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## $1^{\text {st }}$ Semester Regular Examination 2015-16 <br> PHARMACEUTICS - I <br> BRANCH: B.Pharm <br> Time: 3 Hours <br> Max Marks: 100 <br> Q.CODE: T792

Answer Part-A which is compulsory and any four from Part-B. The figures in the right hand margin indicate marks.

Part - A (Answer all the questions)
Q1 Answer the following questions:
( $2 \times 10$ )
a) Ratio of oil: water: gum for primary emulsion of a fixed oil is $\qquad$ :
$\qquad$ : $\qquad$ .
b) 'The prescription may be issued by the Nurses' and 'Poultices have good heat retention property'identify the statementstrue or false?
c) Mixing of Olive oil with water is a $\qquad$ incompatibility.
d) $\qquad$ emulsion doesn't conduct electricity and $\qquad$ emulsion does.
e) $\qquad$ suspension is better than $\qquad$ suspension.
f) Hydrocarbon ointment bases are $\qquad$ in water.
g) The solvent used in extraction process is called $\qquad$ and the residue (damp crude drugs) are called $\qquad$ .
h) Convert 2tablespoonful. = ___ fluid drachm = $\qquad$ millilitre.
i) DEA means $\qquad$ -.
j) Simple syrup IP contains $\qquad$ \% of $\qquad$ .

Q2 Answer the following questions: Short answer type
a) What is Linctuses?
b) What is displacement value and where it is utilised?
c) Define prescription.
d) Write the formula for calculating the child dose from adult dose using body surface area.
e) Define pharmacopoeia.
f) Write notes on Tablet Triturate.
g) What do mean by Divided powder?
h) Define Inhalations.
i) Write notes on Ointments.
j) Define U.S.P.

## Part-B (Answer any four questions)

Q3 a) Give a brief historical background of Prof. M. L. Schroff towards his contribution to pharmacy education in India.
b) Describe briefly about the code of ethics for an Indian pharmacist as per P.C.I.

Q4 a) What are the parts of prescription and enumerate the role of pharmacist in handling the prescription in a dispensing unit of a typical hospital?
b) Write a short note on Indian Pharmacopoeia.

Q5 a) With a labelled diagram, discuss the construction and working procedure of continuous soxhlet apparatus.
b) Give the working formula for 24 suppositories of tannic acid each containing 300 mg of tannic acid and the weight of the suppository is 2 gm , (D.V of tannic acid $=1.6$ ).

Q6 a) What do you mean by incompatibility? How can you eradicate the incompatibility found in a typical prescription containing a mixture of two immiscible liquids?
b) What are the full terms and meaning of t.i.d, s.o.s., h.s., q.q.h and p.c.?

Q7 a) Classify dosage forms with suitable examples and discuss the method of dispensing of mixtures that containing in-diffusible solids.
b) In what proportions should a preparation containing $70 \%$ of sugar be mixed with one containing $30 \%$ of sugar to prepare a mixture of 375 ml with $50 \%$ strength?

Q8 a) What is aromatic water and describe its methods of preparation.
b) What is the percentage of alcohol in a mixture obtained by mixing 2 L of $25 \%$, 1 L of $50 \%$ and 3 L of $40 \%$ alcohol?

Q9 a) What is tablet triturates and describe methods of preparation of flexible Collodions.
b) Distinguish between Ointments and Creams.

Registration no: $\square$

Total Number of Pages:02
B.PHARM

PH.1.5

## $1^{\text {st }}$ Semester Back Examination 2015-16 PHARMACEUTICS - I (DISPENSING \& COMMUNITY PHARMACY)

Branch:B.Pharm
Time: 3 Hours
Max marks: 70
Q.Code: T813

Answer Question No. 1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.
Q1 Answer the following:
a) What is percolation? Mention the different types of percolators.
b) Translate the Latin terms: b.i.d, more-dicto, hora-somni, cochleare
c) What are flexible colloidions?
d) What are poultices?
e) Define proof spirit.
f) What are pessaries?
g) What is eutectic mixture?
h) Calculate the amount of dextrose required for 900 ml of $2.5 \% \mathrm{w} / \mathrm{v}$ solution.
i) One table spoonful = $\qquad$
j) Write the composition of compound tragacanth powder.

Q2 What is Pharmacopoeia? Discuss in details about Indian Pharmacopoeia.

