Total No. of Printed Pages: 13

SET-Z

10000

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)



M.Phil./Ph.D./URS-EE-2020

SUBJECT: Pharmaceutical Science

| | | Sr. No |
|------------------------------|---------------------|--------------------------------|
| Time : 11/4 Hours | Max. Marks: 100 | Total Questions: 100 |
| Roll No. (in figures) | (in words) | |
| Name | Father's Name | |
| Mother's Name | Date of Examination | |
| (Signature of the Candidate) | _ | (Signature of the Invigilator) |

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

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- The candidate must not do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers must not be ticked in the question booklet.
- 6. There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- 8. Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

MPH/PHD/URS-EE-2020/(Pharmaceutical Sci.)(SET-Z)/(A)

| | | , was |
|----|---|--|
| | When 1 to 10 parts of solvent are require the solubility is defined as: | ed to dissolve 1 part of the solute, as per USP, |
| | (1) Very soluble | (2) Freely soluble |
| | (3) Soluble | (4) Sparingly soluble |
| 2. | term raised to the first power, the rate | as on the concentration of A and B with each of decomposition of A is equal to the rate of ortional to the product of the concentration of nich of the following: (2) Apparent zero order reactions (4) Second order reactions |
| 3. | The Hixson - Crowell Cube Root Law following? | is applicable to the dissolution of which of the |
| | (1) Tablets | (2) Capsules |
| | (3) Granules | (4) Powders |
| 4. | Which of the following surfactants has a | highest HLB value? |
| | (1) Span 80 | (2) Span 20 |
| | (3) Tween 80 | (4) Triethanolamine oleate |
| 5. | What is the particle size range of colloi | dal dispersions ? |
| J. | (1) Less than 1 nm | (2) 1 nm to 0.5 microns |
| | (3) Greater than 0.5 microns | (4) 100 microns and above |
| 6. | he transformed fr | om one kind into another, it cannot be created or tion of energy is true for which of the following |
| | (1) First law of thermodynamics | (2) Second law of thermodynamics |
| | (3) Third law of thermodynamics | (4) Fourth law of thermodynamics |
| 7 | The temperature at which the pure licrystalline solid, is called: | iquid and solid exist in equilibrium, for a pure |
| | (1) Eutectic point | (2) Boiling point |
| | (3) Freezing point or melting point | (4) Transition temperature |
| | sat fallowing liquide has a h | ighest dielectric constant? |
| 8 | (1) Glycerine | (2) Isopropanol |
| | (3) Phenol | (4) Water |
| | (b) Thenor | |

| 9. | Number of moles of solute in 1000 g of (1) Molarity (2) Molality | (3) Normality (4) Mole fraction |
|---|---|---|
| 10. | When the hydrogen ion concentration is concentration is 10 raised to power minutes (1) 4 (2) 10 | 10 raised to power minus ten and hydroxyl ion as four, what would be pH value? (3) 14 (4) 20 |
| 11. | | ered, Nitrogen containing hetercyclic ring? (2) Piperidine (4) Pyrrole |
| 12. | Which of the following is a polysacchar (1) Sucrose (2) Starch | ide ? (3) Maltose (4) Rhamninose |
| 13. | A reaction in which an alkyl halide reaction a Lewis Acid catalyst, is known as: (1) Grignard's reaction | cts with an aromatic compound in the presence (2) Wurtz reaction |
| | (3) Friedel- Craft's reaction | (4) Riemer Tiemann reaction |
| 14. Addition of HBr to alkenes in the presence of peroxide is an example of which following reactions? | | ence of peroxide is an example of which of the |
| | (1) Free radical addition(3) Heterogenous hydrogenation | (2) Electrophilic addition(4) Cleavage reaction |
| 15. | What is the common name of 2,4-(isobu | tylphenyl) propionic acid ? |
| | (1) Acetylsalicylic acid | (2) Ibuprofen |
| | (3) Probenecid | (4) Carbidopa |
| 16. | A modification of the Gutzeit Test is following: | s the principle of limit test for which of the |
| | (1) Chloride | (2) Sulphate |
| | (3) Iron | (4) Arsenic |
| 17. | "Spirit of Salt" is a synonym used for w | hich of the following: |
| | (1) Salt solution in water | (2) Concentrated Hydrochloric Acid |
| | (3) Concentrated Nitric Acid | (4) Dilute Hydrochloric Acid |
| 18. | Which of the following is an osmotic la | xative ? |
| | (1) Sorbitol | (2) Magnesium sulphate |
| | (3) Castor oil | (4) Phenolphthalein |

| 19. | What is Lugol's Solution? (1) Strong iodine solution (3) Povidone iodine solution | (2) Aqueous iodine solution(4) Iodine tincture | on |
|-----|--|--|---|
| 20. | Which of the following is used as a denta Strontium chloride Calcium carbonate | l desensitizing agent ? (2) Calcium phosphate (4) Vitamin K | |
| 21. | A method of extraction by boiling herbathe material, which may include stems, re(1) Infusion (3) Decoction | | |
| 22. | A sweetened, aromatic solution of alcolor, medicinal substances, is known as: (1) Aromatic waters (2) Syrups | | or used as a vehicle |
| 23. | Which of the following empty gelatine constant (1) Size 00 (2) Size 0 | | ity ? Size 2 |
| 24. | The IVIVIC level which describes a pre- between the entire in vitro dissolution response time course, is called: (1) Level A (2) Level B | and release time course an | el for the relationship nd the entire in vivo Level D |
| 25. | Semisolid preparations containing one of in either a water-in-oil emulsion or an oil (1) Paste (3) Ointment | l-in-water emulsion is call (2) Lotion (4) Creams | ed: |
| 26. | Name the primary transmitter at ANS g and at parasympathetic postganglion excitatory transmitter to smooth muscle (1) Dopamine (3) Acetylcholine | c nerve endings, which and secretory cells in the I (2) GABA (4) Norepinephrine | ENS: |
| 27. | Activation of which of the following bronchdilation, which is important in the (1) Beta 1 (3) Alpha 1 | receptors in bronchial sm e treatment of Asthma? (2) Beta 2 (4) Alpha 2 | ooth muscle leads to |

| 28. | Which of the following antiarrythmic primary mechanism of action? (1) Proproanolol (3) Esmolol | drugs has "sodium channel dlockade" as the (2) Verapamil (4) Lidocaine |
|-----|--|--|
| 29. | Which of the following drugs is primari | ly used as an H-2 blocker? |
| | (1) Diphenhydramine | (2) Cyclizine |
| | (3) Chlorpheniramine | (4) Cetrizine |
| 30. | At which of the following Blood alcohomotor function, slurred speech and ataxis (1) 50-100 mg/dL | |
| | (3) 200-300 mg/dL | (2) 100-200 mg/dL (4) 300-400 mg/dL |
| 0.4 | | |
| 31. | Which of the following intravenous flumazenil reversal available"? | anesthetics has a "slow onset and recovery; |
| | (1) Etomidate | (2) Propofol |
| | (3) Midazolam | (4) Thiopental |
| 32. | Which of the following local anesthetics | s has a short duration of action? |
| | (1) Procaine | (2) Tetracaine |
| | (3) Bupivacaine | (4) Ropivacaine |
| 33. | Which of the following drugs, used for selectively, and also inhibition of MAO- | movement disorders, has "inhibition of MAO-B A at higher doses" as a mechanism of action? |
| | (1) Levodopa | (2) Bromocriptine |
| | (3) Apomorphine | (4) Rasagiline |
| 34. | Which of the following drugs is an opio | id antagonist ? |
| | (1) Methadone | (2) Fentanyl |
| | (3) Codeine | (4) Naloxone |
| 35. | What is the common synonym for Facto | r I (Blood clotting) ? |
| | (1) Fibrinogen | (2) Prothrombin |
| | (3) Calcium | (4) Christmas Factor |
| 36. | Which of the following fatty acids is a st | raight chain saturated acid? |
| | (1) Caprylic acid | (2) Oleic acid |
| | (3) Garlic | (4) Chaulmoogric |

| 37. | Which of the following alcohols is a mo | nohydric aliphatic alcohol ? |
|-------|--|---|
| | (1) Cetyl alcohol | (2) Glycerol |
| | (3) Erythritol | (4) Sorbitol |
| 38. | Which of the following fixed oils has a C)? | melting point above room temperature (25 deg |
| | (1) Almond oil | (2) Castor oil |
| | (3) Lard | (4) Arachis oil |
| 39. | Which of the following is a trisaccharide | ? |
| | (1) Sucrose | (2) Lactose |
| | (3) Maltose | (4) Raffinose |
| 40. | Which of the following is prepared Cannabis sativa (Cannibinaceae)? | from the pericyclic fibres of the stem of |
| | (1) Jute | (2) Flax |
| | (3) Hemp | (4) Cotton |
| 41. | The characteristics "mostly simple grant in the form of a point, eccentric, concent the following starches? (1) Maize starch (3) Rice starch | ales, hatchet-, wedge- or mussel-shaped. Hilum tric striations well marked" represent which of (2) Wheat starch (4) Potato starch |
| 42. | A dried, aqueous extract prepared from tuncaria gambir (Rubiaceae) is called: | he leaves and young twigs of a climbing shrub, |
| | (1) Tolu balsam | (2) Peru balsam |
| | (3) Catechu | (4) Chandan |
| 43. | Turpentine oil is obtained from | |
| 10. | (1) Coriandrum sativum | (2) Pinus spp. |
| | (3) Menth piperita | (4) Carvum carvi |
| 14. | Which of the following is a non-heterocy | clic alkaloid ? |
| ****. | (1) Nicotine (2) Cocaine | (3) Quinine (4) Ephedrine |
| 45. | Which of the following Cinchona specyellowish powder"? | cies has "transverse cracks, very numerous, |
| | (1) C. succirubra | (2) C. officinalis |
| | (3) C. calisaya | (4) C. legeriana |

| 46 | A technique in which a change in wei temperature or time using the balance a | ght of a substance is recorded as a function of nd furnance, is called: |
|-----|--|--|
| | (1) Precipitation | (2) Gravimetry |
| | (3) DSC | (4) Vapourization |
| 47. | An indirect titration method, which dechemical reaction, is called: | eals with the titration of iodine liberated in a |
| | (1) Iodimetry | (2) Iodometry |
| | (3) Cerimetry | (4) Permanganate titration |
| 48. | Method of determining end point in soluble coloured compound, is called: | precipitation reaction, based on formation of |
| | (1) Turbidity method (Gay Lussac) | (2) Fajan's method |
| | (3) Mohr's method | (4) Volhard's method |
| 49. | The method of analysis in which the Si | olution to be analysed is electrolysed in such a voltage shows what is in the solution and how |
| | much is present, is called: | |
| | (1) Polarography | (2) Conductometry |
| | (3) Potentiometry | (4) Amperometry |
| 50. | A spectrometer which generates multiple then separates them according to their abundance of each ion type, is called | e ions from the sample under investigation, and specific m/z ratio and then records the relative |
| | (1) UV -VIS spectrometer | (2) Fluorescence spectrometer |
| | (3) FTIR spectrometer | (4) Mass spectrometer |
| 51. | What is the number of chromosomes for | Homo sapients (humans)? |
| | (1) 1 2) 16 | (3) 24 (4) 40 |
| | | "assantial" amino acid ? |
| 52. | Which of the following amino acids is at | (3) Cystine (4) Glycine |
| | (1) Lysine (2) Alanine | |
| 3. | A hydroxyl group is attached to which c | arbon the deoxyribose sugar in DNA? |
| | (1) 1' (2) 2' | (3) 3' (4) 4' |
| 4. | Which of the following membranes in h no sphingolipids, no sterols and no carbo | uman cells is rich in GPP and proteins, but has phydrates? |
| | (1) Erythrocyte plasma membrane | |
| | (3) Endoplasmic reticulum | (4) Mitochondrial membrane |
| | | |

