Part II

# Solved Multiple Choice Questions

# UPSC & MD

## ENTRANCE EXAMINATION (HOMEOPATHY)

First Edition

Previous year's solved question papers from -AP, KPSC, CGHP, PSC W.B., RPSC, RGUHS, MD Entrance (Hom.) and UPSC.

With detailed explanation to all answers

With references for search of concepts

With guidelines for preparation of examination

Dr V.K. Chauhan

SOLVED MULTIPLE CHOICE QUESTIONS

# UPSC & MD
# ENTRANCE EXAMINATION (HOMEOPATHY)

*MCQ's From:* UPSC, MD Entrance (Hom.), AIIMS, AP, KPSC, CGHP, NHMC, PSC W.B., RPSC, RGUHS

## PART-II

FIRST EDITION

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**SOLVED MULTIPLE CHOICE QUESTIONS**
**UPSC & MD ENTRANCE EXAMINATION (HOMEOPATHY) PART-II**

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# PUBLISHER'S NOTE

The UPSC and MD Entrance Examination book (Part-I) has been a best seller for the past 5 years. We are now happy to bring Part-II to this sought after book which has been a strong pillar for those preparing for UPSC Examinations and other competitive exams for medical and research officer jobs. We are sure this part will be of as much help to the students.

The book consists of solved question papers of various examinations conducted during the previous years. It is a ready work for the aspirants of UPSC, MD and other competitive examinations, to help the crack their examination with minimum hassles. The explanation and details for the correct choice of the answer are mentioned along with the answer. The references of the explanation have also been given for further reference, which makes the book more valid than any such work available in the market.

We wish all new aspirants make the best use of this new effort.

**Kuldeep Jain**
C.E.O., B. Jain Publishers (P) Ltd.

# PREFACE

It gives me a great feeling of satisfaction that, first two editions of Solved MCQ's have served the purpose for which it was written. The book has been well received by aspirants who are appearing for MD (Homoeopathy) entrance and State / Union Public Service Commission Test of homoeopathy all over the country.

I would now like to present the second part of the book with solved questions from various examinations conducted during the previous years. The first edition of this second part of the book consists of solved question papers from various examinations conducted at the UPSC, state, and PG entrance level.

At the same time it will not be out of place to extend my sincere thanks to Dr. Meeta Gupta CMO, for helping me in reviewing the manuscript, House physicians and Interns of Dr. B. R. Sur Homoeopathic Medical College and Hospital who contributed in reviewing the literature.

I would like to thank Mr. Kuldeep Jain C.E.O., B. Jain Publishers for his consistent motivation and support for bringing out this book.

I would like to thank all the readers for their response to the previous editions and to bring forth the mistakes. I heartily invite suggestions, critical comments and corrections related to the book in near future.

I wish all the users to make the best possible use of this compilation and succeed in their endeavor.

**Dr V. K. Chauhan**

# GUIDELINES FOR PREPARATION

The Union Public Service Commission and various other government organizations conduct recruitment examinations for filling up the vacancies in homeopathic departments; similarly various Indian universities conduct entrance examinations for admission to various MD courses in homeopathy. It is best done with Multiple Choice Question Papers. The MCQs helps in discriminating accurately between candidates on the basis of their knowledge of the topics; being tested in shortest possible time. Most of the MCQs are based on practical and real life situations which a homeopathic medical practitioner is likely to encounter. Therefore, Multiple Choice Questions are structured to test the intellectual ability of the candidates in different dimentions that is, subject knowledge, logical reasoning, inductive and deductive inference, perceptual speed and quantitative aptitude. About 200 MCQs are to be answered in 2 hours time.

Following is the breakup of approximate number of MCQs in each subject:

| **Serial No** | | **Subjects** | **Number of MCQ's** |
|---|---|---|---|
| **Group** | **Major Subject** | | |
| A | 1 | Materia Medica | 30-35 |
| | 2 | Practice of Medicine | 25-30 |
| | 3 | Organon & Chronic Diseases | 20-25 |
| **Group** | **Minor Subjects** | | |
| B | 4 | Anatomy | 03-05 |
| | 5 | Physiology | 03-05 |
| | 6 | Pharmacy | 03-05 |
| | 7 | Pathology | 05-08 |
| | 8 | Forensic Medicine | 02-05 |
| | 9 | Community Medicine | 02-05 |
| | 10 | Surgery | 08-10 |
| | 11 | Gynecology & Obstetrics | 08-10 |
| | 12 | Case taking & Repertorisation | 10-15 |

Generally a candidate will encounter in most of the test paper following basic types of MCQs:

**Type A**
**The Simple MCQ**
Usually there are four choices given. In this type only one is the correct choice and rest three are distractors. It's example is as under:

**Q. The Modus operandi of homeopathic medicines is explained in Organon of Medicine, in Aphorism? (UPSC-2004)**

(a) § 26
(b) § 25
(c) § 29
(d) § 39

**Ans: (c)**

***Note***

The Modus operandi of homeopathic medicines is explained in Organon of Medicine, in Aphorism '29'.