Discuss the principle and procedure adopted in the dispensing of mixtures.

Classify incompatibility. Discuss physical and therapeutic incompatibility with examples.

Discuss the construction, working and application of soxhelation
Q5 apparatus with labeled diagram.

Q6 Define prescription. Write in details about parts of prescription and sources of errors in prescription.

Q7 Discuss in detail about maceration process of extraction.

Q8 Write short notes on:
a) Powders
b) Effervescent granules
c) Glycerines
d) Aromatic water

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# $1^{\text {st }}$ Semester Regular Examination 2015-16 INORGANIC PHARMACEUTICAL CHEMISTRY <br> Branch: B.Pharm <br> Time: 3 Hours <br> Max Marks: 100 <br> QUESTION CODE: T802 

## Answer Part-A which is compulsory and any four from the Part-B.

The figures in the right hand margin indicate marks.
Part-A(Answer all the questions)
Q. 1 Choose the correct answer:
( $2 \times 10$ )
a) Limit test for Sulphate required following chemicals:
a)Barium Chloride and Nitric acid; b)Barium Chloride and Citric acid.
c)Barium Chloride and Hydrochloric acid; d)Barium Chloride and Sulphuric acid.
b) Which reducing agents are used in to convert arsenic acid to arsenious acid?Ascorbic acid
a)Stannous Chloride ; b)Potassium Iodide; c)b \& c
c) Goitre is caused due to deficiency of
a)Iron; b)Iodine; c)Magnesium; d)Calcium
d) Which one increases the Calcium absorption?
a)Phosphate; b)Oxalate; c)Vitamin D; d)None of the above
e) Which one acts as physiological buffer?
a)Myoglobin; b)Blood ; c)Haemoglobin ; d)None of the above
f) What is dry ice?
a)Solid $\mathrm{CO}_{2} \quad$;b) $\mathrm{CO}_{2}$; c) Liquid $\mathrm{CO}_{2}$; d) All of the above.
g) Anti-Rust tablet is prepared by
a)Mixing $\mathrm{NaNO}_{3}$ with $\mathrm{Na}_{2} \mathrm{CO}_{3}$; b) Mixing $\mathrm{NaNO}_{2}$ with $\mathrm{MgCO}_{3}$;
c) Mixing $\mathrm{NaNO}_{2}$ with $\mathrm{Na}_{2} \mathrm{CO}_{3}$; d) Mixing $\mathrm{NaNO}_{3}$ with $\mathrm{MgCO}_{3}$
h) Which of the followings is used as a quenching vapour in G-M counter?
a)Chlorine; b) Bromine; c) Ethyl formate; d) All of the above;
i) Titanium Dioxide is used as
a)Flavouring agent ; b)Colouring agent; c)Sweating agent; d)Diluent
j) Which chemical is used in photographic industry as 'hypo'?
a)Sodium thiosulphate ; b)Sodium nitrite; c)Sodium hydroxide; d)Sodium

Carbonate

## Q. 2 Answer the following

(2x10)
a) Why dilute HCl is used in the limit test for sulphate?
b) What is half life of a radioactive material? Give its significance.
c) What is universal Antidote? Give the formula.
d) What is barium meal? Give its uses.
e) What is Rochelle's salt. Mention its use.
f) What is calamine? Give its uses.
g) Write any two effects of impurities in pharmaceutical substances.
h) Why potassium iodide is used in preparation of iodine solution?
i) Define astringent. Give two examples.
j) What is white vitriol? Give its uses.

## Part-B (Answer any four)

Q. 3 a) What are the different sources of impurities?
b) Define and classify antacids with examples. Mention the ideal characteristics of antacids. Write down the monograph of any two inorganic antacids.
Q. 4 a) Classify topical agents with suitable examples. Mention different actions of astringents.
b) Write down the mechanism action of antimicrobial agents. Write down the monograph of Hydrogen peroxide and Silver nitrate.
Q.5. a) Define the term Abrasive and Dentifrice. Classify the dental product with suitable examples. Write down the monograph of Sodium Fluoride and Strontium Chloride.
b) Describe the role of fluorides in dental care.
Q. 6 a) Define radiopharmaceuticals with suitable examples. Mention different units of measurement of radioactivity.
b) Give a detail note on the construction and working of G-M counter. Discuss various applications of radio pharmaceuticals.
Q.7. a) Write the principle of limit test for Iron.
b) With a neat labeled diagram describe detail about the limit test for Arsenic.
Q. 8 a) Define expectorants. Give the mechanism of action of expectorants. Write down the monograph of any one inorganic expectorant.
b) Define antidotes. Classify antidotes according to their mechanism of actions.

