



GPAT  **2021**

**PREVIOUS YEAR SOLVED PAPERS
(1988 - 2020)**

by

GPAT DISCUSSION CENTER



GDC Publication

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Previous Year Solved Paper 1988-2020

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Dedicated to

.....

All ASPIRANTS,
Preparing for GPAT - 2021...

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GATE - 1988

PY : PHARMACEUTICAL SCIENCES

Time : 3 hours | Maximum Marks : 200

- 1. This question paper contains two parts A and B.**
- 2. Answer all the question from part A.**
- 3. Answer Any 20 Question from part B.**

PART-A

1. There are 2 sections in this part
2. Answer all the question in both sections I and II.
3. Answer should be given serial order in the answer book.
4. Do not skip question while writing the answers.
5. Write the question number and show your answer by writing the alphabet (against the No.) in Capital letters.
6. In section I each question carriers 1 marks.
7. In section II each question carries 2 marks.
8. A model is shown at the beginning of each section in part A.
9. Answer to the question in this part must be written in the first 3 (three) pages of the answer books only.

PART-B

1. Answer any twenty questions.
2. If more than 20 questions are attempted only the first 20 will be considered.
3. Answer should not exceed 15 lines.
4. All question carry equal marks.

GATE - 1988

PY - PHARMACEUTICAL SCIENCES

PART - A

SECTION - I (CHOOSE THE CORRECT ANSWER)

- Q. 1**
- i. **To understand the drug receptor interaction is necessary to quantify the relation between**
(a) Drug and its toxicity (b) Drug and its absorption
(c) Drug and its biological effect (d) Drug and intermediate product
- ii. **Penicillinase resistance penicillin is**
(a) Amoxycillin (b) Ampicillin (c) Penicillin V (d) Methicillin
- iii. **Morphine is present in**
(a) *Atropa belladonna* (b) *Papaver somniferum*
(c) *Ricinus communis* (d) *Solanum nigrum*
- iv. **Ion exchange chromatography is the method of choice for separation of**
(a) Metals (b) Sugar (c) Fatty acid (d) Sterols
- v. **Rideal Walker test is performed by using the strain**
(a) *Escherichia coli* (b) *Staphylococcus neruri*
(c) *Staphylococcus pyrogenes* (d) *Salmonella typhii*
- vi. **Pheniramine maleate is an antihistaminic agent belonging to the class**
(a) Ethylenediamine derivative (b) Cyclic basic class analogs
(c) Aminoallyl ether analoges (d) None of the above
- vii. **Tetracycline undergo epimerization C-4 between pH 4 and 8 to give**
(a) Isotetracyclines (b) Epitetracyclines
(c) Nortetracyclines (d) None of above
- viii. **Tyndalisation means**
(a) Successive autoclaving with a bactericide
(b) Successive heating with a bactericide
(c) Successive heating at low temperature
(d) Successive autoclaving at low temperature and incubation
- ix. **Morphine and heroin differ from each other in respect of**
(a) Methyl group on nitrogen (b) Acetyl groups at C₃ and C₆
(c) Absence of double bond between C₄ and C₆ (d) Absence of D ring
- x. **Vincristine and Vinblastine act by**
(a) Binding with the protein tubulin and arrest at metaphase
(b) Inhibiting the protein synthesis
(c) Acting as antimetabolite
(d) Inhibiting the enzyme system
- xi. **A rhamno-glucoside on complete hydrolysis will give**
(a) Aglycone + Fructose + Rhamnose (b) Aglycone + Ribose + Rhamnose
(c) Aglycone + Rhamnose + Glucose (d) Rhamnose + Fructose

GATE - 1995

PY : PHARMACEUTICAL SCIENCES

Time : 3 hours | Maximum Marks : 200

- 1. This question paper contains two parts A and B.**
- 2. Answer all the question from part A.**
- 3. Answer Any 20 Question from part B.**

PART-A

1. There are 2 sections in this part
2. Answer all the question in both sections 1 and 2.
3. Answer should be given serial order in the answer book.
4. Do not skip question while writing the answers.
5. Write the question number and show your answer by writing the alphabet (against the No.) in Capital letters.
6. In section 1 each question carriers 1 marks.
7. In section 2 each question carries 2 marks.
8. A model is shown at the beginning of each section in part A.
9. Answer to the question in this part must be written in the first 3 (three) pages of the answer books only.