**Type B**

**The Multiple Selection Type MCQ**

In this type of MCQ only one is correct answer and rest three are distractors. It's example as as under:
Consider the following symptoms regarding hemorrhagic diathesis: (UPSC-02)

(I) Hamamelis virginiana - Prostration out of proportion to the amount of blood loss.
(II) Secale cornutum - Continuous oozing of sanguinous liquid blood.
(III) Lachesis mutus - Haemorrhage from left side of the body, bright red and coaguable.
(IV) Cinchona officinalis - Aversion to sour things during haemorrhage.

**Which of these statements is / are correct?**

(a) (I) only.
(b) (I) and (II)
(c) (II), (III), and (IV).
(d) (III) and (IV).

**Ans: (a)**

***Note:***

The statement- (I) Hamamelis virginiana - Prostration out of proportion to the amount of blood loss is correct

**Type C**

**Matching type MCQ**

In this type of MCQ, the list I is to be matched with list II by selecting the answer using the given codes. It's example is as under:

Match list – I (Medicines) with list-II (symptoms in a case of prolapse uterus) and select the correct answer using the codes given below the lists: (UPSC-02)

| List I (Homeopathic Medicine) | List II (Symptoms in case of prolapsed uterus) |
|---|---|
| A. Stannum metallicum | 1. Worse during stool |
| B. Belladona | 2. Better standing and sitting erect |
| C. Sepia | 3. Better supporting vulva with hands |
| D. Lilium tigrinum | 4. Better by sitting close |

**Code:**

| Code | A | B | C | D | Code | A | B | C | D |
|---|---|---|---|---|---|---|---|---|---|
| (a) | 1 | 2 | 4 | 3 | (b) | 2 | 3 | 4 | 1 |
| (c) | 3 | 4 | 1 | 2 | (d) | 4 | 1 | 2 | 3 |

**Ans: (a)**

**Type D:**
**The Sequencing Type MCQ**
In this type of MCQ only one is the correct answer and rest of the three are disctractors. It's example is as under:

Which of the following is the correct order that matches with the sequential order of 'desire for sweets', 'aversion to sweets' and 'aggravation from sweets'? (UPSC-02)

(a) Argentum nitricum; Cinchona officinalis; Graphites
(b) Cinchona officinalis; Argentum nitricum; Graphites
(c) Graphites; Argentum nitricum; Cinchona officinalis
(d) Cinchona officinalis; Graphites; Argentum nitricum

**Ans: (d)**

***Note***
The correct order that matches with the sequential order of 'desire for sweets', 'aversion to sweets' and 'aggravation from sweets' is (d)

**Type E**
**The Assertion and Reason Type MCQ**
In this type of MCQ only one choice is correct and rest of the three are distractors. It's example is as under:
Assertion (A): Magnesium phosphoricum is preferred to Belladonna in spasmodic pains.
Reason (R): In Belladonna congestion is marked and pain appears and disappears suddenly.

**Answer Code:**
(a) Both A and R are true and R is the correction explanation of A.
(b) Both A and R are true but R is NOT a correct explanation of A.
(c) A is true but R is false.
(d) A is false but R is true.