Explain, how cyanide poison affects the body and how it is treated?
Q. 9 Write notes on:-(Any three)
a) Antioxidants
b) Respiratory Stimulants
c) ORS
d) Haematinics
e) Emetics

Registration No: $\square$

Total Number of Pages:2
B.PHARM

PH.1.7

# $1^{\text {st }}$ Semester Back Examination 2015-16 PHARMACEUTICAL CHEMISTRY-I (INORGANIC CHEMISTRY) 

Branch: B.Pharm

Time: 3 Hours
Max Marks: 70

## QUESTION CODE: T825

## Answer Question No. 1 which is compulsory and any five from the rest. The figures in the right hand margin indicate marks.

Q1
a) Why dilute Nitric acid is added in the limit test for chloride?
b) What is Lugol's solution? Mention its use.
c) What are antioxidants? Give two examples.
d) What is the value of ' $Z$ ', generally the radioactive materials have?
e) Why $20 \%$ citric acid is added in limit test for iron?
f) Define filter aids. Give two examples.
g) Mention the storage and uses of Laughing gas.
h) Give the composition of ORS.
i) Define buffer capacity and pH .
j) What is blue vitriol? Mention its uses.
a) What precautions are to be taken during the handling of radio pharmaceuticals?
b) Explain the functioning of G.M. counter.

Q3 Discuss in detail the different sources of impurities found in pharmaceutical substances.

Q4
a) Give a note on role of iodine in human body.
b) Mention the sources, deficiency condition, and toxicity of iron. Write down the monograph of Ferrous sulphate.

Q5 a) Define expectorants. Give the mechanism of action of expectorants. Write down the monograph of any one inorganic expectorant.
b) Classify dental products with example. Describe the role of fluorides in dental care.

Q6 a) What are the ideal characteristics of an Antacid? Combination antacid preparations are preferred over preparations containing single antacid. Justify.
b) Write down the preparation, properties and uses of any two inorganic antacids.

Q7 Describe in detail the limit test for arsenic with a neat labeled diagram

Q8 Give the preparation, properties and uses of :-
a) Silver nitrate
b) Hydrogen Peroxide
c) Alum
d) Boric Acid

Registration No: $\square$

Total Number of Pages: 02
B.PHARM

15PH105

## $1^{\text {st }}$ Semester Regular Examination 2015-16 HUMAN ANATOMY \& PHYSIOLOGY-I

BRANCH: B.Pharm

Time: 3 Hours
Max Marks: 100
Q.CODE: T812

Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.
Part - A (Answer all the questions)
Q1 Answer the following questions:
( $2 \times 10$ )
a) Number of cells present in human body is $\qquad$ approximately.
b) $\qquad$ of body cells divide by meiosis.
c) Lysosome is known as $\qquad$ of the cell.
d) Formed elements of blood are produced by $\qquad$ .
e) Erythropoesis is formation of $\qquad$ .
f) Tendon connects bone with $\qquad$ .
g) Haemoglobin is a $\qquad$ .
h) Stroke volume is defined as $\qquad$ .
i) Arrhythmia is the $\qquad$ .
j) CHF stands for $\qquad$ .

Q2 Answer the following questions: Answer within 2-3 sentences
a) Abduction and Adduction.
b) Difference between exocytosis and apoptosis.
c) Myasthenia Gravis.
d) What are the major functions of epithelial tissue?
e) Difference between polycythemia and anaemia.
f) Motor end plate.
g) Intercalated discs.
h) Write the normal ECG with labeling.
i) What is arteriosclerosis?
j) Write briefly about cardiac cycle.

## Part - B (Answer any four questions)

Q3 a) What is blood? Write in detail about its composition and their functions.
b) Write a note on ABO system.

Q4 a) What is a joint? Classify them with suitable examples.
b) Describe in detail about synovial joint.

Q5 a) Draw a neat labeled diagram of heart and write in detail about the circulations of blood.
b) Write a short note on Lymphatic system.

Q6 a) Describe the mechanism of muscle contraction in with proper diagram and write the role of calcium and acetylcholine during muscle contraction.
b) Write in brief about neuromuscular junction.