PART-B

1. Answer any twenty questions.
2. If more than 20 questions are attempted only the first 20 will be considered.
3. Answer should not exceed 15 lines.
4. All question carry equal marks.

GATE - 1995

PY - PHARMACEUTICAL SCIENCES

PART - A

SECTION - I (CHOOSE THE CORRECT ANSWER)

- Q. 1**
- i. One of the drug is excreted primarily by renal tubular sections. Identify.**
(a) Gentamycin (b) Kanamycin (c) Tetracycline (d) Carbenicillin
- ii. Identify one of the cancer chemotherapeutic agent which is an antimetabolite?**
(a) Flurouracil (b) Nitrogen mustard
(c) Cyclophosphamide (d) Chlorambucil
- iii. Agents useful in the treatment of bronchial asthma usually**
(a) Block both alpha and beta adrenergic receptors
(b) Stimulate alpha receptors but block beta receptors
(c) Stimulate beta receptors but block alpha receptors
(d) Stimulate alpha and/or beta receptors
- iv. The antiarrhythmic drug Quinidine is:**
(a) (+) Stereoisomer of Quinine (b) (-) Stereoisomer of Quinine
(c) (+) Racemic mixture of Quinine (d) None of the above
- v. Beta-Carboline ring system is present in**
(a) Emetine alkaloid (b) Cortisone acetate
(c) Deserpidine molecule (d) Atropine alkaloid
- vi. Licence for wholesale of drugs specified in schedule C and C₁ are issued in form**
(a) 20 A (b) 20 B (c) 21 B (d) 22 A
- vii. The principal constituents Anethole (50-60%) and Fenchone (18-20%) are present in the volatile oil obtained from**
(a) Fruits of *Ammi visnaga* Linn (b) Fruits of *Foeniculum capillaceum* G (F. vulgare)
(c) Fruits of *Carum carvi* Linn (d) Fruits of *Anethum graveolens* Linn
- viii. Caffeine on oxidation with KClO₃ /HCl gives**
(a) Trimethyl alloxan and urea (b) Methyl alloxan and dimethyl urea
(c) Diemthyl alloxan and methyl urea (d) None of the above
- ix. One of the following types of adverse drug reactions is not believed to be dose related phenomena**
(a) Side effects and toxic reactions (b) Toxic reactions and hypersensitivity
(c) Side effects and hypersensitivity (d) Hypersensitivity and idiosyncrasy
- x. Green bones are used for the preparation of a gelatin of the type**
(a) A (b) B (c) C (d) A and B
- xi. In capsules, ROTOFIL is used for filling:**
(a) Powders (b) Pellets (c) Liquids (d) Corrosive liquids

GATE - 2000

PY : PHARMACEUTICAL SCIENCES

Time : 3 hours | Maximum Marks : 200

- 1. This question paper contains two parts A and B.**
- 2. Answer all the question from part A.**
- 3. Answer Any 15 Question from part B.**

PART-A

1. There are 2 sections in this part
2. Answer all the question in both sections I and II.
3. Answer should be given serial order in the answer book.
4. Do not skip question while writing the answers.
5. Write the question number and show your answer by writing the alphabet (against the No.) in Capital letters.
6. In section I each question carriers 1 marks.
7. In section II each question carries 2 marks.
8. A model is shown at the beginning of each section in part A.
9. Answer to the question in this part must be written in the first 3 (three) pages of the answer books only.

PART-B

1. Answer any fifteen questions.
2. If more than 15 questions are attempted only the first 15 will be considered.
3. Answer should not exceed 15 lines.
4. All question carry equal marks.