| 55. | . Which of the following is an example of a heteropolysaccarides? | | |
|-----|---|--|--|
| | (1) Starch | (2) Glycogen | |
| | (3) Hyaluronic acid | (4) Chitin | |
| 56. | Enzymes which catalyse the removal of groups from substrates by mechanisms other than hydrolysis, leaving double bonds, are commonly known as: | | |
| | (1) Oxidoreductases | (2) Transferases | |
| | (3) Lyases | (4) Ligases | |
| 57. | A process by which segments of a called: | chromosome are relocated through the genome, is | |
| | (1) Transposition | (2) Transduction | |
| | (3) Transformation | (4) Recombination | |
| 58. | What is "reverse transcriptase"? | | |
| | 1 | transcribes single stranded RNA into DNA | |
| | | formation of RNA from a DNA template | |
| | (3) An enzyme that synthesizes long | | |
| | | oining of DNA strands together by catalyzing the | |
| | formation of a phosphodiester bond. | | |
| 59. | Which of the following strains is use | d for industrial fermentation of Tetracycline? | |
| | (1) S. griseus | (2) S. auerofaciens | |
| | (3) Streptomyces clavuligerus | (4) A. gossypii | |
| 00 | | | |
| | Which of the following nucleobases is | NOT found in PNA 2 | |
| 60. | Which of the following nucleobases is | | |
| | (1) Adenine (2) Guanine | (3) Cytosine (4) Thymine | |
| | | (3) Cytosine (4) Thymine e of a gram negative bacteria ? | |
| | (1) Adenine (2) Guanine | (3) Cytosine (4) Thymine e of a gram negative bacteria ? (2) Staphylococcus | |
| | (1) Adenine (2) Guanine Which of the following is an example | (3) Cytosine (4) Thymine e of a gram negative bacteria ? | |
| | (1) Adenine (2) Guanine Which of the following is an example (1) Corynebacterium (3) Clostridium | (3) Cytosine (4) Thymine e of a gram negative bacteria ? (2) Staphylococcus | |
| 61. | (1) Adenine (2) Guanine Which of the following is an example (1) Corynebacterium (3) Clostridium The process of reduction in the num | (3) Cytosine (4) Thymine e of a gram negative bacteria ? (2) Staphylococcus (4) Escherichia | |
| 61. | (1) Adenine (2) Guanine Which of the following is an example (1) Corynebacterium (3) Clostridium The process of reduction in the number health, on living surfaces, is called: (1) Disinfection (2) Antisepsis Which of the following methods of | (3) Cytosine (4) Thymine e of a gram negative bacteria? (2) Staphylococcus (4) Escherichia aber of viable microbes, to a level not harmful to | |
| 61. | (1) Adenine (2) Guanine Which of the following is an example (1) Corynebacterium (3) Clostridium The process of reduction in the number health, on living surfaces, is called: (1) Disinfection (2) Antisepsis | (3) Cytosine (4) Thymine e of a gram negative bacteria? (2) Staphylococcus (4) Escherichia aber of viable microbes, to a level not harmful to (3) Sterilization (4) Bacteriostasis | |
| 61. | (1) Adenine (2) Guanine Which of the following is an example (1) Corynebacterium (3) Clostridium The process of reduction in the number health, on living surfaces, is called: (1) Disinfection (2) Antisepsis Which of the following methods of sterilization of a space craft? | (3) Cytosine (4) Thymine e of a gram negative bacteria? (2) Staphylococcus (4) Escherichia aber of viable microbes, to a level not harmful to (3) Sterilization (4) Bacteriostasis of sterilization would be most suitable for the | |

| 64 | . Which of the following is NOT a vira | l vaccine? | |
|-----|--|--|---|
| | (1) Polio vaccine | (2) Hepatitis vac | cine |
| | (3) Influenza vaccine | (4) Typhoid vacc | cine |
| 65 | . In which of the following recombinati | on process, cell conta | act is required? |
| | (1) Transformation | (2) Transduction | |
| | (3) Conjugation | (4) All of the abo | ove |
| 66. | When the cancerous change takes place to form red blood cells, some other to called: | ce in a type of marro types of white cells, | w cell that normally goes on and platelets, the disease is |
| | (1) Lymphoblastic leukemia | (2) Myeloid leuk | emia |
| | (3) Polycysthemia | (4) Anemia | |
| 67. | A very rare life threatening anemia, what ability to produce red blood cells, is call (1) Hemolytic anemia | | |
| | (3) Sickle cell anemia | (4) Iron deficienc | y anemia |
| 68. | Which of the following drugs needs to (1) Levodopa (3) Prochlorperazine | be avoided in Parkin (2) Rasagiline (4) Amantadine | son's disease ? |
| 69. | Diabetes mellitus, which is characterizislets of langerhans in the pancreas, lea (1) Type I Diabetes (2) Type II Diabetes (3) Gestational Diabetes (4) Latent Autoimmune Diabetes of Actional Diabetes (5) Diabetes (6) Latent Autoimmune Diabetes (7) Diabetes (8) Latent Autoimmune Diabetes (9) Diabetes (10) Diabe | ding to insulin defici | - producing beta cells of the ency, is called: |
| 70. | Heliobacter pylori, a gram negative, cause of non-NSAID-associated disease | | |
| | (1) Hypertension (2) Tuberculosis | (3) Syphilis | (4) Peptic Ulcer |
| 1. | What are the units of "total clearance" f | or a drug ? | |
| | (1) ml (2) Hr | (3) ml/ hr | (4) No units |
| | | | |

| 72. | The value of "apparent volume of distribution" of chlorquine is more than 100 L/kg. Which of the following statements is true for this drug? | | | |
|--|--|--|--|---|
| (1) Chloroquine is distributed more in the blood compartment | | | | nt |
| | (2) Chloroquine is distributed more in the extravascular compartment | | | |
| | | said about the distril | | 1 |
| | | ement is a false value | | |
| 73. | perfused tissues, for | wing tissues would g r a multi compartmer | | ided in the group of highly |
| | (1) Heart | (2) Brain | (3) Skin | (4) Bones |
| 74. | drug is equal to one (1) Drug is partiall (2) Drug is filtered (3) Drug is actively | | ving statements is true enal excretion eretion | ne Clearance of Inulin) of a ee? |
| 75. | A drug can be introclinical trials? (1) Phase I | oduced in the market (2) Phase II | after passing which (3) Phase III | of the following phases in (4) Phase IV |
| 76. | | wing blood proteins ma osmotic pressure | | NT, and is responsible for |
| 77. | What is the total nu | mber of cranial nerve | es ? | |
| | | (2) 10 | | (4) 14 |
| 78. | | conjunctiva and cor | | chomatis in which fibrous id deformity and possibly |
| | (1) Stye | (2) Conjunctivitis | (3) Trachoma | (4) Corneal Ulcer |
| 79. | dibedbe in wine | | | e respiratory bronchioles, the exchange of gases, is |
| | (1) Emphysema | | (2) Pneumonia | |
| | (3) Asthma | | (4) Lung abcess | |
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|-----|---|--|
| 80. | Chemical digestion of which of the follitself? | lowing ingredients of food starts in the mouth |
| | (1) Proteins (3) Fats | (2) Carbohydrates(4) All of the above |
| 81. | ' c raduction | (comminution), suggesting that it is directly area and inversely proportional to the product (2) Kick's Law (4) Harris Law |
| 82. | | proximates most closely to a nominal aperture |
| 02. | size of 700 microns? | |
| | (1) 100 (2) 85 | (3) 30 (4) 10 |
| 83. | Which of the following filter media wor | ks on the principle of "surface filtration"? |
| 00. | (1) Ceramic filters | (2) Cellulose Membrane filters |
| | (3) Sintered bed filters | (4) All of the above |
| 84. | equalled e pressure exerted by the var | exerted by the surroundings upon a liquid is pour of the liquid; when the addition of heat liquid into its vapour, without raising the |
| | (1) Evaporation | (2) Boiling |
| | (3) Condensation | (4) Lyophilisation |
| 85. | Which of the following equipments preservation of thermolabile and othe vaccines and blood Products, etc? | for drying is MOST SUITABLE for the r delicate materials, viable cells and tissues, |
| | (1) Comparison | (2) Drum dryer |
| | (3) Freeze dryer (Iyophilisation) | (4) Infrared dryer |
| 86. | what is the term of a patent in India, as I | per the Patents Act, 1970? |
| | (1) 7 years (2) 14 years | (3) 20 years (4) 25 years |
| 87. | What is the term of a copyright in India, | as per the Coyrights Act, 1957? |
| | (1) 10 years | (2) 20 years |
| | (3) Lifetime of the author | (4) Lifetime of the author plus 60 years |
| | | |

| 1 | | | | 11 |
|-----|--------------------------------------|---|--|---|
| 88. | of inventories an | er 70% of the total d may require loose e ABC method of in (2) B class | control are classifi | es 10% of the total expenditure ed in to which of the following (4) All of the above |
| 89. | According the M | aslow's theory of m | | the following needs are at the |
| | (1) Physiologica (3) Esteem needs | l needs | (2) Safety nee(4) Self actual | |
| 90. | be protected in it | the following IPRs adia? | | ram which has technical effect, |
| | (1) Copyrights | | (2) Patents | |
| | (3) Trademarks | | (4) Geographi | cal Indicators |
| 91. | which of the follo | nich are to be marl owing Schedules? | keted under generic | e names only, is prescribed in |
| | (1) Schedule C | | (2) Schedule (| 3 |
| | (3) Schedule W | | (4) Schedule 2 | |
| 92. | year ? | Remedies (Object | ionable Advertisem | ents) Act was passed in which |
| | (1) 1940 | (2) 1948 | (3) 1954 | (4) 1950 |
| 93. | First Central Cou (1) 1948 | ncil (Pharmacy Cou (2) 1949 | uncil of India) was of (3) 1952 | constituted in which year ? (4) 1954 |
| 94. | the Prevention of | lowing qualification Food Adulteration Medicine plus one n | Act 1954 and Rules | post of Food Inspector, as per |
| | (2) Graduate in S | Science with Chemi Pharmacy plus three | stry, plus three mor | nth's training |
| 95. | (1) Separation of (2) Refining of s | | w, cocoa leaves or onces | c substances, does not include : cannabis from their plants |
| | (4) Making of pr | reparation of such d | rugs or substances | |

| 96. | (1) 51 0 | (3) 71.3gm (4) 81.3 gm | |
|-----|---|--|--|
| 97. | An insufflations contains 5 gm menths | ol, 5 gm camphor, 30 gm ammonium chloride This preparation is an example of which type of | |
| | Physical incompatibility Adjusted chemical incompatibility | (2) Tolerated chemical incompatibility(4) Therapeutic incompatibility | |
| 98. | What is the generally prescribed dose of | Furosemide as a diuretic ? | |
| | (1) 5 mg oral | (2) 10 mg oral | |
| | (3) 20 mg oral | (4) 40 mg oral | |
| 99. | for their antiseptic, decongestion or bron | edicament, which are inhaled into the nostrils, achodilator action, are called: | |
| | (1) Dentrifices | (2) Snuffs | |
| | (3) Insufflations | (4) Cachets | |
| 00. | Which of the following statements is NC | OT TRUE for flocculated suspensions? | |
| | (1) Particles form loose aggregates and form a network like structure | | |
| | (2) Rate of sedimentation is high | | |
| | (3) Sediment is difficult to redisperse | | |
| | (4) Sediment does not form a hard cake | | |
| | | | |

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10078

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- 5. The candidate *must not* do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers *must not* be ticked in the question booklet.
- There will be no negative marking. Each correct answer will be awarded one full mark.
 Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- 8. Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

MPH/PHD/URS-EE-2020/(Pharmaceutical Sci.)(SET-Z)/(B)

| • • | what are the units of total clearance for a | arug ? | |
|-----|--|--|--|
| | (1) ml (2) Hr (3) | 3) ml/ hr | (4) No units |
| 2. | 2. The value of "apparent volume of distribution which of the following statements is true for (1) Chloroquine is distributed more in the (2) Chloroquine is distributed more in the (3) Nothing can be said about the distribution (4) The above statement is a false value. | or this drug ? blood compartmen extravascular comp | t |
| 3. | 3. Which of the following tissues would generate perfused tissues, for a multi compartmental (1) Heart (2) Brain (3) | erally not be included model? 3) Skin | ded in the group of highly (4) Bones |
| 4. | 4. When the "Clearance ratio" (Clearance of odrug is equal to one, which of the following (1) Drug is partially reabsorbed in the rena (2) Drug is filtered only in the renal excret (3) Drug is actively secreted in the renal section (4) All of the above statements are true | g statements is true I excretion ion | e Clearance of Inulin) of a |
| 5. | clinical trials ? (1) Phase I (2) Phase II (3) | 3) Phase III | (4) Phase IV |
| 6. | ma'nta'ning the plasma osmotic pressure? (1) Globulins | MOST ABUNDAL 2) Albumins 4) Clotting factors | |
| 7. | (1) 08 (2) 10 (3 | 3) 12 | (4) 14 |
| 8. | tissue forms in he conjunctiva and cornea blindness, is called: | a, leading to eyen | chomatis in which fibrous d deformity and possibly |
| | (1) Stye | 2) Conjunctivitis 2) Corneal Ulcer | |
| | | | |