Q7 a) Coagulation of blood in detail.
b) Write a note on different types of anaemia.

Q8 a) What is tissue? Classify them in detail and enumerate briefly about the epithelial tissue.
b) Discuss in brief about muscular tissue.

Q9 a) What is osseous system? Write its structure and function with a neat labeled diagram.
b) Notes on different types of cell division.

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B.PHARM

PH.1.3

## $1^{\text {st }}$ Semester Back Examination 2015-16 <br> HAP-I <br> BRANCH: B.Pharm <br> Time: 3 Hours <br> Max Marks: 70 <br> Q.CODE: T803

## Answer Question No. 1 which is compulsory and any five from the rest. The figures in the right hand margin indicate marks.

Q1 Answer the following questions:
a) Define Hypertension.
b) Give your views on Anaemia.
c) Characteristics of synovial joint.
d) Define blood clotting. Give examples of two artificial anticoagulants.
e) Differentiate between Artery and Vein.
f) What is a sarcomere?
g) Why lysosome is called as the suicidal sac of the cell?
h) Compare the statement of anatomy and physiology.
i) Write about the composition of lymph.
j) Define cardiac cycle.

Q2 a) Write in detail about the composition and functions of blood.
b) Add a note on blood grouping and its clinical significance.

Q3 Write short notes on:
a) Arteriosclerosis.
b) Lymph Nodes.

Q4 Describe the anatomy of human heart with a neat labeled diagram. Add a note on double circulation. Mention about any two properties of cardiac muscles.
Q5 Define tissue. Classify epithelial tissue with suitable examples. Add a note on hyaline cartilage.
Q6 What is NMJ? Mention in detail the steps involved in skeletal muscle contraction. Add a note on gout
Q7 a) Write notes on Nucleus.
b) Write in detail about E.C.G.

Q8 Write short notes on:
a) Heart sound
b) Extrinsic mechanism of blood clotting.

Registration No: $\square$

Total Number of Pages: 02
B.PHARM 15PH107

## $1^{\text {st }}$ Semester Regular Examination 2015-16 COMMUNICATIVE ENGLISH <br> BRANCH: B.Pharm <br> Time: 3 Hours <br> Max Marks: 100 <br> Q.CODE: T824

Answer Part-A which is compulsory and any four from Part-B. The figures in the right hand margin indicate marks.

## Part - A (Answer all the questions)

Q1 Answer the following questions:
a) When the speaker transforms the ideas into the words of a language, the process is known as $\qquad$ .
b) The use of language to communicate different intentions refers to
c) Speaking and writing are called $\qquad$ skills.
d) The accent used for BBC broadcast is called
e) The sound of the letter ' $c$ ' is represented by the IPA symbols $\qquad$ .
f) A group of consonants which appear together in a syllable without a vowel between them refers to $\qquad$ .
g) In compound adjectives, the stress is given on $\qquad$ .
h) The use of a $\qquad$ tone suggests greater involvement and friendliness on the speaker's part.
i) article is used for specific reference.
j) When the verb changes its form to match the subject in number and person, the matching is called $\qquad$ .

Q2 Answer the following questions:
a) Repo rate is expected to rise in next month. (Identify the communicative focus)
b) Wipe out, see off .(Make sentences using the phrasal verbs)
c) Feedback refers to the reverse flow of information from the sender to the receiver. (True or False)
d) Wallet, Fitting Room, School, Cafeteria (Write the British alternatives of the given words.)
e) Sanitary Towel, Mark Sheet, Dispensary, Net (Write the American alternatives of the given words.)
f) 'If you heat metal, it expands.' (Which conditional does the sentence belong to.)
g) 'Shut the door.' (Change the voice.)
h) Hospital, Pharmacy (Make Phonemic transcription of the given words.)
i) Information, Expensive (Make syllable division and mark the stressed syllable.)
j) 'The fall-rise tone proposes doubt, hesitation etc. on the part of the speaker.' (Correct/Incorrect)

## Part - B (Answer any four questions)

Q3 a) What is Intonation? Discuss with examples how intonation is related to speaker meaning.
b) What is a 'Code'? The system of coloured lights used to control traffic is described as a 'code'. In what sense is it a code and how does it compare with language?

