



VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN

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LIST OF PROGRAMS FOR ADVANCED LEARNER'S

Entrance for the corresponding programs is based on the merit in the entrance conducted by the authorities. The students identified as Advanced Learners are provided with the following amenities for their further career and professional development.

- Students are encouraged to attend GPAT/ PGECET coaching classes
- To present posters and oral presentations in Seminars/ Conferences/Workshops
- Encouraged to Publish Papers in Journals
- Encouraged to work on the quarterly newsletter; *Sanjivini*.



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Enikepadu, Vijayawada

GPAT MODEL PAPER

1. Drug products that contain the same therapeutic moiety but as different salts, esters or complexes are called as

- (a) Therapeutic equivalents (b) Pharmaceutical equivalents
(c) Pharmaceutical alternative (d) Therapeutic alternatives

2. Which of the following ions may be effectively chelated by EDTA?

- I. sodium II. lithium III. lead

- (A) I only (B) III only (C) I and II only (D) II and III only

3. The term "impalpable" refers to a substance that is

- (A) Bad tasting (B) not perceptible to the touch (C) greasy (D) none

4. Techniques used in the development of "biotechnological drugs" include

I. gene splicing

II. preparation of monoclonal antibodies

III. lyophilization

- (A) I only (B) III only (C) I and II only (D) II and III only

5. The mechanism of antiepileptic effect of Lamotrigine is by :

- (a) Inhibition of glutamate release (b) Blockade of NMDA receptors
(c) Inhibition of Na⁺ channels (d) Inhibition of Ca⁺⁺ channels

6. High pressure and airless system to spray having pressure range

- (A) 250-1000 P_{isg} (B) 400-2000 P_{isg} (C) 400-3000 P_{isg} (D) 250-3000 P_{isg}

7. Poorly manufactured tablets may have small pinholes on the surface. This phenomenon is known as:

- (A) Picking (B) Mottling (C) Leaching (D) Cracking

8 Creaming is a..... Process

- (A) Irreversible (B) reversible (C) Difficult (D) Both a & c

9 Hydrolysis of ethyl acetate in acid base medium followed the order of reaction

- (A) I & II Order (B) Pseudo first & II Order (C) II & I Order (D) zero and first

10 The rate of hydrolysis can be controlled by

- (A) adding buffers (B) complexation (C) Removal of water (D) decreasing the solubility

11 Porosity of a porous powder is defined as

- (A) Bulk volume/void volume (B) void volume / Bulk volume
(C) void volume / true volume (D) true volume / Bulk volume

12 The HLB range of emulsifier used in the preparation of water in oil emulsion is

- (A) 4 to 6 (B) 7 to 12 (C) 13 to 15 (D) 16

13. Mannitol may be included in lyophilized products as a

- (A) buffer (B) bulking agent (C) preservative (D) sweetener

14 Intrusion fluid found in Pychometer is

- (A) Acetone (B) Mercury (C) Isopropyl alcohol (D) Ethyl alcohol

15 when cumulative percent frequency on a probability scale is plotted scale against logarithm of the particle size, 50 % on the probability scale gives the powder particle diameter of

- (A) arithmetic mean
(B) arithmetic mode
(C) geometric mean
(D) harmonic mean

16. The excise –officer of bonded laboratory may permit to take a sample from each batch to finished preparation free of duty up to a maximum amount of

- (A) 250 ml (B) 150 ml (C) 100 ml (D) 50 ml

17. Every year the register of state pharmacy council is required to print the registers

- (A) 1st January (B) 1st may (C) 1st april (D) 1st march

18- Volatile oil can be distinguished from fixed oil as they give

- (A) grease spot test negative
(B) give foam test positive
(C) they can easily be frozen
(D) all

19 Yellow colour of gentian lutea rhizome is due to

- (A) gentisin
(B) amarogentin
(C) gentiopicrin
(D) amarogentin

20. Histamine H1 receptor blockers are useful in the treatment of ailments of the following EXCEPT:

- (A) urticaria. (B) seasonal rhinitis. (C) drug reactions. (D) bronchial asthma.