GATE - 2000

PY - PHARMACEUTICAL SCIENCES

PART - A

SECTION - I (CHOOSE THE CORRECT ANSWER)

- Q.1 (i) This question consists of 25 (Twenty five) multiple choice questions each carrying one mark.**
(ii) Choose the correct answer.
(iii) Enter (a) or (b), (c) or (d) as the case may be in the boxes corresponding to the questions in the first page of the answer book.
- 1.1. One of the substances is listed is used as muco adhesive**
(a) Acacia (b) S.C.M.C (c) Burnt sugar (d) Saccharin
- 1.2. In the preparation of multilayer tablets one of the substances listed is used to Hydrophilic matrix coating**
(a) C.M.C (b) Shellac (c) Stearyl alcohol (d) Bees wax
- 1.3. Choose the correct pH of the lachrymal fluid**
(a) 8.0 (b) 6.2 (c) 7.4 (d) 9.0
- 1.4. The dip tube in an aerosol container is made from one of the following. Choose the correct one**
(a) Polypropylene (b) Glass (c) Stainless steel (d) Aluminium
- 1.5. The diameter of the mesh aperture in the I.P disintegration test apparatus is given below. Choose the correct size.**
(a) 2.00 mm (b) 4.00 mm (c) 1.00 mm (d) 1.50 mm
- 1.6. Choose the correct source of radiation for N.M.R from the listed ones**
(a) Klystron oscillator (b) Globar source
(c) Radio frequency oscillator (d) Deuterium lamp
- 1.7. Choose the correct semi-rigid gel used for exculsion chromatography**
(a) Sephadex (b) Gelatin (c) Cellulose (d) Alumina
- 1.8. One the following is measured in amperometric titration**
(a) Resistance (b) Conductance (c) Voltage (d) Current
- 1.9. The oil obtained from *Cymbopogan flexuosus* contains one of the following**
(a) Citral (b) α -terpeniol (c) α -pinene (d) Neral
- 1.10. Choose the correct key intermediate for the biosynthesis of C_6 - C_3 units, which serves as a precursor for the biosynthesis of amino acid**
(a) Shikimic acid (b) Pyruvic acid (c) Dehydro quinic acid (d) Mevalonic acid
- 1.11. β -phenyl-N-alkyl piperidine moiety is largely responsible for activity in one of the following. Choose the correct one**
(a) Buprenorphine (b) Pethidine (c) Cycloserine (d) Amitryptiline

GPAT - 2010

PY : PHARMACEUTICAL SCIENCES

Time : 3 hours | Maximum Marks : 150

Read the following instruction carefully

1. This question booklet is your Question Paper.
2. This question booklet contains 16 pages (including blank pages) and has 100 questions.
3. The Question Booklet code is printed on the right-hand top corner of this page.
4. This Question booklet contains blank sheets for your rough work, No additional sheets will be provided for rough work,
5. Clip board, log tables, slide rule, calculator, cellular phone and electronic gadgets in any form are NOT allowed.
6. Write your name and registration number in the space provided at the bottom.
7. All answers are to be marked only on the machine gradable Optical Response Sheet (ORS) provided along with this booklet, as per the instruction therein.
8. This Question Booklet along with the Optical Response Sheet (ORS) must be handed over to the invigilator before leaving the examination hall.

Marking Scheme

- (a) For each correct answer, you will be awarded 3 (three) marks.
- (b) For each wrong answer, you will be awarded -1 (Negative one) mark.
- (c) Multiple answers to a question will be treated as a wrong answer
- (d) For each un-attempted question, you will be awarded 0 (Zero) mark.