**Ans: (b)**

# Contents

## Organon

**Q. 75. Fundamental cause of all the diseases are (RGUHS/Homeo/MD/Ent/2010):**

(a) Psora
(b) Syphilis
(c) Sycosis
(d) Bacteria

**Ans: (a)**

***Note:***
Fundamental cause of all the diseases is 'Psora'.

***Also see:***

**§ 80**
Incalculably greater and more important than the two chronic miasms just named, however, is the chronic miasm of psora, which, whilst those two reveal their specific internal dyscrasia, the one by the venereal chancre, the other by the cauliflower-like growths, does also, after the completion of the internal infection of the whole organism, announce by a peculiar cutaneous eruption, sometimes consisting only of a few vesicles accompanied by intolerable voluptuous tickling itching (and a peculiar odor), the monstrous internal chronic miasm—the psora, the only real fundamental cause and producer of all the other numerous, I may say innumerable, forms of disease, which, under the names of nervous debility, hysteria, hypochondriasis, mania, melancholia, imbecility, madness, epilepsy and convulsions of all sorts, softening of the bones (rachitis), scoliosis and kyphosis, caries, cancer, fungus haematodes, neoplasms, gout, haemorrhoids, jaundice, cyanosis, dropsy, amenorrhoea, haemorrhage from the stomach, nose, lungs, bladder and womb, of asthma and ulceration of the lungs, of impotence and barrenness, of megrim, deafness, cataract, amaurosis, urinary calculus, paralysis, defects of the senses and pains of thousands of kinds, etc., figure in systematic works on pathology as peculiar, independent diseases.
Ref: Organon of Medicine

## Materia Medica

**Q. 76. Idea about "Hydrogenoid, Carbagenoid and Oxygenoid" constitution was given by (RGUHS/Homeo/MD/Ent/2010):**

(a) Dr. Adolph Lippe
(b) Dr. Farrington
(c) Dr. Grauvogl
(d) None of these

**Ans: (c)**

***Note:***
Idea about "Hydrogenoid, Carbagenoid and Oxygenoid" constitution was given by 'Grauvogl'

***Also see:***
Grauvogl E Von presents the idea about "Hydrogenoid, Carbagenoid and Oxygenoid" constitution in his Text Book of Homoeopahty Part-II.
Ref: Radar 10 Software

## Organon

**Q. 77. A Homoeopath never selects medicine on the name of diseases EXCEPT (RGUHS/Homeo/MD/Ent/2010):**

(a) Indisposition
(b) Epidemic diseases
(c) One sided diseases
(d) Mental diseases

**Ans: (b)**

***Note:***
A Homoeopath never selects medicine on the name of diseases EXCEPT for epidemic diseases and which is called 'genus epidemicus'.

***Also see:***
In Colchicum we frequently find the genus epidemicus for the intermittents so often met with late in autumn, when epidemic dysentery prevails.
Ref: The Therapeutics of Intermittent Fever by H.C. Allen

**Extended information:**

**(a) Indisposition:**
§ 150
A slight alteration in the state of health manifested by one or more trivial symptoms which a slight alteration in the diet and regimen will usually suffice to dispel.

**(b) Epidemic diseases:**
§ 73
.... These are those diseases in which many persons are attacked with very similar sufferings from the same cause (*epidemically*); these diseases generally become infectious (*contagious*) when they prevail among thickly congregated masses of human beings. Thence arise fever, in each instance of peculiar nature, and because the cases of diseases have an identical origin, they set up in all those they effect an identically morbid process, which when left to itself terminates in a moderate period of time in death or recover. The calamities of war, inundations and famine are not infrequently their exciting causes in producers ....

**Discussion:**
Treatment of epidemic of intermittent fevers in situations where none are endemic:
1. They are, also of the nature of chronic diseases.
2. They are composed of single acute paroxysms.
3. After observation of a good many sufferers of this type of disease a 'genus epidemicus' may be discovered and that single remedy will cure all patients who were healthy before the appearance of the epidemic, indicating, thereby, that they were not psoric.
Ref: Organon By Sarkar, Pg-420

**(c) One sided diseases:**
Diseases having too few symptoms are known as one sided diseases, so termed because they display only one or two principal symptoms which obscure almost all others. They belong chiefly to class of chronic disease due to very few symptoms, they are less amenable to cure.
Ref: Spirit of Organon –Part –II, By Tapan Chandra Mondal, 2nd Ed, Pg-105

**(d) Mental diseases:**
Mental disease is one sided disease where the symptom is derangement of mind and disposition. The disease is psoric in origin and chronic in nature.
Ref: Spirit of Organon Part-II, By Tapan Chandra Mondal, 2nd Ed, Pg-129

## Materia Medica

**Q. 78. Homoeopathic Materia Medica written by Dr. C. Hering is an ideal book because (RGUHS/ Homeo/MD/Ent/2010):**

(a) All the symptoms are clinically verified
(b) Written after proving
(c) He was the follower of Dr. Hahnemann
(d) None of these

**Ans: (a)**

***Note:***
Homoeopathic Materia Medica written by Dr. C. Hering is an ideal book because 'All the symptoms are clinically verified'.

