT smooth muscle
- (d) Mental aberration

Q.2. Which of the following drug inhibits the acetylcholine synthesis?

- (a) Neomycin
- (b) Vasamicol
- (c) Botulinum toxin
- (d) Atropine

Q.3. Which of the Following statements are true

[P] Synergism means if two or more drugs when taken simultaneously produce greater effect than the sum of their individual effects

[Q] Addition means in which total effect of two drugs is just equal to the sum of their individual effects

[R] Potentiation means one drug produces own effect and decreases the effect of other drug

[S] Synergism means one drug does not produce any effect but increases the effect of other drug

- (a) P and Q
- (b) Q and R
- (c) Q and S
- (d) P and S

Q.4. Clonidine is

- a) Centrally acting Antihypertensive
- b) Diuretic
- c) Calcium channel blocker
- d) None of the above

Q.5. A subunit of gonadotropins commonly contains

- (a) Serine-linked carbohydrate moiety
- (b) Asparagine-linked oligosaccharide chain
- (c) Glycogen-linked polysaccharide chain
- (d) None of the above

Q.6. Carbidopa is useful in the treatment of Parkinson's disease because it

- (a) Is a precursor of L-dopa
- (b) Prevents the breakdown of dopamine
- (c) Blocks conversion of levodopa to dopamine outside of CNS
- (d) Can readily penetrate the CNS

Q.7. Correct statement regarding morphine includes all except

- (a) Overdose of morphine produce coma and respiratory depression
- (b) Acts as emetic by stimulating CTZ
- (c) Pinpoints pupil
- (d) It decreases pain threshold

Q.8. Halothane is used as

- (a) Intravenous anesthesia
- (b) Inhalation anesthesia
- (c) Local anesthesia
- (d) None of the above

Q.9. Avicel is

- (a) Mannitol
- (b) Calcium phosphate dibasic
- (c) Spray dried lactose
- (d) Microcrystalline cellulose

Q.10. Which of the following is an ACE inhibitor

- a) Captopril
- b) Enalapril
- c) Both a and b
- d) None

Q.11. Which of the following is a semisynthetic opioid

- a) Morphine
- b) Hydromorphone
- c) Codeine
- d) Pentazocine

Q.12. An anticoagulant glycosaminoglycan is

- (a) Heparin
- (b) Vitamin K
- (c) Aspirin
- (d) Warfarin

Q.13. An antineoplastic agent methotrexate inhibits the enzyme dihydrofolate reductase. They bind so tightly that their inhibition has been termed "Pseudo irreversible" – basis of this binding is due to

- (a) Free carboxylic group
- (b) N-methyl p- amino benzyl group
- (c) Diamino pyrimidine
- (d) Glutamic acid

Q.14. Which of the following is both alpha as well as beta blocker

- a) Labetalol
- b) Propranolol
- c) Metoprolol
- d) Atenolol

Q.15. One of the following is faecal softener

- (a) Bisacodyl
- (b) Docusate sodium
- (c) Ispaghula husk
- (d) Cisapride

Q.16. The number of peaks shown by diethyl ether in an NMR spectrum are

- (a) One
- (b) Two
- (c) Four
- (d) Five

Q.17. Guggulipid, a resin, is

- (a) A hypolipidemic agent obtained from cotton plants containing multifunctional compound (\pm) gossypol
- (b) A lipid obtained from *Arctium lappa*, Asteraceae and traditionally used for the treatment of dermatoses.
- (c) Cathartic glucoside obtained from *Ipomoea orizabensis* and used since ancient time
- (d) A hypolipidemic agent obtained from *Commiphora mukul* consisting of a mixture of sterols including Z-pregna-(20)-diene-3, 16-dione.

Q.18. The activity of one of the following drugs is dependent on Phenyl -N- alkyl Piperidine moiety

- (a) Diazepam
- (b) Imipramine
- (c) Meperidine
- (d) Chlorpromazine

Q19. Chemical shift value is

- (a) Proportional to field strength
- (b) Ratio of number of protons in each group
- (c) Proportional to the total number of protons
- (d) None of the above