| A disease in which alveolar ducts and called: | h there is irreversi alveoli reducing th | ble distension of the surface area for | ne respiratory bronchioles, the exchange of gases, is |
|---|--|--|---|
| (1) Emphysema | | (2) Pneumonia | |
| (3) Asthma | | (4) Lung abcess | |
| Chemical digestion itself? | of which of the fo | ollowing ingredients | of food starts in the mouth |
| (1) Proteins | | (2) Carbohydrates | 8 |
| (3) Fats | | (4) All of the abou | ve |
| What is the number | of chromosomes for | or Homo sapients (hu | imans) ? |
| (1) 1 | 2) 16 | (3) 24 | (4) 40 |
| Which of the follow | ving amino acids is | an "essential" amino | acid? |
| (1) Lysine | (2) Alanine | (3) Cystine | (4) Glycine |
| A hydroxyl group i | s attached to which | carbon the deavyrib | ose sugar in DNA ? |
| | | | (4) 4' |
| | | | |
| no sphingolipids, n (1) Erythrocyte pla | o sterols and no car asma membrane | bohydrates? | in GPP and proteins, but has |
| | | | |
| | | | |
| | | of a heteropolysacca | arides ? |
| | wing is an example | | |
| | id | , , , | |
| Enzymes which ca | atalyse the removal | of groups from sul | bstrates by mechanisms other own as: |
| | | (2) Transferases | |
| | | (4) Ligases | |
| A process by which | ch segments of a c | hromosome are relo | ocated through the genome, is |
| | | (2) Transduction | on |
| | n | (4) Recombina | tion |
| | alveolar ducts and called: (1) Emphysema (3) Asthma Chemical digestion itself? (1) Proteins (3) Fats What is the number (1) 1 Which of the follow (1) Lysine A hydroxyl group if (1) I' Which of the follow no sphingolipids, no (1) Erythrocyte place (2) Liver cell plass (3) Endoplasmic re (4) Mitochondrial Which of the follow (1) Starch (3) Hyaluronic acid Enzymes which cathan hydrolysis, leading the cathan hydrolysis in the cathan hydroly | alveolar ducts and alveoli reducing to called: (1) Emphysema (3) Asthma Chemical digestion of which of the foitself? (1) Proteins (3) Fats What is the number of chromosomes for (1) 1 2) 16 Which of the following amino acids is (1) Lysine (2) Alanine A hydroxyl group is attached to which (1) I' (2) 2' Which of the following membranes in no sphingolipids, no sterols and no care (1) Erythrocyte plasma membrane (2) Liver cell plasma membrane (3) Endoplasmic reticulum (4) Mitochondrial membrane Which of the following is an example (1) Starch (3) Hyaluronic acid Enzymes which catalyse the removal than hydrolysis, leaving double bonds (1) Oxidoreductases (3) Lyases A process by which segments of a called: | (1) Emphysema (2) Pneumonia (3) Asthma (4) Lung abcess Chemical digestion of which of the following ingredients itself? (1) Proteins (2) Carbohydrates (3) Fats (4) All of the abo What is the number of chromosomes for Homo sapients (hu (1) 1 2) 16 (3) 24 Which of the following amino acids is an "essential" amino (1) Lysine (2) Alanine (3) Cystine A hydroxyl group is attached to which carbon the deoxyrib (1) I' (2) 2' (3) 3' Which of the following membranes in human cells is rich no sphingolipids, no sterols and no carbohydrates? (1) Erythrocyte plasma membrane (2) Liver cell plasma membrane (3) Endoplasmic reticulum (4) Mitochondrial membrane Which of the following is an example of a heteropolysacce (1) Starch (2) Glycogen (3) Hyaluronic acid (4) Chitin Enzymes which catalyse the removal of groups from suthan hydrolysis, leaving double bonds, are commonly known and the process by which segments of a chromosome are relocalled: (1) Transposition (2) Transduction |

| 18 | . What is "reverse transcriptase"? | |
|--|---|--|
| (1) A DNA polymerase enzyme that transcribes single stranded RNA into DN | | |
| | (2) An enzyme which catalyses the for | rmation of RNA from a DNA template |
| | (3) An enzyme that synthesizes long c | |
| | (4) An enzyme that facilitates the join formation of a phosphodiester bond. | ning of DNA strands together by catalyzing the |
| 19. | Which of the following strains is used | for industrial fermentation of Tetracycline? |
| | (1) S. griseus | (2) S. auerofaciens |
| | (3) Streptomyces clavuligerus | (4) A. gossypii |
| 20. | Which of the following nucleobases is I | NOT found in RNA ? |
| | (1) Adenine (2) Guanine | (3) Cytosine (4) Thymine |
| 21. | Which of the following intravenous flumazenil reversal available"? | anesthetics has a "slow onset and recovery; |
| | (1) Etomidate | (2) Propofol |
| | (3) Midazolam | (4) Thiopental |
| 22. | Which of the following local anesthetic | s has a short duration of action? |
| | (1) Procaine | (2) Tetracaine |
| | (3) Bupivacaine | (4) Ropivacaine |
| 23. | | movement disorders, has "inhibition of MAO-B -A at higher doses" as a mechanism of action? |
| | (1) Levodopa | (2) Bromocriptine |
| | (3) Apomorphine | (4) Rasagiline |
| 24. | Which of the following drugs is an opio | id antagonist ? |
| | (1) Methadone | (2) Fentanyl |
| | (3) Codeine | (4) Naloxone |
| 25. | What is the common synonym for Factor | or I (Blood clotting) ? |
| | (1) Fibrinogen | (2) Prothrombin |
| | (3) Calcium | (4) Christmas Factor |
| 26. | Which of the following fatty acids is a s | traight chain saturated acid? |
| | (1) Caprylic acid | (2) Oleic acid |
| | (3) Garlic | (4) Chaulmoogric |
| | | |

| | | В |
|-----|---|---|
| 27. | Which of the following alcohols is a more | nohydric aliphatic alcohol? |
| | (1) Cetyl alcohol | (2) Glycerol |
| | (3) Erythritol | (4) Sorbitol |
| 28. | Which of the following fixed oils has a C)? | melting point above room temperature (25 deg |
| | (1) Almond oil | (2) Castor oil |
| | (3) Lard | (4) Arachis oil |
| 29. | Which of the following is a trisaccharide | 2 7 |
| | (1) Sucrose | (2) Lactose |
| | (3) Maltose | (4) Raffinose |
| 30. | Which of the following is prepared Cannabis sativa (Cannibinaceae)? | from the pericyclic fibres of the stem of |
| | (1) Jute | (2) Flax |
| | (3) Hemp | (4) Cotton |
| 31. | Which of the following has a five mem | bered, Nitrogen containing hetercyclic ring? |
| | (1) Quinoline | (2) Piperidine |
| | (3) Pyridine | (4) Pyrrole |
| 32. | Which of the following is a polysaccha | ride ? |
| | (1) Sucrose | (2) Starch |
| | (3) Maltose | (4) Rhamninose |
| 33. | A reaction in which an alkyl halide rea of a Lewis Acid catalyst, is known as: | acts with an aromatic compound in the presence |
| | (1) Grignard's reaction | (2) Wurtz reaction |
| | (3) Friedel- Craft's reaction | (4) Riemer Tiemann reaction |
| 34. | Addition of HBr to alkenes in the pres following reactions? | sence of peroxide is an example of which of the |
| | (1) Free radical addition | (2) Electrophilic addition |
| | (3) Heterogenous hydrogenation | (4) Cleavage reaction |
| 35. | What is the common name of 2,4-(isob | utylphenyl) propionic acid? |
| | (1) Acetylsalicylic acid | (2) Ibuprofen |
| | (3) Probenecid | (4) Carbidopa |

| 36. | A modification of the Gutze following: | it Test is the princ | ciple of limit | test for which of the |
|-----|--|----------------------|----------------|------------------------|
| | (1) Chloride | (2) Sulpl | nate | |
| | (3) Iron | (4) Arse | nic | |
| 37. | "Spirit of Salt" is a synonym u | sed for which of the | following: | |
| | (1) Salt solution in water | | | ochloric Acid |
| | (3) Concentrated Nitric Acid | (4) Dilut | e Hydrochlori | c Acid |
| 38. | Which of the following is an o | smotic laxative? | | |
| | (1) Sorbitol | | nesium sulpha | te |
| | (3) Castor oil | | olphthalein | |
| 39. | What is Lugol's Solution? | | | |
| 39. | (1) Strong iodine solution | (2) Aque | ous iodine sol | ution |
| | (3) Povidone iodine solution | (4) Iodin | | |
| | | as a dental desensit | izing agent ? | |
| 40. | Which of the following is used | | um phosphate | |
| | (1) Strontium chloride(3) Calcium carbonate | (4) Vitan | | |
| | | | | only is prescribed in |
| 41. | List of drugs which are to be which of the following Schedu | | eneric names | olly, is presented in |
| | (1) Schedule C | (2) Scheo | dule G | |
| | (3) Schedule W | (4) Scheo | | |
| | Drugs and Magic Remedies (C | biactionable Adver | tisements) Ac | t was passed in which |
| 42. | Drugs and Magic Remedies (Cyear? | objectionable Adver | tisements) 11e | · mas passes |
| | (1) 1940 (2) 1948 | (3) 1954 | (4) | 1950 |
| 42 | First Central Council (Pharmac | v Council of India) | was constitute | ed in which year? |
| 43. | (1) 1948 (2) 1949 | (3) 1952 | (4) | 1954 |
| | Which of the following qualifi | cations hold true fo | r the post of | Food Inspector, as per |
| 44. | the Prevention of Food Adulter | ation Act 1954 and | Rules? | tood mopresses, map a |
| | (1) Graduate in Medicine plus | | | |
| | (2) Graduate in Science with C | hemistry, plus three | month's train | ing |
| | (3) Graduate in Pharmacy plus | three month's traini | ng | |
| | (4) All of the above | | | |
| | (1) Thi of the doore | | | |

| 45. | Separation of opium, poppy straw, co Refining of such drugs or substances Transformation of such drugs or sub Making of preparation of such drugs | or substances | |
|-----|--|--|--|
| 46. | ointment to get 10 % ointment? | t which must be added to 100 gm of a 15% (3) 71.3gm (4) 81.3 gm | |
| 47. | An insufflations contains 5 gm menthol, 5 gm camphor, 30 gm ammonium chloride and 60 gm light magnesium carbonate. This preparation is an example of which type of | | |
| | incompatibility? (1) Physical incompatibility (3) Adjusted chemical incompatibility | (2) Tolerated chemical incompatibility(4) Therapeutic incompatibility | |
| 48. | What is the generally prescribed dose of | Furosemide as a diuretic ? | |
| | (1) 5 mg oral | (2) 10 mg oral | |
| | (3) 20 mg oral | (4) 40 mg oral | |
| 49. | Finely divided solid dosage form of medicament, which are inhaled into the nostrils, for their antiseptic, decongestion or bronchodilator action, are called: | | |
| | (1) Dentrifices | (2) Snuffs | |
| | (3) Insufflations | (4) Cachets | |
| 50. | Which of the following statements is NO (1) Particles form loose aggregates and (2) Rate of sedimentation is high (3) Sediment is difficult to redisperse (4) Sediment does not form a hard cake | form a network like structure | |
| 51. | Which of the following is an example of | f a gram negative bacteria ? | |
| | (1) Corynebacterium | (2) Staphylococcus | |
| | (3) Clostridium | (4) Escherichia | |
| 52. | The process of reduction in the number health, on living surfaces, is called: | er of viable microbes, to a level not harmful to | |
| | (1) Disinfection | (2) Antisepsis | |
| | (3) Sterilization | (4) Bacteriostasis | |
| | | | |

| 53. | Which of the following methods of sterilization of a space craft? | sterilization would be most suitable for the |
|-----|--|---|
| | (1) Sterilization by dry heat | (2) Autociaving |
| | (3) Sterilization by ethylene oxide | (4) Filtration sterilization |
| 54. | Which of the following is NOT a viral v | accine ? |
| | (1) Polio vaccine | (2) Hepatitis vaccine |
| | (3) Influenza vaccine | (4) Typhoid vaccine |
| 55. | In which of the following recombination | process, cell contact is required? |
| | (1) Transformation | (2) Transduction |
| | (3) Conjugation | (4) All of the above |
| 56. | When the cancerous change takes place to form red blood cells, some other typicalled: | in a type of marrow cell that normally goes on bes of white cells, and platelets, the disease is |
| | (1) Lymphoblastic leukemia | (2) Myeloid leukemia |
| | (3) Polycysthemia | (4) Anemia |
| 57. | A very rare life threatening anemia, which ability to produce red blood cells, is called | ch is caused by a decrease in the bone marrow's ed: |
| | (1) Hemolytic anemia | (2) Aplastic anemia |
| | (3) Sickle cell anemia | (4) Iron deficiency anemia |
| 58. | Which of the following drugs needs to be | e avoided in Parkinson's disease? |
| | (1) Levodopa | (2) Rasagiline |
| | (3) Prochlorperazine | (4) Amantadine |
| 59. | (1) Type I Diabetes (2) Type II Diabetes (3) Gestational Diabetes (4) Latent Autoimmune Diabetes of Adu | alts (LADA) |
| 60. | Heliobacter pylori, a gram negative, special cause of non-NSAID-associated disease, (1) Hypertension (2) Tuberculosis | oiral shaped bacterium, is the most common commonly known as: (3) Syphilis (4) Peptic Ulcer |
| | | |