***Also see:***
The great trio-Hahnemann, Boenninghausen, and Hering made very singular contributions to the science and art of Homoeopathy.
Hahnemann gave us the basic principles and the beginnings of the Homoeopathic Materia Medica. Boenninghausen gave us the genesis of Homoeopathic Repertory and Hering gave us the 'matured' Materia Medica. The Homoeopathic Materia Medica came of age only when Hering published his work. Before that, the works on Materia Medica were collections of innumerable symptoms from provings and poisonings; not applied Materia Medica as Hering's Guiding Symptoms is.
For Hering, a symptom did not acquire the status of a guiding symptom unless, apart from its appearance in a prover or provers, it was verified at the bedside a number of times. Hering laid down the criteria for the value of symptoms on that very basis. In his "Guiding Symptoms", he set the evaluation of symptoms at four grades, just as Boenninghausen had done in his repertory. Hering admitted this idea was borrowed from Boenninghausen, but he was the first to apply it to the Materia Medica. This was a great practical advance as it introduced some guidance for the practical application of the enormous Homoeopathic Materia Medica to the ills of mankind. Before Hering, Hahnemann had introduced rough evaluations depending more upon the occurrence of a symptom in different provers.
Ref: http://www.wholehealthnow.com/homeopathy_info/hering_symptoms.html

## Organon

**Q. 79. "Tolle causam" means (RGUHS/Homeo/MD/Ent/2010),:**

(a) Palliation
(b) Removal of the cause
(c) Suppression
(d) None of these

**Ans: (b)**

***Note:***
Tolle causam refers to Removal of the cause.

***Also see:***
Aetiology is of as much importance to the Homoeopathic prescriber as to the non-homoeopathic. Where a cause is definite and operative, tolle causam is the motto of both of them. If a patient's sufferings are due to a vesical calculus or to an intestinal volvulus, though a drug homoeopathic or other, may relieve suffering or improve resisting power, may relieve suffering or improve resisting power, the actual mechanical cause must obviously be removed by appropriate means and with becoming speed.
Ref: Introduciton, A Manual of homoeopathic Therapeutics By Edwin A. Neatby

## Pharmacy

**Q. 80. Pathagnomonic symptoms are those symptoms of the disease on (RGUHS/Homeo/MD/Ent/2010):**

(a) Which diagnosis can be made
(b) Which prescription can be made
(c) Which proper dose can be made
(d) All of the above

**Ans: (a)**

***Note:***
Pathagnomonic symptoms are those symptoms of the disease on which 'diagnosis can be made'.
Specially or decisively characteristic of a disease; indicating with certainty a disease; as a *pathognomonic* symptom.
Ref: http://freefactfinder.com/definition/Pathagnomonic.html

***Also see:***

Pathognomonic symptoms:
A homoeopathic prescription cannot be made on pathology or morbid anatomy. Pathology gives only the results of the disease and not the true symptomatology. Hence pathological symptoms are not given much importance in homoeopathy for selection of remedy.
Ref: http://www.oocities.org/sunil_vb/anlcase.html

## Repertory

**Q. 81. The editor of 'Synthesis' is (RGUHS/Homeo/MD/Ent/2010):**

(a) George Vithoulkous
(b) Frederik Schroyens
(c) Robert Young
(d) John Slater

**Ans: (b)**

***Note:***
The editor of 'Synthesis' is 'Frederik Schroyens'.
Ref: Essential of Repertorization by Dr. Shashi Kant Tiwari, Pg-421

## Repertory

**Q. 82. Puritian group repertory is (RGUHS/Homeo/MD/Ent/2010):**

(a) Repertory which maintains the purity of symptoms as described and recorded in the words of the provers or clinicians
(b) Repertory which does not care so much for the actual words but gives the sole values to essence the real meaning of the symptom
(c) Repertory which is described with the complete symptom like location, sensation, modalities and concomitant
(d) All of the above

**Ans: (a)**

***Note:***
Puritian group repertory is:
'They help us to refer to symptoms without much variation in the language of provers' they belong to puritan group
Ref: Essential of Repertorization by Dr. Shashi Kant Tiwari, 2nd Ed, Pg-25

***Also see:***

**(a) Repertory which maintains the purity of symptoms as described and recorded in the words of the provers or clinicians:**

Discussion:

Puritan type:

In puritan repertories, the symptoms are represented in the exact words of the provers and patients (in case of clinical symptoms). In other words, purity of the symptoms is maintained without much variations and alternation in their language. Such repertories came as a great help in referring to the exact symptoms as obtained during drug proving or clinical proving.