GPAT - 2010

PY - PHARMACEUTICAL SCIENCES

- The vitamin essential in tissue culture medium is**
(a) Pyridoxine (b) Thiamine (c) Nicotinic acid (d) Inositol
- Gingko biloba is used for its**
(a) Expectorant activity (b) Lipid lowering activity
(c) PAF antagonistic activity (d) Antidepressant activity
- The amount of barbaloin present in Aloe vera is**
(a) <1% (b) 3.5-4% (c) 1-1.5% (d) 2-2.5%
- Sildenafil is used for treatment of one of the following Disorders:**
(a) Systolic hypertension (b) Unstable angina
(c) Pulmonary hypertension (d) Hypertension due to eclampsia
- Cardiac glycosides have the following configuration in the aglycone part of the steroid nucleus**
(a) $5\alpha, 14\alpha-$ (b) $5\alpha, 14\beta-$ (c) $5\beta, 14\alpha$ (d) $5\beta, 14\beta-$
- Quassia wood is adulterated with**
(a) *Brucea antidysentrica* (b) *Cassia angustifoila*
(c) *Cinnamomum zeylanicum* (d) *Cephaelis ipecacuanaha*
- Eugenol is present in**
(a) Fennel (b) Tuli (c) Cardamom (d) Coriander
- Which one of the following drugs is prescribed for the treatment of Philadelphia chromosome positive patients with chronic myeloid Leukemia?**
(a) Pentostatin (b) Methotrexate (c) Imatinib (d) L-Asparaginase
- Which of the following monoclonal antibodies is prescribed for patients with nonHodgkin's Lymphoma**
(a) Infliximab (b) Abciximab (c) Gemtuzumab (d) Rituximab
- Identify the drug which is NOT used in the treatment of malaria caused by *Plasmodium falciparum*:**
(a) Artemisinin (b) Primaquine (c) Quinine (d) Mefloquine
- Which one of the following drugs does NOT act through G-Protein coupled receptors**
(a) Epinephrine (b) Insulin (c) Dopamine (d) TSH
- Which one of the following drugs is most effective in preventing transmission of HIV virus from the mother to the foetus**
(a) Lamivudine (b) Zidovudine (c) Indinavir (d) Ribavirin
- Improvement of memory in Alzheimer's disease is brought about by drugs which increase transmission in**
(a) Cholinergic receptors (b) Dopaminergic receptors
(c) GABAergic receptors (d) Adrenergic receptors
- Which of the following non-opioid analgesic is a prodrug**
(a) Piroxicam (b) Celecoxib (c) Nabumetone (d) Ketorolac

GPAT - 2013

These instructions should be followed by candidates while appearing in the Online Mode examination. This will familiarise candidates with the pattern / procedure of the examination.

The medium of Question Paper shall be in English only.

GPAT is an online computer-based test of 3 hours duration with 125 objective type questions.

1. Each question carries 04 (four) marks.
 2. For each correct response candidate will get 04 (four) marks.
 3. For each incorrect response 01 (one) mark will be deducted from the total score.
- The clock will be set at the server. The countdown timer in the top right corner of screen will display the remaining time available for you to complete the examination. When the timer reaches zero, the examination will end by itself. You will not be required to end or submit your examination.
 - The question palette displayed on the right side of screen will show the status of each question using one of the following symbols



Unattempted question



Attempted question



Flagged with unattempted question



Flagged with attempted question

- The flagged question simply indicates that you would like to look at the question again.
- If a question is answered than flagged will not be considered in the evaluation.

Navigating to a question

To answer a question do the following

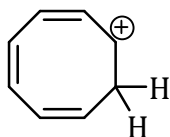
- Click on the question number in the question palette to go to that question directly
- Select an answer for a multiple choice type question. Click on Save and next to save your answer for the current question and then go to next question.
- Click on Flagged and Next to save your answer for the current question, mark it for review and then go to next question.
- Caution: Note that if the answer you will not save and you navigate to another question directly by clicking on its question number that will not be marked.

You can view all the questions by clicking on the question paper button. Note that the options for multiple choice type question will not be shown

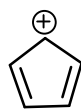
GPAT - 2013

PY - PHARMACEUTICAL SCIENCES

- Heckel's plot represents**
 - Extent of plastic and elastic deformation of material during compaction
 - Force-time of force-displacement relationship
 - Pressure-porosity (volume) relationship
 - Stress relaxation measurements
- Which of the following pharmacokinetics parameter is useful in representing the rate and extent of absorption of a drug**
 - C_{max}
 - Clearance
 - t_{max}
 - Area under the curve
- Browne's tube is used**
 - As a chemical indicator for sterilization.
 - To check density
 - To measure viscosity
 - To store brown solutions
- Platelets primarily synthesize**
 - TXA₂
 - PGI₂
 - LTB₄
 - Histamine
- If an organic compound does not absorb UV visible radiation it means compound does not contain**
 - Single bond
 - Sigma bond
 - Conjugated double bond
 - Dative bond
- The positively polarized carbon atom of a carbonyl group acts as**
 - An electrophile and a lewis base
 - A nucleophile and a lewis acid
 - A nucleophile and a lewis base
 - An electrophile and a lewis acid
- Which of the following statement is wrong**
 - Electron show properties not only of particles but also wave
 - Probability of finding of electron at a point within an atom is inversely Proportional to square of the orbital wave function
 - Degenerate orbital has equal energy
 - Electron in atom is described by an equation known as the Schrodinger wave Equation
- Among the carbocation given below:**