| | | · · · · · · · · · · · · · · · · · · · |
|-----|--|--|
| 61. | requirement for particle size reduction proportional to an increase in the surface diameter perceptively? (1) Rittinger's Law (3) Bond's Law | ative expression for estimation of the energy (comminution), suggesting that it is directly e area and inversely proportional to the product (2) Kick's Law (4) Harris Law |
| 62. | size of 700 microns? | oproximates most closely to a nominal aperture (3) 30 (4) 10 |
| | (1) 100 (2) 85 | (5) 50 |
| 63. | Which of the following filter media wor (1) Ceramic filters (3) Sintered bed filters | ks on the principle of "surface filtration"? (2) Cellulose Membrane filters (4) All of the above |
| 64. | equalled e pressure exerted by the var | exerted by the surroundings upon a liquid is pour of the liquid; when the addition of heat liquid into its vapour, without raising the |
| | (1) Evaporation | (2) Boiling |
| | (3) Condensation | (4) Lyophilisation |
| 65. | Which of the following equipments preservation of thermolabile and othe vaccines and blood Products, etc? | for drying is MOST SUITABLE for the r delicate materials, viable cells and tissues, |
| | (1) Compartment tray dryer | (2) Drum dryer |
| | (3) Freeze dryer (Iyophilisation) | (4) Infrared dryer |
| 66. | what is the term of a patent in India, as J | per the Patents Act, 1970? |
| | (1) 7 years (2) 14 years | (3) 20 years (4) 25 years |
| 67. | What is the term of a copyright in India, | as per the Coyrights Act, 1957? |
| | (1) 10 years | (2) 20 years |
| | (3) Lifetime of the author | (4) Lifetime of the author plus 60 years |
| 68. | Items which cover 70% of the total involution of inventories and may require loose co- classes, as per the ABC method of inventories | rentory, consumes 10% of the total expenditure ontrol are classified in to which of the following ntory control? |
| | (1) A class (2) B class | (3) C class (4) All of the above |
| | | |

| 69 | According the Maslow's theory of mo lowest level of hierarchy? | tivation, which of the following needs are at the |
|-----|--|--|
| | (1) Physiological needs | (2) Safety needs |
| | (3) Esteem needs | (4) Self actualization needs |
| 70. | Under which of the following IPRs ca be protected in India? | an computer program which has technical effect, |
| | (1) Copyrights | (2) Patents |
| | (3) Trademarks | (4) Geographical Indicators |
| 71. | The characteristics "mostly simple gran in the form of a point, eccentric, conce the following starches? | nules, hatchet-, wedge- or mussel-shaped. Hilum entric striations well marked" represent which of |
| | (1) Maize starch | (2) Wheat starch |
| | (3) Rice starch | (4) Potato starch |
| | (5) Rice states | the leaves and young twigs of a climbing shrub, |
| 72. | Uncaria gambir (Rubiaceae) is called: | the leaves and young twigs of a climbing shrub, (3) Catechu (4) Chandan |
| | (1) | (5) |
| 73. | Turpentine oil is obtained from (1) Coriandrum sativum | (2) Pinus spp. |
| | (3) Menth piperita | (4) Carvum carvi |
| 74. | Which of the following is a non-heteroc | cyclic alkaloid ? |
| 74. | (1) Nicotine (2) Cocaine | (3) Quilline |
| 75. | Which of the following Cinchona sp | becies has "transverse cracks, very numerous, |
| | yellowish powder"? | (2) C. officinalis |
| | (1) C. succirubra | (4) C. legeriana |
| | (3) C. calisaya | |
| 76. | A technique in which a change in weightemperature or time using the balance and | ght of a substance is recorded as a function of and furnance, is called: |
| | (2) Gravimetry | (5) 550 |
| 77. | An indirect titration method, which de | eals with the titration of iodine liberated in a |
| | chemical reaction, is called: | (2) Iodometry |
| | (1) Iodimetry | (4) Permanganate titration |
| | (3) Cerimetry | |
| | | P. T. O. |

| | | | В |
|-----|--|---|---|
| 78. | Method of determining end point in soluble coloured compound, is called: | precipitation reaction, ba | ased on formation of |
| | (1) Turbidity method (Gay Lussac)(3) Mohr's method | (2) Fajan's method(4) Volhard's method | |
| 79. | The method of analysis in which the so way that the graphy of current against much is present, is called: | olution to be analysed is voltage shows what is in | electrolysed in such a the solution and how |
| | (1) Polarography | (2) Conductometry | |
| | (3) Potentiometry | (4) Amperometry | |
| 80. | A spectrometer which generates multiple then separates them according to their abundance of each ion type, is called | | |
| | (1) UV -VIS spectrometer | (2) Fluorescence spect | rometer |
| | (3) FTIR spectrometer | (4) Mass spectrometer | |
| 81. | A method of extraction by boiling her the material, which may include stems, | | |
| | (1) Infusion | (2) Maceration | |
| | (3) Decoction | (4) Percolation | |
| 82. | A sweetened, aromatic solution of alc for, medicinal substances, is known as | | ng, or used as a vehicle |
| | (1) Aromatic waters (2) Syrups | (3) Linctus | 4) Elixirs |
| 83. | Which of the following empty gelatine | capsules has a largest ca | apacity? |
| | (1) Size 00 (2) Size 0 | (3) Size 1 (4) | 4) Size 2 |
| 84. | The IVIVIC level which describes a probetween the entire in vitro dissolution response time course, is called: | redictive mathematical mand release time cours | nodel for the relationship se and the entire in vivo |
| | (1) Level A | (2) Level B | |
| | (3) Level C | (4) Level D | |
| 85. | Semisolid preparations containing one in either a water-in-oil emulsion or an | or more medicinal ager oil-in-water emulsion is | nts dissolved or dispersed called: |
| | (1) Paste | (2) Lotion | |
| | (3) Ointment | (4) Creams | |
| | | | |

| | 86. | Name the primary transmitter at ANS g and at parasympathetic postganglioni excitatory transmitter to smooth muscle (1) Dopamine (3) Acetylcholine | ganglia, at the somatic neuromuscular junction, c nerve endings, which is also a primary and secretory cells in the ENS: (2) GABA (4) Norepinephrine |
|----|------|---|---|
| | 87. | Activation of which of the following a bronchdilation, which is important in the (1) Beta 1 (3) Alpha 1 | receptors in bronchial smooth muscle leads to treatment of Asthma? (2) Beta 2 (4) Alpha 2 |
| | 88. | Which of the following antiarrythmic primary mechanism of action? (1) Proproanolol (3) Esmolol | drugs has "sodium channel dlockade" as the (2) Verapamil (4) Lidocaine |
| | 89. | Which of the following drugs is primaril (1) Diphenhydramine (3) Chlorpheniramine | y used as an H-2 blocker? (2) Cyclizine (4) Cetrizine |
| | 90. | At which of the following Blood alcohomotor function, slurred speech and ataxi (1) 50-100 mg/dL (3) 200-300 mg/dL | ol concentration (BAC) will produce "impaired a" in an nontolerant individual? (2) 100-200 mg/dL (4) 300-400 mg/dL |
| | 91. | When 1 to 10 parts of solvent are require the solubility is defined as: (1) Very soluble (3) Soluble | ed to dissolve 1 part of the solute, as per USP, (2) Freely soluble (4) Sparingly soluble |
| | 92. | term raised to the first power, the rate | s on the concentration of A and B with each of decomposition of A is equal to the rate of ortional to the product of the concentration of tich of the following: (2) Apparent zero order reactions (4) Second order reactions |
| | 93. | The Hixson - Crowell Cube Root Law is following? (1) Tablets (3) Granules | s applicable to the dissolution of which of the (2) Capsules (4) Powders |
| Pl | J/QH | JRS-EE-2020/(Pharmaceutical Science) | (SET-Z)/(B) P. T. O. |
| | | | |

| ~ | | В |
|------|---|--|
| 94. | Which of the following surfactants has (1) Span 80 (3) Tween 80 | a highest HLB value ? (2) Span 20 (4) Triethanolamine oleate |
| 95. | What is the particle size range of colloid (1) Less than 1 nm (3) Greater than 0.5 microns | dal dispersions? (2) 1 nm to 0.5 microns (4) 100 microns and above |
| 96. | Although energy can be transformed fr destroyed. This statement of conserva- laws? | om one kind into another, it cannot be created or tion of energy is true for which of the following |
| | (1) First law of thermodynamics(3) Third law of thermodynamics | (2) Second law of thermodynamics(4) Fourth law of thermodynamics |
| 97. | The temperature at which the pure lice crystalline solid, is called: (1) Eutectic point (3) Freezing point or melting point | quid and solid exist in equilibrium, for a pure (2) Boiling point (4) Transition temperature |
| 98. | Which of the following liquids has a had (1) Glycerine (3) Phenol | ighest dielectric constant ? (2) Isopropanol (4) Water |
| 99. | Number of moles of solute in 1000 g of (1) Molarity (2) Molality | of solvent is known as: (3) Normality (4) Mole fraction |
| 100. | When the hydrogen ion concentration concentration is 10 raised to power mi (1) 4 (2) 10 | is 10 raised to power minus ten and hydroxyl ion nus four, what would be pH value? (3) 14 (4) 20 |
| | | |

SET-Z

M.Phil./Ph.D./URS-EE-2020

SUBJECT: Pharmaceutical Science

| | | Sr. No. 10027 |
|------------------------------|---------------------|--------------------------------|
| Time: 11/4 Hours | Max. Marks : 100 | Total Questions: 100 |
| Roll No. (in figures) | (in words) | |
| Name | | |
| Mother's Name | Date of Examination | |
| | | |
| (Signature of the Candidate) | - | (Signature of the Invigilator) |

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

- 1. All questions are compulsory.
- 2. The candidates must return the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfairmeans / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
- 3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- 4. Question Booklet along with answer key of all the A, B, C & D code will be got uploaded on the University website after the conduct of Entrance Examination. In case there is any discrepancy in the Question Booklet/Answer Key, the same may be brought to the notice of the Controller of Examination in writing/through E.Mail within 24 hours of uploading the same on the University Website. Thereafter, no complaint in any case, will be considered.
- 5. The candidate must not do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers must not be ticked in the question booklet.
- 6. There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- 8. Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

MPH/PHD/URS-EE-2020/(Pharmaceutical Sci.)(SET-Z)/(C)

| 1. | The characteristics "mostly simple granules, hatchet-, wedge- or mussel-shaped. Hilum in the form of a point, eccentric, concentric striations well marked" represent which of the following starches? | | |
|----|--|--|--|
| | (1) Maize starch | (2) Wheat starch | |
| | (3) Rice starch | (4) Potato starch | |
| 2. | Uncaria gambir (Rubiaceae) is called: | the leaves and young twigs of a climbing shrub, | |
| | (1) Tolu balsam | (2) Peru balsam | |
| | (3) Catechu | (4) Chandan | |
| 3. | Turpentine oil is obtained from | | |
| | (1) Coriandrum sativum | (2) Pinus spp. | |
| | (3) Menth piperita | (4) Carvum carvi | |
| 4. | Which of the following is a non-heterod | cyclic alkaloid ? | |
| | (1) Nicotine | (2) Cocaine | |
| | (3) Quinine | (4) Ephedrine | |
| 5. | Which of the following Cinchona sp yellowish powder"? | ecies has "transverse cracks, very numerous, | |
| | (1) C. succirubra | (2) C. officinalis | |
| | (3) C. calisaya | (4) C. legeriana | |
| 6. | A technique in which a change in weightemperature or time using the balance and (1) Precipitation (3) DSC | (2) Gravimetry | |
| _ | | (4) Vapourization | |
| 7. | An indirect titration method, which do chemical reaction, is called: | eals with the titration of iodine liberated in a | |
| | (1) Iodimetry | (2) Iodometry | |
| | (3) Cerimetry | (4) Permanganate titration | |
| 8. | Method of determining end point in soluble coloured compound, is called: | precipitation reaction, based on formation of | |
| | (1) Turbidity method (Gay Lussac) | (2) Fajan's method | |
| | (3) Mohr's method | (4) Volhard's method | |