Examples:

i. Repertory of Hering's guiding symptoms of our Materia Medica by C.B. Knerr.
ii. The Concordance repertory of more Characteristics symptoms of Materia Medica by W.D. Gentry.
iii. 'Repertory of Sensation as if' by Woodward.

**(b) Repertory which does not care so much for the actual words but gives the sole values to essence the real meaning of the symptom:**

Discussion:

It is the Logico Utilatarian Type:

In this type much importance is not given to the actual words of symptoms as given by provers or to the purity of symptoms but the symptoms are converted or represented by phrases or words & rubrics without changing the inner meaning of the symptom. As the name itself denotes symptoms are converted based on the logical utility of the symptoms and repertories. Most of the commonly used repertories belong to this type.

Examples:

i. Repertory of Homoeopathic Materia Medica by J.T. Kent.
ii. Boenninghausen's Therapeutic Pocket Book

**(c) Repertory which is described with the complete symptom like location, sensation, modalities and concomitant:**

A symptom is complete when it is taken together with following factors (Boenninghausen was the one who defined the complete symptom):

i. Location:
   Physical sphere; side, part, tissue.
   Mental; function in which the symptom appear.
ii. Sensation:
   Physical sphere; nature of feeling; burning, numbness, weakness.
   Mental sphere; difficult concentration, delusion.
iii. Modality:
   Circumstances, which aggravate or ameliorate the intensity of the symptoms e.g., Heat, Cold, Time, Position.
iv. Concomitant:
   An accompanying symptom, which has no apparent relation to the main symptom.

Based on concept of particulars to generals: On philosophic concept of totality, based on the doctrine of analogy and concomitants.

Example:

i. Therapeutic Pocket Book by Boenninghausen.

Based on complete symptom, concomitant and pathological general:

Examples:

i. Boenninghausen's Characteristics and Repertory, and
ii. Synoptic Key of Materia Medica, both by Boger.

Ref: Essentials of Repertorization By Dr. Shashi Kant Tiwari, 4th Ed, Pg-28

## Repertory

**Q. 83. First alphabetical pocket repertory was written by (RGUHS/Homeo/MD/Ent/2010):**

(a) Boenninghausen
(b) Weber Peschier
(c) Rouff
(d) Glazor

**Ans: (d)**

***Note:***
Glazor; First Alphabetical Pocket Repertory, Leipzig, in 1833.
Ref: Essential of Repertorization by Dr. Shashi Kant Tiwari, 2nd Ed, Pg-18

## Pharmacy

**Q. 84. Time required for maceration is (RGUHS/Homeo/MD/Ent/2010):**

(a) 24 hours
(b) 72 hours
(c) 2-4 weeks
(d) 6-7 weeks

**Ans: (c)**

***Note:***
Time required for maceration is '2-4 weeks'.

***Also see:***
Maceration can be explained as under:
It is a long process of preparation of mother tincture from vegetable and animal substances under N.T.P. according to new method.
Procedure:

(a) *Pre-process:* Moisture content of the drug substances (i.e. excess or deficiency of water) is calculated with the help of water-bath.
(b) *Process proper:*
  (i) The drug substances are made into a pulp (magma), (or in its natural state if not reducible)
  (ii) The pulp (magma) is placed in a macerating jar, preferably made of glass or stainless steel.
  (iii) Prescribed quantity of alcohol (precalculated) is added to cover the whole mass of drug-substances.
  (iv) The macerating jar is now carefully corked or sealed in order to prevent the evaporation of the menstrum (alcohol).
  (v) The jar is kept in a cool dark place, free from dust, odour, heat or direct sunlight. The temperature be better within the range of 15°C to 20°C. The jar is kept for 2-4 weeks.