Q4 a) Discuss the barriers in communication. Illustrate your answer with examples.
b) What is Unfulfilled condition? Narrate with examples.

Q5 a) How Communication Skill is described as Language Skill? Expand your idea.
b) Discuss the disadvantages of Face-to-Face Communication with examples.

Q6 a) There are Problem Sounds for Indian learners. In what sense these are
b) Write short notes on Diphthong with examples.

Q7 a) What is a Syllable? Write the formula and different structures of syllable division with examples.
b) What is concord? Describe its different rules with examples.

Q8 a) Define Time, Tense and Aspect. Discuss with examples.
b) Contrast between General Communication and Professional Communication with suitable examples.

Q9 a) What is Utterance Stress? How is Utterance Stress different from Sentence Stress? Discuss with examples.
b) Correct the following sentences:
i) I am looking forward to hear from you.
ii) They lightened the weight of the box by remove several things from it.
iii) Before you are signing anything important, pay attention to the fine print.
iv) Our last two days in New Delhi were spoiled with the weather.
v) If I am you, I wouldn't interfere.

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$1^{\text {st }}$ Semester Regular Examination 2015-16 REMEDIAL BIOLOGY

Branch: BPharm

Time: 3 Hours
Max Marks: 100
Q.Code: T841

Answer Part-A which is compulsory and any four from the Part-B.
The figures in the right hand margin indicate marks.
Part-A(Answer all the questions)
Q. 1 Choose the correct answer:
a) Phloem consists of:
a) Sieve tube
b) Epidermis
c) Cortex
d) All of the above.
b) Cambium produces:
a) Secondary xylem and
b) Secondary phloem
c) Parenchymatous cells
d) Sclerenchymatous cells
e) Both $a$ and b
c) The disease caused by ascaris is
a) Ascariasis
b) Ancyclostamatiasis
c) Both a and b
d) None of the above
d) Imago is a stage seen in
a) Housefly
b) Mosquito
c) Mites
d) Silkworm
e) Heartwood is the
a) Outermost layer
b) Innermost layer
c) Present at the root
d) Present at the stem

Fill in the blanks:
f) Xylem consists of ---------- ---------------- ------------ and $\qquad$
g) Leaves without petiole are termed as
h) The type of excretion found in Trypanosoma is $\qquad$
i) Vascular bundle are comprised of

j) --------------- and --------------- are the types of food and feeding found in Amoeba.

## Q. 2 Answer the following

a) What is Pseudopodia?
b) What is contractile vacuole and its functions?
c) What is Rafting?
d) Name the diseases caused by the different species of Trypanosoma.
e) Arrange the following terms in descending order of taxonomic categories:

Family, Order, Species, Genus, Class, Division.
f) Amoeba respires through the surface of the body. Comment.
g) Define Phyllotaxy.
h) Why Plasmodium is called as digenetic parasite?
i) What do you mean by Ecdysis?
j) Name the different stages found in mites.

## Part-B (Answer any four)

Q. 3 a) Explain the structure and life cycle of Housefly.
b) Define irritability in Amoeba.
Q. 4 a) Explain Tap root system.
b) Note on modification of stem
Q.5. a) Explain briefly about the life cycle of Fasciola.
b) Sporulation in Amoeba
Q. 6 a) What is venation? Give a brief description about the different types of venation.
b) Add a note on the properties of biological significance of Carbohydrates and Proteins.
Q.7. a) What is cell division? Explain Mitotic cell division with diagrams.
b) Write about Solanacea family.
Q. 8 a) Describe the structure and life cycle of Trypanosoma gambiense.
b) Note on Locomotion of Amoeba
Q. 9 Write notes on:-(Any three)
a) Schizogony of Malaria parasite
b) Modified underground stem
c) Tissue system of stem
d) Secondary growth in stellar and extra stellar region
e) Structure and functions of chloroplast

## Registration No.

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Total number of pages- 2
B.Pharm

PH.1.11

## $1^{\text {st }}$ Semester Back Examination 2015-16 <br> REMEDIAL BIOLOGY <br> B. PHARM <br> Time-3 hours <br> Max Marks: 70 <br> QUESTION CODE: T843