| 9. | The method of analysis in which the solution to be analysed is electrolysed in such a way that the graphy of current against voltage shows what is in the solution and how much is present, is called: | | |
|-----|--|---|--|
| | (1) Polarography | (2) Conductometry | |
| | (3) Potentiometry | (4) Amperometry | |
| 10. | A spectrometer which generates multiple ions from the sample under investigation, and then separates them according to their specific m/z ratio and then records the relative abundance of each ion type, is called | | |
| | (1) UV -VIS spectrometer | (2) Fluorescence spectrometer | |
| | (3) FTIR spectrometer | (4) Mass spectrometer | |
| 11. | A method of extraction by boiling herb the material, which may include stems, r | al or plant material to dissolve the chemicals of roots, bark and rhizomes, is called: | |
| | (1) Infusion | (2) Maceration | |
| | (3) Decoction | (4) Percolation | |
| 12. | A sweetened, aromatic solution of alco for, medicinal substances, is known as : | hol and water containing, or used as a vehicle | |
| | (1) Aromatic waters (2) Syrups | (3) Linctus (4) Elixirs | |
| 13. | Which of the following empty gelatine c | apsules has a largest capacity? | |
| | (1) Size 00 (2) Size 0 | (3) Size 1 (4) Size 2 | |
| 14. | between the entire in vitro dissolution a response time course, is called: | dictive mathematical model for the relationship and release time course and the entire in vivo | |
| | (1) Level A (2) Level B | (3) Level C (4) Level D | |
| 15. | Semisolid preparations containing one of in either a water-in-oil emulsion or an oil | r more medicinal agents dissolved or dispersed | |
| | (1) Paste | (2) Lotion | |
| | (3) Ointment | (4) Creams | |
| 16. | Name the primary transmitter at ANS ganglia, at the somatic neuromuscular junction, and at parasympathetic postganglionic nerve endings, which is also a primary excitatory transmitter to smooth muscle and secretory cells in the ENS: | | |
| | (1) Dopamine | (2) GABA | |
| | (3) Acetylcholine | (4) Norepinephrine | |
| | | | |

| 17. | Activation of which of the following receptors in bronchial smooth muscle leads to bronchdilation, which is important in the treatment of Asthma? | | |
|-----|---|---|--|
| | (1) Beta 1 | (2) Beta 2 | |
| | (3) Alpha 1 | (4) Alpha 2 | |
| 18. | Which of the following antiar primary mechanism of action? | rythmic drugs has "sodium channel dlockade" as the | |
| | (1) Proproanolol | (2) Verapamil | |
| | (3) Esmolol | (4) Lidocaine | |
| 19. | Which of the following drugs is | primarily used as an H-2 blocker? | |
| | (1) Diphenhydramine | (2) Cyclizine | |
| | (3) Chlorpheniramine | (4) Cetrizine | |
| 20. | | d alcohol concentration (BAC) will produce "impaired nd ataxia" in an nontolerant individual? | |
| | (1) 50-100 mg/dL | (2) 100-200 mg/dL | |
| | (3) 200-300 mg/dL | (4) 300-400 mg/dL | |
| 21. | . When 1 to 10 parts of solvent are required to dissolve 1 part of the solute, as per USP, the solubility is defined as: | | |
| | (1) Very soluble | (2) Freely soluble | |
| | (3) Soluble | (4) Sparingly soluble | |
| 22. | term raised to the first power, | depends on the concentration of A and B with each he rate of decomposition of A is equal to the rate of re proportional to the product of the concentration of ers to which of the following: | |
| | (1) Zero order reactions | (2) Apparent zero order reactions | |
| | (3) First order reactions | (4) Second order reactions | |
| 23. | The Hixson - Crowell Cube Roof following? | ot Law is applicable to the dissolution of which of the | |
| | (1) Tablets | (2) Capsules | |
| | (3) Granules | (4) Powders | |
| 24. | Which of the following surfactan | s has a highest HLB value ? | |
| | (1) Span 80 | (2) Span 20 | |
| | (3) Tween 80 | (4) Triethanolamine oleate | |
| | | (1) Trochanolamine Oleate | |

| 25. | What is the particle size range of collo | sidal dispersions? |
|-----|--|---|
| | (1) Less than 1 nm | |
| | (3) Greater than 0.5 microns | (4) 100 microns and above |
| 26. | Although energy can be transformed f destroyed. This statement of conserval laws? | from one kind into another, it cannot be created or ation of energy is true for which of the following |
| | (1) First law of thermodynamics | (2) Second law of thermodynamics |
| | (3) Third law of thermodynamics | (4) Fourth law of thermodynamics |
| 27. | The temperature at which the pure l crystalline solid, is called: | iquid and solid exist in equilibrium, for a pure |
| | (1) Eutectic point | (2) Boiling point |
| | (3) Freezing point or melting point | (4) Transition temperature |
| 28. | Which of the following liquids has a h | ighest dielectric constant? |
| | (1) Glycerine | (2) Isopropanol |
| | (3) Phenol | (4) Water |
| 29. | Number of moles of solute in 1000 g of | of solvent is known as: |
| | (1) Molarity (2) Molality | (3) Normality (4) Mole fraction |
| 30. | When the hydrogen ion concentration concentration is 10 raised to power min | is 10 raised to power minus ten and hydroxyl ion nus four, what would be pH value? |
| a. | | (3) 14 (4) 20 |
| 31. | requirement for particle size reduction | itative expression for estimation of the energy on (comminution), suggesting that it is directly ace area and inversely proportional to the product |
| | (1) Rittinger's Law | (2) Kick's Law |
| | (3) Bond's Law | (4) II |
| 32. | Which of he following mesh number a size of 700 microns? | approximates most closely to a nominal aperture |
| | (1) 100 (2) 85 | (3) 30 (4) 10 |
| 33. | Which of the following filter media wo (1) Ceramic filters (3) Sintered bed filters | orks on the principle of "surface filtration"? (2) Cellulose Membrane filters |
| | and the second s | (4) All of the above |

| 34. | equalled e pressure exerted by the var results in the transformation of the temperature, is called (1) Evaporation | exerted by the surroundings upon a liquid is pour of the liquid; when the addition of heat liquid into its vapour, without raising the (2) Boiling |
|-----|---|---|
| | (3) Condensation | (4) Lyophilisation |
| 35. | | for drying is MOST SUITABLE for the delicate materials, viable cells and tissues, |
| | (1) Compartment tray dryer | (2) Drum dryer |
| | (3) Freeze dryer (Iyophilisation) | (4) Infrared dryer |
| 36. | what is the term of a patent in India, as p | er the Patents Act, 1970? |
| | (1) 7 years (2) 14 years | (3) 20 years (4) 25 years |
| 37. | What is the term of a copyright in India, | as per the Coyrights Act, 1957? |
| | (1) 10 years | (2) 20 years |
| | (3) Lifetime of the author | (4) Lifetime of the author plus 60 years |
| 38. | Items which cover 70% of the total inve | entory, consumes 10% of the total expenditure ntrol are classified in to which of the following |
| | (1) A class (2) B class | (3) C class (4) All of the above |
| 39. | According the Maslow's theory of motivolowest level of hierarchy? | vation, which of the following needs are at the |
| | (1) Physiological needs | (2) Safety needs |
| | (3) Esteem needs | (4) Self actualization needs |
| 40. | Under which of the following IPRs can be protected in India? | computer program which has technical effect, |
| | (1) Copyrights | (2) Patents |
| | (3) Trademarks | (4) Geographical Indicators |
| 41. | Which of the following is an example of | a gram negative bacteria ? |
| | (1) Corynebacterium | (2) Staphylococcus |
| | (3) Clostridium | (4) Escherichia |
| | (AC) A. T) when | out an entropial Community with taking a 11-3 |

| 42 | The process of reduction in the number of the selled in th | ber of viable microbes, to a level not harmful to |
|-------|--|--|
| | health, on living surfaces, is called: (1) Disinfection (2) Antisensis | (3) Sterilization (4) Bacteriostasis |
| | | |
| 43 | sterilization of a space craft? | f sterilization would be most suitable for the |
| | (1) Sterilization by dry heat | (2) Autociaving |
| | (3) Sterilization by ethylene oxide | (4) Filtration sterilization |
| 44. | • Which of the following is NOT a viral | vaccine? |
| | (1) Polio vaccine | (2) Hepatitis vaccine |
| | (3) Influenza vaccine | (4) Typhoid vaccine |
| 45. | In which of the following recombination | on process, cell contact is required? |
| | (1) Transformation | (2) Transduction |
| | (3) Conjugation | (4) All of the above |
| 46. | to form red blood cells, some other t | ce in a type of marrow cell that normally goes on ypes of white cells, and platelets, the disease is |
| | (1) Lymphoblastic leukemia | (2) Myeloid leukemia |
| | (3) Polycysthemia | (4) Anemia |
| 47. | A very rare life threatening anemia, what ability to produce red blood cells, is ca | nich is caused by a decrease in the bone marrow's lled: |
| | (1) Hemolytic anemia | (2) Aplastic anemia |
| | (3) Sickle cell anemia | (4) Iron deficiency anemia |
| 48. | Which of the following drugs needs to | be avoided in Parkinson's disease 2 |
| | (1) Levodopa | (2) Rasagiline |
| | (3) Prochlorperazine | (4) Amantadine |
| 49. | Diabetes mellitus, which is characterize islets of langerhans in the pancreas, lea (1) Type I Diabetes | ed by loss of insulin - producing beta cells of the ding to insulin deficiency, is called: |
| | (2) Type II Diabetes | |
| | (3) Gestational Diabetes | |
| | (4) Latent Autoimmune Diabetes of A | dults (LADA) |
| PHD/U | JRS-EE-2020/(Pharmaceutical Science | ACET TOWA |
| | La properties de la constante | (C) |

| 50. | Heliobacter pylori, a gram negative, cause of non-NSAID-associated disease | spiral shaped bacterium, is the most common | | |
|-----|--|---|--|--|
| | (1) Hypertension (2) Tuberculosis | (3) Syphilis (4) Peptic Ulcer | | |
| 51. | Which of the following intravenous flumazenil reversal available"? | anesthetics has a "slow onset and recovery; | | |
| | (1) Etomidate | (2) Propofol | | |
| | (3) Midazolam | (4) Thiopental | | |
| 52. | Which of the following local anesthetic | Which of the following local anesthetics has a short duration of action? | | |
| | (1) Procaine | (2) Tetracaine | | |
| | (3) Bupivacaine | (4) Ropivacaine | | |
| 53. | Which of the following drugs, used for selectively, and also inhibition of MAO | movement disorders, has "inhibition of MAO-B -A at higher doses" as a mechanism of action? | | |
| | (1) Levodopa | (2) Bromocriptine | | |
| | (3) Apomorphine | (4) Rasagiline | | |
| 54. | Which of the following drugs is an opioid antagonist? | | | |
| | (1) Methadone | (2) Fentanyl | | |
| | (3) Codeine | (4) Naloxone | | |
| 55. | What is the common synonym for Facto | r I (Blood clotting) ? | | |
| | (1) Fibrinogen | (2) Prothrombin | | |
| | (3) Calcium | (4) Christmas Factor | | |
| 56. | Which of the following fatty acids is a st | raight chain saturated acid? | | |
| | (1) Caprylic acid | (2) Oleic acid | | |
| | (3) Garlic | (4) Chaulmoogric | | |
| 57. | Which of the following alcohols is a mor | nohydric aliphatic alcohol ? | | |
| | (1) Cetyl alcohol | (2) Glycerol | | |
| | (3) Erythritol | (4) Sorbitol | | |
| 58. | Which of the following fixed oils has a C)? | melting point above room temperature (25 deg | | |
| | (1) Almond oil | (2) Castor oil | | |
| | (3) Lard | (4) Arachis oil | | |
| | | | | |

of

| 59. | . Which of the following is a tr | isaccharide? | |
|-----|---|---|--------------------------------|
| | (1) Sucrose | (2) Lactose | |
| | (3) Maltose | (4) Raffinose | |
| 60. | Which of the following is Cannabis sativa (Cannibinace (1) Jute (3) Hemp | | cyclic fibres of the stem o |
| 61. | What are the units of "total cle | earance" for a drug? | |
| | (1) ml (2) Hr | (3) ml/ hr | (4) No units |
| 62. | The value of "apparent volume Which of the following statement (1) Chloroquine is distributed (2) Chloroquine is distributed (3) Nothing can be said about (4) The above statement is a f | more in the blood compart more in the extravascular of the distribution of this drug | compartment |
| 63. | Which of the following tissues perfused tissues, for a multi co | s would generally not be in impartmental model? | ncluded in the group of highly |
| | (1) Heart (2) Brain | (3) Skin | (4) Bones |
| 64. | drug is equal to one, which of to (1) Drug is partially reabsorbed (2) Drug is filtered only in the (3) Drug is actively secreted in (4) All of the above statements | the following statements is d in the renal excretion renal excretion the renal secretion are true | true ? |
| 65. | A drug can be introduced in the clinical trials? | e market after passing which | |
| | (1) Phase I (2) Phase | II (3) Phase III | (4) Phase IV |
| 66. | Which of the following blood ma'nta'ning the plasma osmotic | proteins is MOST ABUND pressure? | OANT, and is responsible for |
| | (1) Globulins | (2) Albumins | |
| | (3) Fibrinogen | (4) Clotting factor | ors |
| | (5) Hormogen | | |