Ref: Text Book of Homoeopathic Pharmacy By Mandal and Mandal, Pg-173 & 174

## Repertory

**Q. 85. Analytical Repertory by Hering was published in the year of (RGUHS/Homeo/MD/Ent/2010):**

(a) 1870
(b) 1879
(c) 1881
(d) 1890

**Ans: (c)**

***Note:***
Analytical Repertory by Hering was published in the year of '1881'
Ref: Essential of Repertorization by Dr. Shashi Kant Tiwari, 2nd Ed, Pg-18

## Anatomy

**Q. 86. Nerve NOT related to humerus is (RGUHS/Homeo/MD/Ent/2010):**

(a) Radial
(b) Ulnar
(c) Median
(d) Musculocutaneous

**Ans: (d)**

***Note:***
Nerve NOT related to humerus is 'Musculocutaneous'.

***Also see:***
There are three nerves directly related to humerus and are, therefore, liable to injury, the axillary at the surgical neck, the radial at the radial groove, and the ulnar behind the medial epicondyle.
Ref: B.D. Chaurasia-Vol-I, 2nd Ed, Pg-11

## Anatomy

**Q. 87. Sinuses are NOT seen in (RGUHS/Homeo/MD/Ent/2010):**

(a) Kidney
(b) Spleen
(c) Endocrine gland
(d) Liver

**Ans: (c)**

***Note:***
Sinuses are NOT seen in 'endocrine glands'.

***Also see:***

**(a) Kidney:**
The renal sinus is a space that extends into the kidneys from the hilus. It contains (a) Branches of the renal artery, (b) Tributaries of the renal vein, and (c) the renal pelvis.
Ref: B.D. Chaurasia-Vol-II, 4th Ed, Pg-298

**(b) Spleen:**
Venous sinuses; these are elongated ovoid vessels about 50 um in diameter, lined by a characteristic 'incomplete' endothelium unique to the spleen.
Ref: Grays Anatomy, 38th Ed, Pg-1439
According to 'closed' theory of splenic circulation, the capillaries are continuous with venous sinusoids that lie in the red pulp; the sinusoids join together to form veins.
Ref: B.D. Chaurasia-Vol-II, 4th Ed, Pg-282

**(c) Endocrine gland:**
No reference found.

**(d) Liver:**
Blood supply; liver receives 20% of its blood supply through the hepatic artery, and 80% through the portal vein. Before entering the liver both the hepatic artery and the portal vein divide into right and left branches. Within the liver, they redivide to form segmental vessels which further divide to form interlobular vessels which run into the portal canals. Further ramification of the interlobular branches open into the hepathic sinusoids. Thus the hepatic arterial blood mixes with the portal venous blood in the sinusoids.
Ref: B.D. Chaurasia-Vol-II, 4th Ed, Pg-291
The hepatocytes are arranged in anastomosing plates (hepatic laminae or cords) lined by endothelium and separated from each other by vascular spaces (hepatic sinusoids).
Ref: Grays Anatomy, 38th Ed, Pg-1802

## Anatomy

**Q. 88. Nerve supply of the cremaster muscle (RGUHS/Homeo/MD/Ent/2010):**

(a) Genital branch of genitofemoral nerve
(b) Femoral nerve
(c) Branch from sacral plexus
(d) Sub costal nerve

**Ans: (a)**

***Note:***
Nerve supply of the cremaster muscle 'Genital branch of genitofemoral nerve'.

***Also see:***
The cremaster develops to its full extent only in males; in females it is represented by only a few muscle loops and is found on the round ligament.

**Extended Information:**
Cremaster muscle is a thin layer of found in the inguinal canal and scrotum between the external and internal layers of spermatic fascia, surrounding the testis and spermatic cord.

**Origin:**
-Inguinal ligament

**Insertion:**
-Forms thin network of muscle fascicles around the spermatic cord and testis (or around the distal portion of the round ligament of the uterus)

**Nerve supply:**
-Genital branch of the genitofemoral nerve

**Action:**
-Elevates testis (not well developed in females)
-In a cool environment, the cremaster draws the testis closer to the body and reduces surface area, thereby reducing heat loss, while when it is warmer, the cremaster relaxes, allowing the testis to cool by increasing exposed surface area.
-Contraction can also occur during moments of extreme fear, possibly to help avoid injuring the testes while dealing with a fight or flight situation.