21. One of the following drugs is used as prophylactic treatment for migraine

- (A) sumatriptan (B) almitidan (C) propranolol (D) ergotamine

22. Which of the following statements is not true

- (A) Flunarizine is a calcium channel blocker which is used as a prophylaxis treatment of migraine
(B) PGI₂ has platelet aggregatory property
(C) Azapirones are partial agonists of 5HT_{1A} receptor
(D) PG's promote mucus & HCO⁻³ secretion in GI

23. Which of the following is not correct

- (A) $\text{pH} = \text{pKa} + \log \frac{[\text{HA}]}{[\text{A}^-]}$
- (B) $\text{pH} = \text{pKa} - \log \frac{[\text{A}^-]}{[\text{HA}]}$
- (C) Both a & b
- (D) None

24. Vitamin-D function by which receptor

- (A) GPCR
- (B) enzyme linked
- (C) intrinsic ion channel
- (D) nuclear receptor

25. ACE inhibitor produce which type of teratogenic reaction

- (A) foetal goiter
- (B) spina bifida
- (C) virilization
- (D) hypoplasia of organ

26. A drug that decreases the formation of uric acid is

- (A) miglitol
- (B) allopurinol
- (C) probenecid
- (D) propylthiouracil

27. Drugs employed in reducing elevated serum cholesterol include(s)

- I. gemfibrozil
- II. cerivastatin
- III. pioglitazone

- (A) I only
- (B) III only
- (C) I and II only
- (D) I, II, and III

28. Which of the following beta-adrenergic blocking agents also exhibit alpha1-adrenergic blocking action?

- I. timolol
- II. sotalol
- III. labetalol

- (A) I only
- (B) III only
- (C) I and II only
- (D) II and III only

29. Didanosine can best be described as a(an)

- (A) antiprotozoal (B) reverse transcriptase inhibitor
(C) protease inhibitor (D) beta-lactamase inhibitor

30 The "first-dose" effect is characterized by marked hypotension and syncope on taking the first few doses of medication. This effect is seen with the use of

- I. doxazosin II. enalapril III. sotalol
(A) I only (B) III only (C) I and II only (D) I, II, and III only

31 Dalteparin sodium acts in the body to

- (A) regulate menstrual activity (B) prevent blood clot formation
(C) inhibit thyroid function (D) inhibit viral replication

32 . Cromolyn sodium is a drug that is

- (A) effective in acute asthmatic attacks (B) a synthetic corticosteroid
(C) a histamine antagonist (D) a mast cell stabilizer

33. Which of the following calcium channel blockers may be employed parenterally in the treatment of cardiac arrhythmias?

- I. verapamil II. Isradipine III. amlodipine
(A) I only (B) III only (C) I and II only (D) II and III only

34. Which one of the following is NOT a progestin?

- (A) norethynodrel (B) norethindrone (C) mestranol (D) levonorgestrel

35. Potassium depletion is LEAST likely to occur in a patient using

- (A) ethacrynic acid (B) triamterene (C) torsemide (D) acetazolamide

36. Which one of the following barbiturates is likely to be the shortest acting?

- (A) amobarbital sodium (B) methohexital sodium
(C) pentobarbital sodium (D) mephobarbital

37. The primary function of simethicone in antacid products is to act as a (an)

- (A) suspending agent (B) adsorbent (C) buffer (D) antifatulent

38. The antiparkinson effect of levodopa may be inhibited by

- (A) niacinamide (B) d-alpha tocopherol (C) pyridoxine HCl (D) dihydrotachysterol

39. The child's dose of a drug is reported as 1.2 mg/kg body weight. What is the appropriate dose for a child weighing 60 lb?

- (A) 6 mg (B) 9 mg (C) 32 mg (D) 72 mg

40. Calcium chloride ($\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$) has a formula weight of 147. What weight of the chemical is needed to obtain 40 mEq of calcium?

(Ca = 40.1; Cl = 35.5; H_2O = 18)

- (A) 0.80 g (B) 2.22 g (C) 1.47 g (D) 2.94

41. The concentration of mercury in a water sample is reported as 5 ppm. Express this concentration as a percentage.

- (A) 0.00005% (B) 0.0005% (C) 0.005% (D) 0.05%

42. Stereochemistry of penicillins is

- (A) 2S, 5R, 6R
(B) 2R, 5S, 6R
(C) 2R, 5S, 6S
(D) 2S, 5S, 6R

43. Which one of the following chemicals is NOT suitable as a drug excipient?

- (A) methyl paraben (B) starch (C) glycerin (D) benzocaine

44. A patient with severe viral hepatitis, will have increased plasma level of which of the following

- (A) CK2 (B) LDH₁ (C) hexokinase (D) alanine transaminase

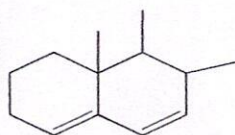
45. Relation between δ value (¹H NMR) for Axial (A) and Equatorial (E) Hydrogen of Rigid Six membered ring cyclohexane will be.