| 67. | What is the total number of cranial nerves? | | | | |
|-----|---|-------------|-----|-----------------|---|
| | (1) 08 | (2) 10 | (3) | 12 | (4) 14 |
| 68. | A chronic inflammatory condition caused by <i>Chlamydia trachomatis</i> in which fibrous tissue forms in he conjunctiva and cornea, leading to eyelid deformity and possibly blindness, is called: (1) Stye (2) Conjunctivitis (3) Trachoma (4) Corneal Ulcer | | | | |
| 69. | A disease in which there is irreversible distension of the respiratory bronchioles, alveolar ducts and alveoli reducing the surface area for the exchange of gases, is called: | | | | |
| | (1) Emphysema | | (2) | Pneumonia | id ibania(ibas) (1) on risil aus (1) (1) |
| | (3) Asthma | | (4) | Lung abcess | " glillididespress e |
| 70. | Chemical digestion of which of the following ingredients of food starts in the mouth itself? | | | | |
| | (1) Proteins | cas (S | (2) | Carbohydrates | Galatera grid at med Ve |
| | (3) Fats | | (4) | All of the abov | e (800 3/4 / (1) |
| 71. | List of drugs which are to be marketed under generic names only, is prescribed in which of the following Schedules? | | | | |
| | (1) Schedule C | TUSS UNITED | (2) | | क्षेत्र होते व्यक्तिक व्यक्तिक |
| | (3) Schedule W | and file | (4) | Schedule X | seniouside (1) |
| 72. | Drugs and Magic Remedies (Objectionable Advertisements) Act was passed in which year? | | | | |
| | (1) 1940 | (2) 1948 | (3) | 1954 | (4) 1950 |
| 73. | | | | | ituted in which year? (4) 1954 |
| | (1) 1948 | (2) 1949 | | 1952 | |
| 74. | Which of the following qualifications hold true for the post of Food Inspector, as per the Prevention of Food Adulteration Act 1954 and Rules? | | | | |
| | (1) Graduate in Medicine plus one month's training | | | | |
| | (2) Graduate in Science with Chemistry, plus three month's training | | | | |
| | (3) Graduate in Pharmacy plus three month's training | | | | |
| | (4) All of the above | | | | |
| | | | | | |

| 75. | Manufacture in relation to narcotic drug (1) Separation of opium, poppy straw, of | es orpsychotropic substances, does not include : cocoa leaves or cannabis from their plants |
|-----|---|--|
| | (2) Refining of such drugs or substance | |
| | (3) Transformation of such drugs or sul | ostances |
| | (4) Making of preparation of such drug | s or substances |
| 76. | What is the quantity of a 3% ointmer ointment to get 10 % ointment? | nt which must be added to 100 gm of a 15% |
| | (1) 51.3 gm (2) 61.3gm | (3) 71.3gm (4) 81.3 gm |
| 77. | | ol, 5 gm camphor, 30 gm ammonium chloride This preparation is an example of which type of |
| | (1) Physical incompatibility | (2) Tolerated chemical incompatibility |
| | (3) Adjusted chemical incompatibility | (4) Therapeutic incompatibility |
| 78. | What is the generally prescribed dose of | Furosemide as a diuretic ? |
| | (1) 5 mg oral | (2) 10 mg oral |
| | (3) 20 mg oral | (4) 40 mg oral |
| 79. | 9. Finely divided solid dosage form of medicament, which are inhaled into the nostrils for their antiseptic, decongestion or bronchodilator action, are called: | |
| | (1) Dentrifices | (2) Snuffs |
| | (3) Insufflations | (4) Cachets |
| 80. | Which of the following statements is NO | OT TRUE for flocculated suspensions? |
| | (1) Particles form loose aggregates and | form a network like structure |
| | (2) Rate of sedimentation is high | |
| | (3) Sediment is difficult to redisperse | RAM SECTION |
| | (4) Sediment does not form a hard cake | 7.62 (1985) |
| 81. | Which of the following has a five memb | ered, Nitrogen containing hetercyclic ring? |
| | (1) Quinoline | (2) Piperidine |
| | (3) Pyridine | (4) Pyrrole |
| 82. | Which of the following is a polysacchari | |
| | (1) Sucrose (2) Starch | (3) Maltose (4) Rhamninose |
| | | |

| 83. | A reaction in which an alkyl halide reaction of a Lewis Acid catalyst, is known as: | ets with an aromatic compound in the presence |
|-----|---|--|
| | (1) Grignard's reaction(3) Friedel- Craft's reaction | (2) Wurtz reaction(4) Riemer Tiemann reaction |
| 84. | following reactions ? | nce of peroxide is an example of which of the |
| | (1) Free radical addition(3) Heterogenous hydrogenation | (2) Electrophilic addition(4) Cleavage reaction |
| 85. | What is the common name of 2,4-(isobu | tylphenyl) propionic acid ? |
| | (1) Acetylsalicylic acid | (2) Ibuprofen |
| | (3) Probenecid | (4) Carbidopa |
| 86. | A modification of the Gutzeit Test is following: | the principle of limit test for which of the |
| | (1) Chloride | (2) Sulphate |
| | (3) Iron | (4) Arsenic |
| 87. | "Spirit of Salt" is a synonym used for wh | nich of the following: |
| | (1) Salt solution in water | (2) Concentrated Hydrochloric Acid |
| | (3) Concentrated Nitric Acid | (4) Dilute Hydrochloric Acid |
| 88. | Which of the following is an osmotic lax | ative ? |
| | (1) Sorbitol | (2) Magnesium sulphate |
| | (3) Castor oil | (4) Phenolphthalein |
| 89. | What is Lugol's Solution ? | |
| | (1) Strong iodine solution | (2) Aqueous iodine solution |
| | (3) Povidone iodine solution | (4) Iodine tincture |
| 90. | Which of the following is used as a denta | al desensitizing agent ? |
| | (1) Strontium chloride | (2) Calcium phosphate |
| | (3) Calcium carbonate | (4) Vitamin K |
| 91. | What is the number of chromosomes for | Homo sapients (humans)? |
| | (1) 1 2) 16 | (3) 24 (4) 40 |
| 92 | Which of the following amino acids is an | "essential" amino acid? |
| 92. | 11. 11. 11. | (3) Cystine (4) Glycine |
| | (1) Lysine (2) Alanine | |

| 93. | A hydroxyl group is attached to which (1) l' (2) 2' | carbon the deoxyribose sugar in DNA? (3) 3' (4) 4' |
|------|--|--|
| 94. | Which of the following membranes in no sphingolipids, no sterols and no carb (1) Erythrocyte plasma membrane (3) Endoplasmic reticulum | human cells is rich in GPP and proteins, but ha pohydrates? (2) Liver cell plasma membrane (4) Mitochondrial membrane |
| 95. | Which of the following is an example of (1) Starch (3) Hyaluronic acid | f a heteropolysaccarides ? (2) Glycogen (4) Chitin |
| 96. | Enzymes which catalyse the removal of than hydrolysis, leaving double bonds, a (1) Oxidoreductases (3) Lyases | of groups from substrates by mechanisms other are commonly known as: (2) Transferases (4) Ligases |
| 97. | A process by which segments of a chricalled: (1) Transposition (3) Transformation | omosome are relocated through the genome, is (2) Transduction (4) Recombination |
| 98. | (3) An enzyme that synthesizes long ch | inscribes single stranded RNA into DNA |
| 99. | (3) Streptomyces clavuligerus | or industrial fermentation of Tetracycline? (2) S. auerofaciens (4) A. gossypii |
| 100. | Which of the following nucleobases is N (1) Adenine (2) Guanine | OT found in RNA? (3) Cytosine (4) Thymine |

Total No. of Printed Pages: 13

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)



M.Phil./Ph.D./URS-EE-2020

SUBJECT: Pharmaceutical Science

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SET-Z

| | 100 Sr. No | |
|---|--|------|
| Time : 11/4 Hours Roll No. (in figures) | Max. Marks : 100 Total Question (in words) | |
| Name | Father's Name | |
| Mother's Name | Date of Examination | |
| (Signature of the Candidate) | (Signature of the Invigila | tor) |

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

- 1. All questions are compulsory.
- 2. The candidates must return the question booklet as well as OMR Answer-Sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfairmeans / mis-behaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
- 3. Keeping in view the transparency of the examination system, carbonless OMR Sheet is provided to the candidate so that a copy of OMR Sheet may be kept by the candidate.
- 4. Question Booklet along with answer key of all the A, B, C & D code will be got uploaded on the University website after the conduct of Entrance Examination. In case there is any discrepancy in the Question Booklet/Answer Key, the same may be brought to the notice of the Controller of Examination in writing/through E.Mail within 24 hours of uploading the same on the University Website. Thereafter, no complaint in any case, will be considered.
- The candidate must not do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question booklet itself. Answers must not be ticked in the question booklet.
- There will be no negative marking. Each correct answer will be awarded one full mark. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
- 7. Use only Black or Blue Ball Point Pen of good quality in the OMR Answer-Sheet.
- 8. Before answering the questions, the candidates should ensure that they have been supplied correct and complete booklet. Complaints, if any, regarding misprinting etc. will not be entertained 30 minutes after starting of the examination.

MPH/PHD/URS-EE-2020/(Pharmaceutical Sci.)(SET-Z)/(D)

TATIO

| 4 | Which of the following has a five memb | ered, Nitrogen containing hetercyclic ring? |
|-----|--|---|
| 1. | (1) Quinoline | (2) Piperidine |
| | | (4) Pyrrole |
| | (3) Pyridine | (4) Pyriole |
| 2. | Which of the following is a polysacchar | de ? |
| | (1) Sucrose (2) Starch | (3) Maltose (4) Rhamninose |
| 3. | A reaction in which an alkyl halide reaction a Lewis Acid catalyst, is known as: | ets with an aromatic compound in the presence |
| | (1) Grignard's reaction | (2) Wurtz reaction |
| | (3) Friedel- Craft's reaction | (4) Riemer Tiemann reaction |
| 4. | Addition of HBr to alkenes in the prese following reactions? | nce of peroxide is an example of which of the |
| | (1) Free radical addition | (2) Electrophilic addition |
| | (3) Heterogenous hydrogenation | (4) Cleavage reaction |
| 5. | What is the common name of 2,4-(isobu | tylphenyl) propionic acid ? |
| | (1) Acetylsalicylic acid | (2) Ibuprofen |
| | (3) Probenecid | (4) Carbidopa |
| 6. | A modification of the Gutzeit Test is following: | the principle of limit test for which of the |
| | (1) Chloride | (2) Sulphate |
| | (3) Iron | (4) Arsenic |
| 7. | "Spirit of Salt" is a synonym used for wl | nich of the following: |
| | (1) Salt solution in water | (2) Concentrated Hydrochloric Acid |
| | (3) Concentrated Nitric Acid | (4) Dilute Hydrochloric Acid |
| 8. | Which of the following is an osmotic lax | ative ? |
| | (1) Sorbitol | (2) Magnesium sulphate |
| | (3) Castor oil | (4) Phenolphthalein |
| 9. | What is I need's Solution ? | |
| ٥. | What is Lugol's Solution? (1) Strong iodine solution | (2) Aqueous iodine solution |
| | (3) Povidone iodine solution | (4) Iodine tincture |
| | | |
| 10. | Which of the following is used as a dent | T = 1 |
| | (1) Strontium chloride | (2) Calcium phosphate |
| | (3) Calcium carbonate | (4) Vitamin K |