Ref: http://en.wikipedia.org/wiki/Cremaster_muscle

## Anatomy

**Q. 89. Appendicular artery is a branch of (RGUHS/Homeo/MD/Ent/2010):**

(a) Anterior cecal artery
(b) Right colic artery
(c) Middle colic artery
(d) Ileocolic artery

**Ans: (d)**

***Note:***
Appendicular artery is a branch of 'Ileocolic artery'.

***Also see:***
The appendicular artery is a branch of the lower division of the ileocolic artery.
Ref: B.D. Chaurasia-Vol-II, 4th Ed, Pg-258

## Anatomy

**Q. 90. Which foramen is also called as Foramen of Winslow ? (RGUHS/Homeo/MD/Ent/2010):**

(a) Lesser sciatic foramen
(b) Sacral foramen
(c) Epiploic foramen
(d) Obturator foramen

**Ans: (c)**

***Note:***
'Epiploic foramen' is also called as Foramen of Winslow.

***Also see:***
The epiploic foramen (Foramen of Winslow, aditus to the lesser sac) is a short, vertical slit of about 3 cm, leading from upper part of the right border of the lesser sac into the greater sac.
Ref: Grays Anatomy, Pg-738

## Anatomy

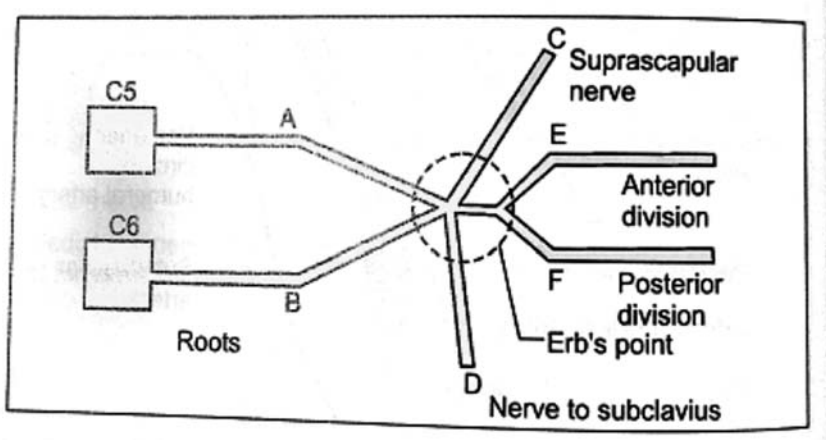
**Q. 91. The region in the Brachial Plexus where the six nerves meet, this point is called as (RGUHS/Homeo/MD/Ent/2010):**

(a) Thoracodorsal nerve
(b) Dorsal nerve
(c) Suprascapular nerve
(d) Spinal part of accessory nerve

**Ans: (x)** Use your discretion

***Note:***
The region in the brachial plexus where six nerves meet is 'Erbs Point'.

***Also see:***
Erb's Point is situated in the region of upper trunk of the brachial plexus where six nerves meet.



Erb's point.

**Applied anatomy:**

**Erb's Paralysis:**
-Injury to Erb's point results in 'Erb's Paralysis'

**Cause of Injury:**
-Undue separation of the head from shoulder, which usually encountered in (a) Birth injury, (b) Fall on the shoulder and (c) During anaesthesia.

**Nerve root involved:**
-Mainly C5 and Partly C6

**Muscles paralysed:**
-Mainly; Biceps, Deltoid, Brachialis and Brachioradilais
-Partly; Supraspinatus, infraspinatus and supinator

**Deformity:**
-Arm hangs by the side, it is adducted and medially rotated. Forearm extended and pronated.

**Deformity:**
-The Deformity is known as 'policeman's tip hand' or 'porter's tip hand'.
Ref: B.D. Chaurasia-Vol-I, 2nd Ed, Pg-35

## Physiology/Pathology

**Q. 92. Blood platelets in stored blood do not remain functional after (RGUHS/Homeo/MD/Ent/2010):**
(a) 24 hrs
(b) 48 hrs
(c) 72 hrs
(d) 96 hrs

**Ans: (a)**

***Note:***
Blood platelets in stored blood do not remain functional after '24' hours.

***Also see:***
Stored blood is not a suitable medium for transfusing WBC's and platelets to a recipient, because blood stored for longer than 24 hours contains virtually no viable WBC's and Platelets.
Ref: Textbook of Physiology–Vol-I, By Prof. A.K. Jain, 3rd Ed, Pg-117

## Physiology

**Q. 93. Factor deficiency in Christmas disease is (RGUHS/Homeo/MD/Ent/2010):**
(a) II
(b) VII
(c) VIII
(d) IX

**Ans: (d)**

***Note:***
Factor deficiency in Christmas disease is 'IX'.
Ref: Textbook of Physiology Vol-I, 3rd Ed, Pg-100

## Medicine

**Q. 94. Paradoxical breathing is characteristic of (RGUHS/Homeo/MD/Ent/2010):**
(a) Pneumonia
(b) Pneumothorax
(c) Atelectasis
(d) Diaphragmatic paralysis