- (A) $\delta_A = \delta_E$ (B) $\delta_A < \delta_E$ (C) $\delta_A > \delta_E$ (D) None of these

46. As per Woodward Fisher rule base value for this conjugated diene will be

- (A) 214 (B) 217 (C) 253 (D) 234

47. In gas chromatography which detector is most sensitive to halogenated compounds like pesticides



- (A) TCD (B) FID (C) ECD (D) FP

48. In oxidation-reduction titrations one mole of potassium dichromate is equivalent to Fe of

- (A) 2 moles (B) 4 moles (C) 6 moles (D) 1 mole

49. The source of light in I.P. spectroscopy

- (A) Hydrogen lamp (B) deuterium lamp (C) silicon carbide rod (D) both A & B

50. The value of stretching frequency of a bond can be calculated by

- (A) Hooke's law (B) stroke's law (C) Lambert Beer's law (D) none

51. A compound gives red colour in solution form. Its λ_{\max} is in the region of (A) 400-450m μ (B) 620-760m μ (C) 520-570m μ (D) 570-590m μ

52. The stationary phase silica gel G is having the composition of for preparing the TLC

- (A) silica gel + calcium sulphate (B) silica gel + binder + fluorescent indicator
(C) silica gel + aluminum hydroxide (D) cellulose with binder

53. Which of the following statements is not correct regarding alkaloids

- (A) they are generally basic in nature
(B) Always have nitrogen in heterocyclic ring
(C) distributed mostly in higher plants
(D) none.

54. *Phytolacca Americana* a substitute for belladonna is identified by

- (E) presence of idioblasts
(F) anisocytic stomata
(G) microshenoidal calcium oxalate crystals
(H) cluster crystals

55. Bixin is synthesized from

- (I) geraniol
(J) geranyl pyrophosphate
(K) geranyl geraniol
(L) farnesol

56. Which of the following is preferred method for estimation of sesquiterpenoidal compounds

- (A) HPLC (B) HPTLC (C) TLC (D) GC-MS

57. which one of the following is hydrophobic amino acids

- (A) Valine (B) leucine (C) isoleucine. (D) none

58.(-) Hyoscyamine is

(A) 15-20 times more active as a mydriatic than (+) Hyoscyamine

(B) inactive as a mydriatic

(C) 3-5 times less active as a mydriatic than (+) Hyoscyamine

(D) 100 times more active as a mydriatic than (+) Hyoscyamine

59.The number of peaks given by the ^1H NMR spectrum of 2-methyl-1-pentene is(A) 5

(B) 4

(C) 3

D. 6

60.In HPLC, the analytical performance improves when

(A) Particle diameter is increased

(B) Particle diameter is decreased

(C) Coarser particles are paired with small column (D) Low temperature is used

61. In per gram of powdered Lycopodium number of spores will be

(A) 94,000

(B) 94,000,000

(C) 94,000

(D) 94,000,000

62 .Halphen's test is for the identification of

(A) Sesame oil

(B) Argemone oil

(C) Cotton seed oil

(D) Olive oil

63.As per the Medical Termination of Pregnancy Act and rules, the safe custody of "Forms" is with :

(a) Standing committee

(b) Registered Medical Practitioner

(c) Owner of the approved place

(d) Chief Medical Officer

64.A technique of using very small metal particles coated with desired DNA in the gene transfer is called:-

(a) Microinjection (b) Biolistic (c) Liposome mediated (d) Electroporation

65.In a free radical reaction, free radicals are formed at

(a) Initiation step (b) Propagation step (c) Termination step (d) Both (a) and (b)

66. Relative sweetness of sucrose, to saccharin :

- (a) 1: 200 (b) 1: 500 (c) 1: 100 (d) 1: 400

77. Type II glass containers are

- (a) Suitable for alkaline solutions
(b) Most inert glasses and shows high hydrolytic resistance
(c) Suitable for most acidic and neutral aqueous preparations
(d) Suitable for non-aqueous preparations

78. Dimethyl sulfoxide acts as penetration enhancer for topical formulations by

- (a) Increasing solubility (b) Denaturing proteins
(c) Increasing transepidermal loss (d) Altering solvent nature of membrane

79. As per European Pharmacopoeia technical guide, substance stored at 25°C for 24 hours at 80% RH, called very hygroscopic when increase in weight is

- (a) 0.2% w/w and <15% w/w (b) > 0.2% w/w and < 20% w/w
(c) > 15% w/w (d) 0.2% w/w and < 2% w/w

80. SCHICK Test Toxin is a sterile Filtrate from a culture of

- (a) Rickettsia prowazeki (b) Mycobacterium Diphtheriae
(c) Coryne bacterium Diphtheriae (d) Actinobacillus mallei

81. An excipient Ludipress used for liquid Dosage form is a coprocessed excipient of

- (a) PticInsi. Dextrose monohydrate + Kollidon 30
(b) Lactose monohydrate + Kollidon 30
(c) Lactose monohydrate + Kollidon 30 + Kollidon CL
(d) Dextrose monohydrate + Kollidon 30 + Kollidon CL