| 11. | List of drugs which are to be may which of the following Schedules? | arketed under generic names only, is prescribed in | |
|--|---|--|--|
| | (1) Schedule C | (2) Schedule G | |
| | (3) Schedule W | (4) Schedule X | |
| 12. | year ? | ctionable Advertisements) Act was passed in which | |
| | (1) 1940 (2) 1948 | (3) 1954 (4) 1950 | |
| 13. | First Central Council (Pharmacy C | ouncil of India) was constituted in which year? | |
| | (1) 1948 (2) 1949 | (3) 1952 (4) 1954 | |
| 14. Which of the following qualifications hold true for the post of Food Inspector, a the Prevention of Food Adulteration Act 1954 and Rules?(1) Graduate in Medicine plus one month's training | | n Act 1954 and Rules ? month's training | |
| | (2) Graduate in Science with Cher | | |
| | (3) Graduate in Pharmacy plus thr | ee month's training | |
| | (4) All of the above | | |
| 15. | Manufacture in relation to narcotic drugs orpsychotropic substances, does not include: Separation of opium, poppy straw, cocoa leaves or cannabis from their plants Refining of such drugs or substances Transformation of such drugs or substances Making of preparation of such drugs or substances | | |
| 16. | What is the quantity of a 3% oil | ntment which must be added to 100 gm of a 15% | |
| | ointment to get 10 % ointment? | which must be udded to 100 gm of a 100 | |
| | (1) 51.3 gm (2) 61.3gm | (3) 71.3gm (4) 81.3 gm | |
| 17. | 7. An insufflations contains 5 gm menthol, 5 gm camphor, 30 gm ammonium chloride and 60 gm light magnesium carbonate. This preparation is an example of which type of incompatibility? | | |
| | (1) Physical incompatibility | (2) Tolerated chemical incompatibility | |
| | (3) Adjusted chemical incompatib | ility (4) Therapeutic incompatibility | |
| 18. | What is the generally prescribed de | ose of Furosemide as a diuretic ? | |
| | (1) 5 mg oral | (2) 10 mg oral | |
| | (3) 20 mg oral | (4) 40 mg oral | |
| | | | |

| 19. | Finely divided solid dosage form of for their antiseptic, decongestion or br | medicament, which are inhaled into the nostrils, onchodilator action, are called: |
|-----|---|--|
| | (1) Dentrifices | (2) Snuffs |
| | (3) Insufflations | (4) Cachets |
| 20. | Which of the following statements is 1 (1) Particles form loose aggregates and (2) Rate of sedimentation is high (3) Sediment is difficult to redisperse (4) Sediment does not form a hard call | THE THE PERSON OF THE PERSON O |
| 21. | What are the units of "total clearance" | for a drug ? |
| | (1) ml (2) Hr | (3) ml/ hr (4) No units |
| 22. | 2. The value of "apparent volume of distribution" of chlorquine is more than 100 L/kg. Which of the following statements is true for this drug? (1) Chloroquine is distributed more in the blood compartment (2) Chloroquine is distributed more in the extravascular compartment (3) Nothing can be said about the distribution of this drug (4) The above statement is a false value. | |
| 23. | Which of the following tissues would perfused tissues, for a multi compartm (1) Heart (2) Brain | generally not be included in the group of highly tental model? (3) Skin (4) Bones |
| 24. | When the "Clearance ratio" (Clearance of drug divided by the Clearance of Inulin) of a drug is equal to one, which of the following statements is true? (1) Drug is partially reabsorbed in the renal excretion (2) Drug is filtered only in the renal excretion (3) Drug is actively secreted in the renal secretion (4) All of the above statements are true | |
| 25. | A drug can be introduced in the mark clinical trials? | et after passing which of the following phases in |
| | (1) Phase I (2) Phase II | (3) Phase III (4) Phase IV |
| 26. | Which of the following blood protein ma'nta'ning the plasma osmotic pressu | s is MOST ABUNDANT, and is responsible for re? |
| | (1) Globulins | (2) Albumins |
| | (3) Fibrinogen | (4) Clotting factors |

4

D

PHD/URS-EE-2020/(Pharmaceutical Science)(SET-Z)/(D)

| 37. | A process by which segments of a called: | thromosome are relocated through the genome, is |
|-------|--|---|
| | (1) Transposition | (2) Transduction |
| | (3) Transformation | (4) Recombination |
| 38. | What is "reverse transcriptase"? | Control to need to be a first |
| | (1) A DNA polymerase enzyme that | transcribes single stranded RNA into DNA |
| | (2) An enzyme which catalyses the fo | ormation of RNA from a DNA template |
| | (3) An enzyme that synthesizes long | chains of nucleic acides |
| | (4) An enzyme that facilitates the jo formation of a phosphodiester bond. | ining of DNA strands together by catalyzing the |
| 39. | Which of the following strains is used | for industrial fermentation of Tetracycline? |
| | (1) S. griseus | (2) S. auerofaciens |
| | (3) Streptomyces clavuligerus | (4) A. gossypii |
| 40. | Which ofthe following nucleobases is | NOT found in RNA ? |
| | (1) Adenine (2) Guanine | (3) Cytosine (4) Thymine |
| 41. | Which of the following intravenous flumazenil reversal available"? | s anesthetics has a "slow onset and recovery; |
| | (1) Etomidate | (2) Propofol |
| | (3) Midazolam | (4) Thiopental |
| 42. | Which of the following local anesthetic | cs has a short duration of action? |
| | (1) Procaine | (2) Tetracaine |
| | (3) Bupivacaine | (4) Ropivacaine |
| 43. | Which of the following drugs, used for movement disorders, has "inhibition of MAO-B selectively, and also inhibition of MAO-A at higher doses" as a mechanism of action? | |
| | (1) Levodopa | (2) Bromocriptine |
| | (3) Apomorphine | (4) Rasagiline |
| 44. | Which of the following drugs is an opioid antagonist? | |
| | (1) Methadone | (2) Fentanyl |
| | (3) Codeine | (4) Naloxone |
| 45. | What is the common synonym for Fact | or I (Blood clotting) ? |
| | (1) Fibrinogen | (2) Prothrombin |
| | (3) Calcium | (4) Christmas Factor |
| PHD/U | RS-EE-2020/(Pharmaceutical Science | e)(SET-Z)/(D) P. T. O. |

| 46. | Which of the following fatty acids is a (1) Caprylic acid (3) Garlic | (2) Oleic acid |
|-----|--|--|
| | (3) Gaine | (4) Chaulmoogric |
| 47. | Which of the following alcohols is a m | onohydric alimbatic alcohol ? |
| | (1) Cetyl alcohol | |
| | (3) Erythritol | (2) Glycerol |
| | (5) Eryuntor | (4) Sorbitol |
| 48. | Which of the following fixed oils has a C)? | a melting point above room temperature (25 deg |
| | (1) Almond oil | (2) Castor oil |
| | (3) Lard | (4) Arachis oil |
| 40 | Which of the first state of the | 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| 49. | Which of the following is a trisaccharic | de? |
| | (1) Sucrose | (2) Lactose |
| | (3) Maltose | (4) Raffinose |
| 50. | Which of the following is prepared Cannabis sativa (Cannibinaceae)? | I from the pericyclic fibres of the stem of |
| | (1) Jute | (2) Flax |
| | (3) Hemp | (4) Cotton |
| 51. | A method of extraction by boiling herb the material, which may include stems, (1) Infusion (3) Decoction | pal or plant material to dissolve the chemicals of roots, bark and rhizomes, is called: (2) Maceration (4) Percolation |
| 52. | as: | shol and water containing, or used as a vehicle |
| | (1) Aromatic waters (2) Syrups | (3) Linctus (4) Elixirs |
| 53. | Which of the following empty gelatine of | |
| | (1) Size 00 | capsules has a largest capacity? |
| | (3) Size 1 | (2) Size 0 |
| EA | | (4) Size 2 |
| 54. | between the entire in vitro dissolution response time course, is called: | dictive mathematical model for the relationship and release time course and the entire in vivo |
| | (1) Level A | (2) Level B |
| | (3) Level C | (4) Lavel D |

| 55. | in either a water-in-oil emulsion | ing one or more medicinal agents dissolved or dispersed or an oil-in-water emulsion is called: |
|-------|---|---|
| | (1) Paste | (2) Lotion |
| | (3) Ointment | (4) Creams |
| 56. | and at parasympathetic posts | at ANS ganglia, at the somatic neuromuscular junction, ganglionic nerve endings, which is also a primary muscle and secretory cells in the ENS: |
| | (1) Dopamine | (2) GABA |
| | (3) Acetylcholine | (4) Norepinephrine |
| 57. | | llowing receptors in bronchial smooth muscle leads to ant in the treatment of Asthma? |
| | (1) Beta 1 | (2) Beta 2 |
| | (3) Alpha 1 | (4) Alpha 2 |
| 58. | Which of the following antiar primary mechanism of action? | rrythmic drugs has "sodium channel dlockade" as the |
| | (1) Proproanolol | (2) Verapamil |
| | (3) Esmolol | (4) Lidocaine |
| 59. | Which of the following drugs is | s primarily used as an H-2 blocker? |
| | (1) Diphenhydramine | (2) Cyclizine |
| | (3) Chlorpheniramine | (4) Cetrizine |
| 60. | At which of the following Blood alcohol concentration (BAC) will produce "impaired motor function, slurred speech and ataxia" in an nontolerant individual? | |
| | (1) 50-100 mg/dL | (2) 100-200 mg/dL |
| | (3) 200-300 mg/dL | (4) 300-400 mg/dL |
| 61. | the simple granules hatchet- wedge- or mussel-shaped Hilum | |
| | (1) Maize starch | (2) Wheat starch |
| | (3) Rice starch | (4) Potato starch |
| 62. | A dried aqueous extract prepar | ed from the leaves and young twigs of a climbing shrub, called: |
| | Uncaria gambir (Rubiaceae) is | (7) Peru paisani |
| | (1) Tolu balsam | (4) Chandan |
| | (3) Catechu | 그는 그는 그 그 그 그리고 있는 것이 없는 것이다. |
| PHD/(| URS-EE-2020/(Pharmaceutical | Science)(SET-Z)/(D) P. T. O. |

| 63. | promise on to obtained from | |
|---|--|--|
| | (1) Coriandrum sativum | |
| | (3) Menth piperita | (4) Carvum carvi |
| 64. | the of the following is a non-netero | |
| | (1) Nicotine (2) Cocaine | (3) Quinine (4) Ephedrine |
| 65. | Which of the following Cinchona s yellowish powder"? | pecies has "transverse cracks, very numerous, |
| | (1) C. succirubra | (2) C. officinalis |
| | (3) C. calisaya | (4) C. legeriana |
| 66. | A technique in which a change in we temperature or time using the balance a | ight of a substance is recorded as a function of |
| | (1) Precipitation | (2) Gravimetry |
| | (3) DSC | (4) Vapourization |
| 67. | An indirect titration method, which chemical reaction, is called: | leals with the titration of iodine liberated in a |
| | (1) Iodimetry | (2) Iodometry |
| | (3) Cerimetry | (4) Permanganate titration |
| 68. Method of determining end poi soluble coloured compound, is ca | | precipitation reaction, based on formation of |
| | (1) Turbidity method (Gay Lussac) | (2) Fajan's method |
| | (3) Mohr's method | (4) Volhard's method |
| 69. | The method of analysis in which the s | olution to be analysed in |
| | way that the graphy of current against much is present, is called: | voltage shows what is in the solution and how |
| | (1) Polarography | (2) Conductometry |
| | (3) Potentiometry | (4) Amperometry |
| 70. | A spectrometer which generates multiple then separates them according to their abundance of each ion type, is called | e ions from the sample under investigation, and specific m/z ratio and then records the relative |
| | (1) UV -VIS spectrometer | (2) Fluorescance and the second secon |
| | (3) FTIR spectrometer | (2) Fluorescence spectrometer |
| | -F | (4) Mass spectrometer |

| 71. | Which of the following is an example (1) Corynebacterium (3) Clostridium | of a gram negative bacteria? (2) Staphylococcus (4) Escherichia | |
|-----|--|---|--|
| 72. | bullaces, is called. | per of viable microbes, to a level not harmful to | |
| | (1) Disinfection (2) Antisepsis | (3) Sterilization (4) Bacteriostasis | |
| 73. | stering attorior a space craft? | f sterilization would be most suitable for the | |
| | (1) Sterilization by dry heat | (2) Autociaving | |
| | (3) Sterilization by ethylene oxide | (4) Filtration sterilization | |
| 74. | Which of the following is NOT a viral | vaccine? | |
| | (1) Polio vaccine | (2) Hepatitis vaccine | |
| | (3) Influenza vaccine | (4) Typhoid vaccine | |
| 75. | In which of the following recombination process, cell contact is required? | | |
| | (1) Transformation | (2) Transduction | |
| | (3) Conjugation | (4) All of the above | |
| 76. | When the cancerous change takes place in a type of marrow cell that normally goes on to form red blood cells, some other types of white cells, and platelets, the disease is called: | | |
| | (1) Lymphoblastic leukemia | (2) Myeloid leukemia | |
| | (3) Polycysthemia | (4) Anemia | |
| 77. | A very rare life threatening anemia, which is caused by a decrease in the bone marrow's ability to produce red blood cells, is called: | | |
| | (1) Hemolytic anemia | (2) Aplastic anemia | |
| | (3) Sickle cell anemia | (4) Iron deficiency anemia | |
| 78. | Which of the following drugs needs to | be avoided in Parkinson's disease? | |
| | (1) Levodopa | (2) Rasagiline | |
| | (3) Prochlorperazine | (4) Amantadine | |
| | | | |