Answer question No. 1 which is compulsory and any five from the rest. The figures in the right hand margin indicate marks.
Q.1. Answer the following question.
[2x10]
a) Name the disease caused by TaeniaSolium and Trypanosome.
b) What are the function of Mitochondria and Lysosomes?
c) Outline the three modes of control of Malaria.
d) What is the functional difference between plasma membrane and cell wall?
e) What is the function of nuclear membrane?
f) Write the difference between xylem and phloem.
g) Why are lysosomes known as suicidal bags?
h) What is reticulate venation?
i) What is actinomorphic and zygomorphic?
j) Why is the plasma membrane called a selectively permeable membrane?
Q.2. Describe the life history of fasciola hepatica with necessary diagram.
Q.3.
a. Describe the distinguishing characters of the family Solanaceae
b. Add a note on the economic importance of Solanaceae.
Q.4. Describe the structure and life history of silk worm and write its economic importance.
Q.5.
a. Discus about the asexual life cycle of Plasmodium Vivax.
b. Describe about the reproduction in Amoeba.
Q.6. Distinguish the followings
a. T.S. of dicot and monocot leaf
b. T.S. of dicot and monocot stem.

## Q.7.

a. Describe the various type of meristematic tissues found in plants.
b. Give a concise account of various type of simple permanent tissue.
Q.8. Write any two short notes.
a. Mitosis
b. Golgi bodies
c. Different venation in leaf
d. Modified underground stem

Registration No: $\square$

Total Number of Pages: 02
B.PHARM

15PH111

## $1^{\text {st }}$ Semester Regular Examination 2015-16 REMEDIAL MATHEMATICS <br> BRANCH: BPharm <br> Time: 3 Hours <br> Max Marks: 100 <br> Q.CODE: T842

Answer Part-A which is compulsory and any four from Part-B. The figures in the right hand margin indicate marks. Part - A (Answer all the questions)
Q1 Answer the following questions:
a) If $\left|\begin{array}{lll}1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1\end{array}\right|=\left|\begin{array}{lll}0 & 0 & 1 \\ 0 & 1 & 0 \\ x & 0 & 0\end{array}\right|$ then $x=\ldots \quad(-1,0,1,2)$.
b) State TRUE or FALSE the given statements are?
i) The unit matrix is the transpose of itself.
ii) The adjoint of a unit matrix is itself.
c) i) The median of the series $18,9,15,34,25,13,21$ is $\qquad$ .
ii) Mean of the series $44,49,42,52,53$ is $\qquad$ .
d) Match t-ratios list $A$ with their value in list $B$.

|  | List-A | List-B |
| :--- | :--- | :--- |
| i) | $\sin \left(300^{\circ}\right)$ | $\sqrt{3}$ |
| ii) | $\cos \left(-30^{\circ}\right)$ | $-\sqrt{3}$ |
| iii) | $\tan \left(240^{\circ}\right)$ | $\frac{\sqrt{3}}{2}$ |
| iv) | $\cot \left(-210^{\circ}\right)$ | $\frac{-\sqrt{3}}{2}$ |

e) $\cos ^{2} 15^{\circ}-\cos ^{2} 75^{\circ}=$ $\qquad$ . $\left(\frac{1}{2}, \frac{\sqrt{3}}{2},-\frac{1}{\sqrt{2}}\right)$
f) Given $\mathrm{A}(3,2)$ and $\mathrm{B}(-1,-1)|A B|=$ $\qquad$ and slope line $A B$ is $\qquad$ .
g) The line $x-2 y+6=0$ is parallel to the line $\qquad$ and perpendicular to the line $\qquad$ . Choose the answer from ( $2 x-y+=0,2 y-x+6=0,2 y-x$ $-6=0 \& 2 x+y+6=0)$
h) $\lim _{x \rightarrow 0}(1+x)^{\frac{1}{x}}=$ $\qquad$ and $\lim _{x \rightarrow 0} \frac{a^{x}-1}{x}=$ $\qquad$ .
i) Find the differential coefficient of $3 \mathrm{x}^{2}$ with respect to $\sqrt{x}$.
j) $\int_{0}^{1}\left(e^{x}+1\right) d x=$ $\qquad$ . $(e+1, e-1, e, 1)$.
Q2 Answer the following questions:
a)