A



B



C

- A is homoaromatic, B is antiaromatic and C is aromatic
 - A is antiaromatic, B is homoaromatic and C is aromatic
 - A is aromatic, B is antiaromatic and C is homoaromatic
 - A is homoaromatic, B is homoaromatic and C is aromatic
- In TLC plates, which one spraying agent is used for alkaloid sample?**
 - 2,4-dinitrophenyl hydrazine
 - Potassium Mercuric nitrate
 - Antimony trichloride
 - Aniline phthalate

GPAT - 2020

These instructions should be followed by candidates while appearing in the Online Mode examination. This will familiarise candidates with the pattern / procedure of the examination.

The medium of Question Paper shall be in English only.

GPAT is an online computer-based test of 3 hours duration with 125 objective type questions.

1. Each question carries 04 (four) marks.
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Flagged with unattempted question



Flagged with attempted question

- The flagged question simply indicates that you would like to look at the question again.
- If a question is answered than flagged will not be considered in the evaluation.

Navigating to a question

To answer a question do the following

- Click on the question number in the question palette to go to that question directly
- Select an answer for a multiple choice type question. Click on Save and next to save your answer for the current question and then go to next question.
- Click on Flagged and Next to save your answer for the current question, mark it for review and then go to next question.
- Caution: Note that if the answer you will not save and you navigate to another question directly by clicking on its question number that will not be marked.

You can view all the questions by clicking on the question paper button. Note that the options for multiple choice type question will not be shown

GPAT - 2020

PY - PHARMACEUTICAL SCIENCES

OTHER SUBJECTS

- 1. Relative sweetness of sucrose, to saccharin**
(a) 1: 200 (b) 1: 500 (c) 1: 100 (d) 1: 400
- 2. Following statement is more accurate with respect to limitations of Arrhenius relationship for stability prediction**
(a) Order of degradation will alter at higher temperature
(b) Equal moisture concentrations will be mentioned at different temperatures
(c) Less relative humidity and oxygen solubility at higher temperature
(d) Same degradation mechanisms may predominate at different temperatures
- 3. Lakes of Dyes available commercially contain maximum upto of pure dye**
(a) 15% (b) 10% (c) 25% (d) 50%
- 4. Type II glass containers are**
(a) Suitable for alkaline solutions
(b) Most inert glasses and shows high hydrolytic resistance
(c) Suitable for most acidic and neutral aqueous preparations
(d) Suitable for non-aqueous preparations
- 5. Dimethyl sulfoxide acts as penetration enhancer for topical formulations by**
(a) Increasing solubility (b) Denaturing proteins
(c) Increasing transepidermal loss (d) Altering solvent nature of membrane
- 6. As per European Pharmacopoeia technical guide, substance stored at 25°C for 24 hours at 80% RH, called very hygroscopic when increase in weight is**
(a) 0.2% w/w and <15% w/w (b) > 0.2% w/w and < 20% w/w
(c) > 15% w/w (d) 0.2% w/w and < 2% w/w
- 7. SCHICK Test Toxin is a sterile Filtrate from a culture of**
(a) Rickettsia prowazeki (b) Mycobacterium Diphtheriae
(c) Coryne bacterium Diphtheriae (d) Actinobacillus mallei
- 8. Violin gut is obtained from intestine of**
(a) Horse (b) Cat (c) Sheep (d) Camel
- 9. An excipient Ludipress used for liquid Dosage form is a coprocessed excipient of**
(a) Dextrose monohydrate + Kollidon 30
(b) Lactose monohydrate + Kollidon 30
(c) Lactose monohydrate + Kollidon 30 + Kollidon CL
(d) Dextrose monohydrate + Kollidon 30 + Kollidon CL
- 10. Pyrogens present in containers can be destroyed by heating the containers at**
(a) 121°C for 15 mins (b) 121°C for 30 mins
(c) 210°C for 4 h (d) 210°C for 1 h