| , | | |
|-----|---|--|
| 79. | Diabetes mellitus, which is characterize islets of langerhans in the pancreas, lead (1) Type I Diabetes (2) Type II Diabetes (3) Gestational Diabetes (4) Latent Autoimmune Diabetes of Adapted | |
| 80. | Heliobacter pylori, a gram negative, cause of non-NSAID-associated disease | spiral shaped bacterium, is the most common e, commonly known as: |
| | (1) Hypertension (2) Tuberculosis | (3) Syphilis (4) Peptic Ulcer |
| 81. | When 1 to 10 parts of solvent are requirement the solubility is defined as: (1) Very soluble (3) Soluble | ired to dissolve 1 part of the solute, as per USP, (2) Freely soluble (4) Sparingly soluble |
| 82. | term raised to the first power, the rate | e of decomposition of A and B with each e of decomposition of A is equal to the rate of portional to the product of the concentration of which of the following: (2) Apparent zero order reactions (4) Second order reactions |
| 83. | The Hixson - Crowell Cube Root Law following? (1) Tablets (3) Granules | is applicable to the dissolution of which of the (2) Capsules (4) Powders |
| 84 | Which of the following surfactants has a(1) Span 80(3) Tween 80 | a highest HLB value ? (2) Span 20 (4) Triethanolamine oleate |
| 85 | . What is the particle size range of colloi | dal dispersions ? |
| | (1) Less than 1 nm | |
| | (2) 1 nm to 0.5 microns | The second secon |
| | (3) Greater than 0.5 microns | |
| | (4) 100 microns and above | |

| | | | | 1 |
|-----|---|--------------------------------|---|-----------------------------|
| 86. | Although energy can be tradestroyed. This statement laws? | ansformed from of conservation | one kind into anoth of energy is true f | |
| | (1) First law of thermodyn(3) Third law of thermody | namics (| 2) Second law of th4) Fourth law of th | ermodynamics |
| 87. | The temperature at which crystalline solid, is called | the pure liquid: | d and solid exist i | n equilibrium, for a pure |
| | (1) Eutectic point | (| 2) Boiling point | |
| | (3) Freezing point or melti | | 4) Transition temp | erature |
| 88. | Which of the following liqu | | | |
| | | 221 | | (4) Water |
| 89. | Number of moles of solute (1) Molarity (2) M | 1 621 622 | EX SIL IN MARKET | (4) Mole fraction |
| 90. | When the hydrogen ion concentration is 10 raised to (1) 4 (2) 10 | o power minus | | |
| 91. | Which of the following is requirement for particle si proportional to an increase diameter perceptively? | ize reduction (c | comminution), sug | gesting that it is directly |
| | (1) Rittinger's Law | (2 | 2) Kick's Law | |
| | (3) Bond's Law | (4 | 4) Harris Law | |
| 92. | Which of he following messize of 700 microns? | sh number appr | oximates most clos | ely to a nominal aperture |
| | (1) 100 (2) 85 | (3 | 3) 30 | (4) 10 |
| 93. | Which of the following filter | er media works | on the principle of | "surface filtration" ? |
| | (1) Ceramic filters | (2 | Cellulose Memb | rane filters |
| | (3) Sintered bed filters | , | 4) All of the above | |
| 94. | The phenomenon when the equalled e pressure exerter results in the transformation temperature, is called | d by the vapou | ir of the figura, w | nen me addition of neat |
| | (1) Evaporation (2) Bo | oiling (3 | 3) Condensation | (4) Lyophilisation |

| d tissues, |
|---------------------|
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| |
| rs |
| enditure llowing |
| ve |
| e at the |
| |
| effect, |
| |
| 0.00 |

Set-A

| Sr. | Answer | Sr. | Answer | Sr. | Answer | Sr. | Answer |
|-----|--------|------|--------|-----|--------|-----|--------|
| No | | No | | No | | No | |
| 1 | 2 | 26 | 3 | 51 | 3 | 76 | 2 |
| 2 | ч | 27 | 2 | 52 | 1 | 77 | 3 |
| 3 | 4 | 28 | Ч | 53 | 2 | 78 | 3 |
| 4 | 3 | 29 | 4 | 54 | Ч | 79 | 1 |
| 5 | 2 | 30 | 2 | 55 | 3 | 80 | 2 |
| 6 | 1 | . 31 | 3 | 56 | 3 | 81 | 1 |
| 7 | 3 | 132 | 1 | 57 | 1 | 82 | 4 |
| 8 | Ч | 33 | 4 | 58 | 1 | 83 | 2 |
| 9 | 2 | 34 | 4 | 59 | 2 | 84 | |
| 10 | 2 | 35 | 1 | 60 | 4 | 85 | 3 |
| 11 | 4 | 36 | 1 | 61 | 4 | 86 | 3 3 |
| 12 | 2 | 37 | 1 | 62 | 2 | 87 | 4 |
| 13 | 3 | 38 | 3 | 63 | 3 | 88 | 3 |
| 14 | 1 | 39 | 4 | 64 | 4 | 89 | 1 |
| 15 | 2 | 40 | 3 | 65 | 3 | 90 | 2 |
| 16 | 4 | 41 | 4 | 66 | 2 | 91 | 3 |
| 17 | 2 | 42 | 3 | 67 | 2 | 92 | 3 |
| 18 | 1 | 43 | 2 | 68 | 3 | 93 | 2 |
| 19 | 2 | 44 | Ч | 69 | 1 | 94 | 4 |
| 20 | 1 | 45 | 2 | 70 | 4 | 95 | 1 |
| 21 | 3 | 46 | 2 | 71 | 3 | 96 | 3 |
| 22 | 4 | 47 | 2 | 72 | 2 | 97 | 1 |
| 23 | 1 | 48 | 4 | 73 | 4 | 98 | 4 |
| 24 | 1 | 49 | 1 | 74 | 2 | 99 | 2 |
| 25 | 4 | 50 | ÿ | 75 | 3 | 100 | 3 |

Set-B

| Sr. | Answer | Sr. | Answer | Sr. | Answer | Sr. | Answer |
|-----|--------|-----|--------|-----|--------|-----|--------|
| No | | No | | No | | No | |
| 1 | 3 | 26 | 1 | 51 | 4 | 76 | 2 |
| 2 | 2 | 27 | 1 | 52 | 2 | 77 | 2 |
| 3 | 4 | 28 | 3 | 53 | 3 | 78 | 4 |
| 4 | 2 | 29 | 4 | 54 | 4 | 79 | |
| 5 | 3 | 30 | 3 | 55 | 3 | 80 | 4 |
| 6 | 2 | 31 | 4 | 56 | 2 | 81 | 3 |
| 7 | 3 | 132 | 2 | 57 | 2 | 82 | 4 |
| 8 | 3 | 33 | 3 | 58 | 3 | 83 | 1 |
| 9 | 1 | 34 | 1 | 59 | 1 | 84 | 1 |
| 10 | 2 | 35 | 2 | 60 | 4 | 85 | 4 |
| 11 | 3 | 36 | 4 | 61 | . 1 | 86 | 3 |
| 12 | 1 | 37 | 2 | 62 | 4 | 87 | 2 |
| 13 | 2 | 38 | 1 | 63 | 2 | 88 | 4 |
| 14 | 4 | 39 | 2 | 64 | 2 | 89 | 4 |
| 15 | 3 | 40 | 1, | 65 | 3 | 90 | 2 |
| 16 | 3 | 41 | 3 | 66 | 3 | 91 | 2. |
| 17 | 1 | 42 | 3 | 67 | 4 | 92 | 4 |
| 18 | 1 | 43 | 2 | 68 | 3 | 93 | 4 |
| 19 | 2 | 44 | 4 | 69 | 1 | 94 | 3 |
| 20 | 4 | 45 | 1 | 70 | 2 | 95 | 2 |
| 21 | 3 | 46 | 3 | 71 | 4 | 96 | 1 |
| 22 | 1 | 47 | 1 | 72 | 3 | 97 | 3 |
| 23 | 4 | 48 | 4 | 73 | 2, | 98 | 4 |
| 24 | 4 | 49 | 2 | 74 | 4 | 99 | 2 |
| 25 | 1 | 50 | 3 | 75 | 2 | 100 | 2 |

Set-C

| Sr. | Answer | Sr. | Answer | Sr. | Answer | Sr. | Answer |
|-----|--------|-------------|--------|-----|--------|-----|--------|
| No | | No | | No | | No | |
| 1 | 4 | 26 | 1 | 51 | 3 | 76 | 3 |
| 2 | 3 | 27 | 3 | 52 | 1 | 77 | 1 |
| 3 | 2 | 28 | 4 | 53 | 4 | 78 | 4 |
| 4 | 4 | 29 | 2 | 54 | 4 | 79 | 2 |
| 5 | 2 | 30 | 2 | 55 | 1 | 80 | 3 |
| 6 | 2 | 31 | 1 | 56 | 1 | 81 | 4 |
| 7 | 2 | @ 32 | 4 | 57 | 1 | 82 | 2 |
| 8 | 4 | 33 | 2. | 58 | 3 | 83 | 3 |
| 9 | 1 | 34 | 2 | 59 | 4 | 84 | 1 |
| 10 | 4 | 35 | 3 | 60 | 3 | 85 | 2 |
| 11 | 3 | 36 | 3 | 61 | 3 | 86 | 4 |
| 12 | 4 | 37 | 4 | 62 | 2 | 87 | 2 |
| 13 | 1 | 38 | 3 | 63 | 4 | 88 | 1 |
| 14 | 1 | 39 | 1 | 64 | 2 | 89 | 2 |
| 15 | 4 | 40 | 2 | 65 | 3 | 90 | 1 |
| 16 | 3 | 41 | 4 | 66 | 2 | 91 | 3 |
| 17 | 2 | 42 | 2 | 67 | 3 | 92 | 1 |
| 18 | 4 | 43 | 3 | 68 | 3 | 93 | 2 |
| 19 | 4 | 44 | 4 | 69 | 1 | 94 | 4 |
| 20 | 2 | 45 | 3 | 70 | 2 | 95 | 3 |
| 21 | 2 | 46 | 2 | 71 | 3 | 96 | 3 |
| 22 | 4 | 47 | 2 | 72 | 3 | 97 | 1 |
| 23 | 4 | 48 | 3 | 73 | 2 | 98 | 1 |
| 24 | 3 | 49 | 1 | 74 | 4 | 99 | 2 |
| 25 | 2 | 50 | 4 | 75 | 1 | 100 | 4 |

Set-D

| Sr. | Answer | Sr. | Answer | Sr. | Answer | Sr. | Answer |
|-----|--------|--------------|--------|-----|--------|-----|--------|
| No | | No | | No | | No | |
| 1 | 4 | 26 | 2 | 51 | 3 | 76 | 2 |
| 2 | 2 | 27 | 3 | 52 | 4 | 77 | 2 |
| 3 | 3 | 28 | 3 | 53 | 1 | 78 | 3 |
| 4 | 1 | 29 | 1 | 54 | 1 | 79 | 1 |
| 5 | 2 | 30 | 2 | 55 | 4 | 80 | 4 |
| 6 | 4 | 31 | 3 | 56 | 3 | 81 | 2 |
| 7 | 2 | \$ 32 | 1 | 57 | 2 | 82 | 4 |
| 8 | | 33 | 2 | 58 | 4 | 83 | 4 |
| 9 | 2 | 34 | 4 | 59 | 4 | 84 | 3 |
| 10 | 1 | 35 | 3 | 60 | 2 | 85 | 2 |
| 11 | 3 | 36 | 3 | 61 | 4 | 86 | 1 |
| 12 | 3 | 37 | 1 | 62 | 3 | 87 | 3 |
| 13 | 2 | 38 | 1 | 63 | 2 | 88 | 4 |
| 14 | 4 | 39 | 2 | 64 | 4 | 89 | 2 |
| 15 | 1 | 40 | 4 | 65 | 2 | 90 | 2 |
| 16 | 3 | 41 | 3 | 66 | 2 | 91 | 1 |
| 17 | 1 | 42 | 1 | 67 | 2. | 92 | 4 |
| 18 | 4 | 43 | 4 | 68 | 4 | 93 | 2 |
| 19 | 2 | 44 | 4 | 69 | 1 | 94 | 2 |
| 20 | 3 | 45 | 1 | 70 | 4 | 95 | 3 |
| 21 | 3 | 46 | 1 | 71 | 4 | 96 | 3 |
| 22 | 2 | 47 | 1 | 72 | 2 | 97 | 4 |
| 23 | 4 | 48 | 3 | 73 | 3 | 98 | 3 |
| 24 | 2 | 49 | 4 | 74 | 4 | 99 | 1 |
| 25 | 3 | 50 | 3 | 75 | 3 | 100 | 2 |