Find the value of the determinant $\left|\begin{array}{ccc}5 & 8 & 11 \\ 6 & 9 & 12 \\ 7 & 10 & 13\end{array}\right|$
b) Find 2 A - B where $\mathrm{A}=\left(\begin{array}{cc}-2 & 1 \\ 3 & 4\end{array}\right)$ and $\mathrm{B}=\left(\begin{array}{cc}1 & 2 \\ -1 & 1\end{array}\right)$
c) Write four important merits/drawbacks of the Mean.
d) Prove that $\sec ^{4} x-\sec ^{2} x=\tan ^{4} x+\tan ^{2} x$.
e) Find the value of $\cos \left(360^{\circ}\right)+\tan \left(225^{\circ}\right)$.
f) Find the area of the triangle whose vertices are ( 1,4 ), $(-1,0) \&(3,0)$.
g) Form the quadratic equation whose one root is $2+\mathrm{i}$.
h) Differentiate $x \log x$ with respect to ' $x$ '.
i) Find the $\lim _{x \rightarrow 0} \frac{\sin 3 x}{\sin 2 x}$.
j) Find the value of $\int_{0}^{1}\left(6 t^{2}-1\right) d t$.

Q3

> Part - B (Answer any four questions)
a) Prove that $\left|\begin{array}{ccc}1+a & 1 & 1 \\ 1 & 1+b & 1 \\ 1 & 1 & 1+c\end{array}\right|=a b c\left(1+\frac{1}{a}+\frac{1}{b}+\frac{1}{c}\right)$.
b) Solve the simultaneous equations $2 x+y=10$ and $3 x-y=5$ by using Cramer's rule.
Q4 a) Find the Mean, the Median and the Mode of the distribution given below.
C. I: 0-10 $10-20 \quad 20-30 \quad 30-40 \quad 40-50 \quad 50-6060-70$ $\begin{array}{llllllll}f: & 2 & 7 & 8 & 15 & 10 & 5 & 3\end{array}$
b)

Find the adjoint of the matrix, $A=\left(\begin{array}{ccc}1 & 1 & 1 \\ 1 & -3 & 2 \\ 1 & -1 & -1\end{array}\right)$
Q5 a) Find the value of $\sin 18^{\circ}$ and $\cos 18^{\circ} \sin 36^{\circ}$.
b) If $A+B+C=180^{\circ}$

Prove that, $\sin 2 A+\sin 2 B-\sin 2 C=4 \cos A \cos B \sin C$.
Q6 a) Prove that $\cos 10^{\circ} \cos 30^{\circ} \cos 50^{\circ} \cos 70^{\circ}=\frac{3}{16}$.
b) Find the locus of the moving point $\mathrm{p}(\mathrm{x}, \mathrm{y})$ which moves in such a way that it's distance from the point $(2,0)$ is equal to it's distance from the $y$-axis.
c) Prove that $\frac{\cot x}{\operatorname{cosec} x+1}+\frac{\operatorname{cosec} x+1}{\cot x}=2 \sec x$

Q7 a) Find the equation of the straight line passing through the point of intersection of $2 x-y-3=0 \& 3 x+y-7=0$ and perpendicular to the line $2 x-3 y-4=0$.
b) Show that the quadrilateral with vertices $(2,-2),(8,4),(5,7) \&$ $(-1,1)$ is it a rectangle? Also find it's area.
Q8 a) Find $\frac{d y}{d x}$ where $x=a(t+\sin t)$ and $y=a(1-\cos t)$.
b) Differentiate $\mathrm{y}=x^{x}+x^{\sin x}$ with respect to ' x '.

Q9 Integrate the followings:-
(i) $2 \cos x \sin 2 x$
(ii) $\sec ^{2} x$ and
(iii) $\frac{x^{4}}{1+x^{2}}$

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B.PHARM

PH.1.13

## $1^{\text {st }}$ Semester Back Examination 2015-16 <br> REMEDIAL MATHEMATICS <br> BRANCH: BPharm <br> Time: 3 Hours <br> Max Marks: 70 <br> Q.CODE: T844