Q.20. In UV spectrophotometric analysis the wavelength of UV light used is

- (a) 200-400 Å
- (b) 20-40 Å
- (c) 2000-4000 Å
- (d) 400-800 Å

- Q.21. The schedule in drugs and cosmetics act that deals with the requirements and guidelines for clinical trials, import and manufacture of new drugs is
- (a) Schedule O
 - (b) Schedule F
 - (c) Schedule M
 - (d) Schedule Y
- Q.22 To avoid lithium toxicity, a patient using lithium carbonate for mood disorders should not be prescribed
- (a) Mannitol
 - (b) Propranolol
 - (c) Hydrochlorthiazide
 - (d) Acetazolamide
- Q.23. The quantitative values determined for the identification of leaf drugs remain constant throughout the age of the plant except
- (a) Stomatal number
 - (b) Stomatal index
 - (c) Veinlet
 - (d) Veinlet termination number
- Q.24. The characteristic odour of onion bulbs is attributed to
- (a) Quercetin glycosides
 - (b) Furostanol glycosides
 - (c) Heterogeneous sulphated polysaccharides
 - (d) Alkyl or alkenyl disulphides
- Q.25. A technician is attempting to sterilize a plug of cotton in hermetically sealed condition in a glass bottle by autoclaving. Which of the following statements is correct?
- (a) It should be sterilized at 115°C- 118°C for 30 minutes
 - (b) It should be sterilized at 121°C -124°C for 15 minutes at 15 lbs/sq.inch pressure
 - (c) Sterilization cannot be achieved
 - (d) It should be autoclaved at 126°C -129°C with saturated steam for 10 minutes.
- Q.26. Gradient elution involves
- (a) Changing the column length
 - (b) Changing the mobile phase composition
 - (c) Using the mobile phase unchanged
 - (d) Successive injection of sample

Q.27. Which of the following receptors demonstrates the fastest onset of response when stimulated

- (a) Ionotropic receptors
- (b) G-protein coupled receptors
- (c) Insulin receptor
- (d) Nuclear receptors

Q.28. Clove buds are usually adulterated by clove stalks and anthophylli. Clove stalks and anthophylli can be identified by the presence of

- (a) Lignified sclereids and starch grains respectively
- (b) Starch grains and lignified sclereids respectively
- (c) Cystoliths and acicular crystals of calcium oxalate respectively
- (d) Acicular crystals of calcium oxalate and Cystoliths respectively

Q.29. Citrus Flavonoids are rich in

- (a) Hesperidin
- (b) Fraxin
- (c) Aesculetin
- (d) Scopoletin

Q.30. Colour and flavor of Saffron are due to

[P] Crocin [Q] Crocetin [R] Safranal [S] Crepenylic acid

- (a) R, S
- (b) P, R
- (c) Q, S
- (d) Q, P

Q.31. Which of the following definitions is most appropriately describing controlled drug delivery system

- (a) Dosage forms which have only spatial control over drug release
- (b) Dosage forms which release drug immediately
- (c) Dosage forms which have spatial and/or temporal control over drug release
- (d) Dosage forms which deliver drug over an extended period of time

Q.32. Which of the following is the most appropriate cause for Orange-Peel effect

- (a) Inadequate/uneven spreading of coating solution before drying
- (b) Over wetting or excessive film tackiness causing piece of the film to remain adhered to coating pan
- (c) Overwetting whereby two or more tablet cores are stuck together
- (d) None of the above

Q.33. Friability test is performed in Friability Test apparatus at

- (a) 25 ± 1 rpm
- (b) 50 ± 1 rpm
- (c) 75 ± 1 rpm
- (d) 100 ± 1 rpm

Q.34. Mottling is

- (a) Picking of tablet's surface material by punch
- (b) Uneven distribution of colour on a tablet surface
- (c) Separation of tablet into one or more distinct layers
- (d) Separation of top or bottom crowns of a tablet

Q.35. Which of the following is most commonly used opacifier

- (a) TiO_2
- (b) MgO
- (c) Avicel
- (d) Silicates

Q.36. What is the vapour pressure at 70°F of a propellant blend consisting of propellant 11/12 (in the ratio of 30:70); given that molecular weight of 11 and 12 is 137.38 and 120.93 respectively; & Vapour pressure at 70°F is 13.4 & 84.9 respectively?

- (a) 36.81psig
- (b) 9.01psia
- (c) 27.80psia
- (d) 36.81psia

Q.37. For the metered aerosol valves delivering 54 microliters or less, the limits for specified valve delivery is

- (a) $\pm 15\%$
- (b) $\pm 10\%$
- (c) $\pm 7.5\%$
- (d) None of the above

Q.38. Bloom strength (which measures the cohesive strength of cross links between gelatine) requirement for hard gelatine capsules is normally in the range of

- (a) 5-50g
- (b) 50-100g
- (c) 150-250g
- (d) 500-1000g

Q.39. What is the isoelectric point of type A gelatin?