82. In capsule making the Bloom strength of gelatin is proportional to molecular weight of the gelatin and

is a measure of the;

- (a) Cohesive strength of the solvent molecules
(b) Cohesive strength of the crosslinking that occurs between gelatin molecules

- (c) Adhesive strength of gelatin with dipping pins
- (d) Adhesive strength of gelatin with other polymer

83. Choose the wrong statement from the following with regard to Amorphous solids

- (a) Usually they are anisotropic
- (b) They tend to flow when subjected to sufficient pressure
- (c) Considered as super cooled fluids
- (d) They do not have definite melting point

84. The 'Crenulation' effect on the cell wall is caused by _____ solutions and this effect is _____.

- (a) Hypertonic; reversible
- (b) Hypotonic; reversible
- (c) Hypotonic; irreversible
- (d) Hypertonic; irreversible

85. The unequal attractive forces acting on the molecules at the surface of liquid gas interface when compared with molecular forces in the bulk of the liquid is due to:

- (a) Absence of adhesive force of attraction
- (b) Less adhesive force of attraction
- (c) Absence of cohesive force of attraction
- (d) Less cohesive force of attraction

86. Following is the important sterol in faeces formed from cholesterol by bacteria in lower intestine:

- (a) 7- α -Hydroxy cholesterol
- (b) Coprostanol
- (c) 7-Dehydrocholesterol
- (d) Lithocholic acid

87. The temperature dependence and the theory of viscosity is expressed by the following

- (a) Stern-Volmer equation
- (b) Arrhenius equation of chemical kinetics
- (c) Higuchi equation
- (d) Gibb's equation

88. Which of the following is not a fundamental (primary) factor considered for selection of a location for the construction of pharmaceutical or chemical plant

- (a) Soil (b) Market for products (c) Labor supply (d) Raw materials

89. The following gram positive bacteria species is positive for the coagulase test (a test for the ability of bacteria to cause blood plasma to clot)

- (a) *S. epidermidis* (b) *S. aureus* (c) *S. Saprophyticus* (d) *S. lactis*

90. The version of GMP in India that describe requirement of factory premises for manufacture of cosmetics

- (a) schedule-M (b) Schedule-M-III (c) Schedule-M-II (d) Schedule M-I

91. This fungus is also known as opportunistic pathogen, often isolated from warm-blooded animals.

- (a) *Aspergillus niger* (b) *Penicillium notatum* (c) *Penicillium chrysogenum* (d) *Candida albicans*

92. Which of the following will result in very closest value to the Glomerular Filtration Rate (GFR) ?

- (a) Insulin Clearance (b) Albumin Clearance
(c) Measure of Blood Urea Nitrogen (BUN) (d) Creatinine Clearance

93. While studying solid state physicochemical properties, the packing property of drug include

- (a) Heat capacity (b) Solubility (c) Refractive index (d) Entropy

94. The Acidic polymers of Ribitol/Glycerol phosphate present in Gram positive microorganism are known as

- (a) Polysaccharides (b) Teichoic acids (c) Peptidoglycans (d) Lysozymes

95 . Increasing the proportion of the disperse phase of an emulsion by more than 60% may lead to

- (a) Cracking (b) Frothing (c) Phase inversion (d) Creaming

96 . The second law of thermodynamics states that 'whenever a spontaneous process takes place, it is accompanied by an increase in the total energy of the universe! The equation that satisfies the above law is :

- (a) $\Delta S_{\text{universe}} = S_{\text{system}} + \Delta S_{\text{surrounding}}$
- (b) $S_{\text{system}} = \Delta S_{\text{universe}} + \Delta S_{\text{surrounding}}$
- (c) $\Delta S_{\text{universe}} = \Delta S_{\text{surrounding}} - S_{\text{system}}$
- (d) $\Delta S_{\text{universe}} = S_{\text{system}} - \Delta S_{\text{surrounding}}$

97. The complexation of Quinine with hexyl salicylate is an example of absorption by

- (a) Convective transport (b) Facilitated transport (c) Pinocytosis (d) Ion pair transport

98. The polymorphs exhibit the following different properties Except :

- (a) X-ray crystal and diffraction patterns (b) Melting points
- (c) Solubilities (d) Chemical structures

99. Method of Study Drug Distribution pattern is :

- (a) Mass spectrophotometry (b) Nuclear magnetic resonance
- (c) Fluorimetry (d) UV-visible spectrophotometry

100. The dispersion of coarse material by shearing in a narrow gap between a static cone

and a rapidly rotating cone is caused by

- (a) Colloid Milk (b) Electrical Dispersion (c) Peptisation (d) Ultrasonic Irradiation




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