Answer Question No. 1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions:
a) Find the value of the determinant $\left|\begin{array}{lll}5 & 0 & 5 \\ 1 & 2 & 1 \\ 1 & 2 & 3\end{array}\right|$
b) Find $2 \mathrm{~A}+\mathrm{I}$ where $\mathrm{A}=\left(\begin{array}{cc}-2 & 1 \\ 3 & 4\end{array}\right)$ and $\mathrm{I}=\left(\begin{array}{ll}1 & 0 \\ 0 & 1\end{array}\right)$
c) Find the Mean of the distribution given below:

| $\mathrm{X}: 5$ | 6 | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :---: |
| $\mathrm{~F}: 2$ | 5 | 10 | 6 | 5 | 1 |

d) If $\cos x+\sin x=\sqrt{2}$ prove that $\cos x-\sin x=0$.
e) Find the value of $\cos \left(360^{\circ}\right)+\tan \left(225^{\circ}\right)$.
f) Find the area of the triangle whose vertices are $(1,4),(-1,0) \&(3,0)$.
g) Find the roots of the quadratic equation $2 x^{2}+x-6=0$.
h) Differentiate $e^{x} \sin x$ with respect to ' $x$ '.
i) Find the $\lim _{x \rightarrow 2} \frac{x^{4}-16}{x-2}$.
j) Find the value of $\int_{0}^{1}(2 t+1) d t$.

Q2 a)
Factorize $\left|\begin{array}{ccc}y+z & x+z & x+y \\ x & y & z \\ x^{2} & y^{2} & z^{2}\end{array}\right|$.
b) Solve the simultaneous equations $2 x+y=10$ and $3 x-y=5$ by using Cramer's rule.

Q3 a) Find the Mode and the Median of the distribution given below.
$\begin{array}{lllllll}\text { C. Interval: } 0-10 & 10-20 & 20-30 & 30-40 & 40-50 & 50-60 \\ \text { Freq. }: 2 & 6 & 8 & 13 & 7 & 4\end{array}$
b) Find the cofactors of the elements of matrix, $A=\left(\begin{array}{ccc}1 & 1 & 1 \\ 1 & -3 & 2 \\ 1 & -1 & -1\end{array}\right)$

Q4 a) Find the value of $\sin 15^{\circ}$ and $\cos 15^{\circ}$.
b) If $A+B+C=180^{\circ}$
prove that, $\sin 2 A+\sin 2 B+\sin 2 C=4 \sin A \sin B \sin C$.
Q5 a) Prove that $(1+\cot A-\operatorname{cosec} A)(1+\tan A+\sec A)=2$
b) Find the locus of the moving point $p(x, y)$ which moves in such a way that it's distance from the point $(2,0)$ and $(4,2)$ is equal.

Q6 a) Find the equation of the straight line passing through the point of intersection of $2 x+y-3=0 \& 5 x+y-6=0$ and parallel to the line $2 x+3 y-18=0$.
b) Show that the quadrilateral with vertices $(2,-2),(8,4),(5,7) \&$ $(-1,1)$ is a rectangle .

Q7 a) Find $\frac{d y}{d x}$ where $x=a(t+\sin t)$ and $y=a(1-$ cost
b) Differentiate $\tan ^{-1}(\operatorname{cosec} x-\cot x)$ with respect to ' $x$ '.

Q8 Integrate any two of the followings:-
$\begin{array}{ll}\text { (i) } 3 \cos x \sin 3 x & \text { (ii) } x e^{x} \text { and } \\ \text { (iii) } \frac{1-\tan x}{1+\tan x}\end{array}$

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PH.1.9

## $1^{\text {st }}$ Semester Back Examination 2015-16 PHARMACOGNOSY - I <br> BRANCH: BPharm <br> Time: 3 Hours <br> Max Marks: 70 <br> Q.CODE: T833

Answer Question No. 1 which is compulsory and any five from the rest. The figures in the right hand margin indicate marks.

Q1 Answer the following questions:
a) What is Sophistication?
b) What is Vegetative Propagation?
c) What is Soil fertility?
d) Write two functions of Gibberellin.
e) Write the chemical constituents of Honey.
f) What is Hybridization?
g) Write the name of two Marine drug.
h) What is Stomatal index?
i) Write the biological source of Wool fat.
j) Write the difference between Organized and Unorganized drug.

Q2 Write the details classification of Crude drugs with suitable examples.
Q3 Define Adulteration. Write the different types of adulterants with examples.
Q4 What are the different factors influencing Cultivation of medicinal plants?
Describe the different methods of Pest control management in details.
Q5 Write a brief notes on Secondary metabolites of plant origin with their properties.

Q6 What are Phytohormones? Write the applications of Auxins and Cytokinin.

Q7 Describe the detail and systematic Pharmacognostic study of Isabgol.
Q8 Write short notes on any two:
a) Mutation
b) Bees wax
c) Organoleptic evaluation
d) Pectin