- (a) 9-11
- (b) 4.8-5
- (c) 3.8-4
- (d) 7-9

Q.40. Time required to cast the films on the pins in case of hard gelatine capsules is reported to be approximately

- (a) 12 seconds
- (b) 12 hours
- (c) 12 minutes
- (d) 12 days

Q.41. During capsule shell manufacture, after dipping, the pins are withdrawn and rotated

- (a) 2.5 times until they face upward
- (b) 2.5 times until they face downward
- (c) 6.5 times until they face upward
- (d) 6.5 times until they face upward

Q.42. According to biopharmaceutical classification system "Class II drug" is the one which has:

- (a) High permeability and high solubility
- (b) Low solubility and low permeability
- (c) High permeability and low solubility
- (d) High solubility and low permeability

Q.43. Pilot plant studies are done before taking full scale validation batches in order to

- (a) Optimize the manufacturing process conditions
- (b) Confirm the suitability of equipment used for manufacturing
- (c) Confirm the consistency of quality of product
- (d) Optimize the manufacturing process conditions, confirm suitability of equipment and consistency of quality of products manufactured at plant level

Q.44. One Minim equals

- (a) 0.616L
- (b) 0.0616L
- (c) 0.616mL
- (d) 0.0616mL

Q.45. Which of the following equation is used to calculate Base adsorption (BA) factor

- (a) $BA = \frac{\text{Weight of base}}{\text{weight of solid}}$
- (b) $BA = \frac{\text{Weight of solid}}{\text{Weight of base}}$
- (c) $BA = \frac{\text{Weight of base} + \text{grams of solid}}{\text{weight of mixture per cubic centimeter}}$
- (d) None of the above

Q.46. What should be the pH of liquids that can be filled in soft gelatine capsules?

- (a) 1-2.5
- (b) 7.5-9.5
- (c) 2.5-7.5
- (d) 9.5-11.5

Q.47. Coacervation-phase separation- (a microencapsulation process) can be used for encapsulation of

- (a) Solid(s) core material(s) only
- (b) Liquid(s) core material(s) only
- (c) Both the above
- (d) Gaseous substances only

Q.48. Enteric coated tablets are meant to release drug/ disintegrate in

- (a) Mouth
- (b) Stomach
- (c) Liver
- (d) Intestine

Q.49. The reversible movement of drug from one compartment to other compartment or from one location to other location in the body is referred as

- (a) Bioavailability
- (b) Drug Distribution
- (c) Drug Disposition
- (d) Absorption

Q.50. Rate of reaction halves on doubling the initial concentration of reactants, the order of reaction is

- (a) Second order
- (b) Zero order
- (c) Negative order
- (d) None

Q.51. Half-life of a substance degrading by zero order mechanism is equal to

- (a) $0.5 A_0/k_0$
- (b) $2A_0/k_0$
- (c) $1.5 A_0/k_0$
- (d) $0.693 A_0/k_0$

Q.52. "Flow through cell" dissolution apparatus is

- (a) USP type 1
- (b) USP type 2
- (c) USP type 3
- (d) USP type 4

Q.53. Which of the following is used to form molecular inclusion complex for solubility enhancement of drugs

- (a) Sodium Lauryl sulphate
- (b) Cyclodextrins
- (c) CMC
- (d) HPMC

Q.54. Lecithin is

- (a) Anionic surfactant
- (b) Cationic surfactant
- (c) Nonionic surfactant
- (d) Ampholytic surfactant

Q.55. Which of the following is most appropriate to generally describe the rate of drug dissolution from tablet dosage form:

- (a) Noyes & Whitney equation
- (b) Ficks First Law
- (c) Henderson Haselbatch equation
- (d) Higuchi equation

Q. 56 Suspension & oily injection are better to administer through:

- (a) Intramuscular
- (b) Intraarterial
- (c) Intravenous
- (d) Intraspinal

Q.57. International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) was launched by

- (a) USA, Europe, Japan
- (b) USA, Europe, India
- (c) USA, Australia, Japan
- (d) USA, Japan, New Zealand

Q.58. 1000 mg of a drug is administered to a patient and the subsequent plasma concentration is 10 microgram/mL, the apparent volume of distribution is

- (a) 1000L
- (b) 100L
- (c) 1000mL
- (d) 100mL

Q.59. Which layer poses a significant resistance for permeation of topically administered hydrophilic drugs across the cornea?

- (a) Corneal epithelium
- (b) Corneal Stroma
- (c) None of the above
- (d) Both A and B

Q.60. USP type 1 dissolution apparatus should have the *baskets* preferably *with* mesh size

- A. 10
- B. 20
- C. 30
- D. 40