**Ans: (d)**

***Note:***
Paradoxical breathing is characteristic of 'Diaphragmatic paralysis'.

***Also see:***

**(a) Pneumonia:**
Acute localised or patchy inflammation of lung parenchyma, usually caused by pneumococci, and characterised by sudden onset of high fever, with chill, chest pain, dry painful cough, rusty sputum and leucocytosis.
Ref: Homeopathic Principles & Practice of Medicine – Dr. V.K. Chauhan

**(b) Pneumothorax:**
Pneumothorax refers to a collection of air in the pleural space resulting in collapse of the lung on the affected side. The extent of the collapse of the lung is dependent upon the amount of air that is present.
Pneumothoraces can be classified according to aetiology:
Primary spontaneous pneumothorax occurs with no previous lung disease but there are tiny blebs that are foci of weakness. It usually affects a young adult.
Secondary spontaneous pneumothorax occurs in slightly older subjects with underlying lung disease. It usually follows rupture of a congenital bulla or a cyst in chronic obstructive pulmonary disease (COPD).
Traumatic pneumothorax follows a penetrating chest trauma such as a stab wound, gunshot injury or a fractured rib.
Ref: http://www.patient.co.uk/doctor/pneumothorax

**(c) Atelectasis:**
A collapsed state of the lung may involve all or part of the lung.
Causes:
-Obstruction of the major airways and bronchioles
-Pressure on the lung from fluid or air in the pleural space
-Tumor within or pressing from outside bronchiole.
In fetal atelectasis the lungs fail to expand normally at birth. This condition may be due to a variety of causes, including:
-Prematurity
-Diminished nervous stimulus to breathing and crying
-Fetal hypoxia from any cause, including oversedation of the mother during labor
-Obstruction of the bronchus by a mucous plug.
In older individuals, atelectasis may be the result of airway obstruction:
-Secretions or a tumor
-Failure to deep breathe post-operatively or because of neuromuscular disease.
Ref: http://www.healthcentral.com/encyclopedia/408/440.html

**(d) Diaphragmatic paralysis**
Anatomical and physiological consideration:
The diaphragm, the most important muscle of ventilation, develops negative intrathoracic pressure to initiate ventilation. Innervated by cervical motor neurons C3-C5 via the phrenic nerves, these 2 nerves provide both sensory and motor function to the diaphragm
Although the diaphragm performs most of the work, normal ventilation also requires the simultaneous contraction of respiration accessory muscles (ie, scalene, parasternal portion of the internal and external intercostal muscles, sternocleidomastoid, trapezius). In bilateral diaphragmatic paralysis, accessory muscles assume some or all of the work of breathing by contracting more intensely.
Paradoxical breathing:
Physical examination findings depend on whether the paralysis is unilateral or bilateral. Generally, a breathing pattern of paradoxical abdominal wall retraction during inspiration occurs. The physician can evaluate the patient further by palpating under the costal margin and feeling for the descending hemidiaphragms during inspiration.

Unilateral diaphragmatic paralysis:
Patients reveal dullness to percussion and absent breath sounds over the lower chest on the involved side. Excursion on the involved hemithorax is decreased when compared with the healthy side.
Bilateral diaphragmatic paralysis:
Patients report morning headaches, confusion, and signs of cor pulmonale. Chest examination reveals limitation of diaphragmatic excursions and bilateral lower chest dullness with absent breath sounds. Patients are tachypneic and use accessory respiration muscles. The diagnostic finding is a paradoxical inward movement of the abdomen with inspiration.
Ref: http://emedicine.medscape.com/article/298200-clinical#a0217

## Medicine

**Q. 95. Vomiting centre is situated in (RGUHS/Homeo/MD/Ent/2010):**

(a) Hypothalamus
(b) Amygdala
(c) Pons
(d) Medulla

**Ans: (d)**

***Note:***
The area postrema is a medullary structure in the brain that controls vomiting. Its privileged location in the brain also allows the area postrema to play a vital role in the control of autonomic functions by the central nervous system.
The area postrema is a small protuberance found at the infero-posterior limit of the fourth ventricle. Specialized ependymal cells are found within the area postrema. These specialized ependymal cells differ slightly from the majority of ependymal cells (ependymocytes), forming a unicellular epithelium lining of the ventricles and central canal. The area postrema is separated from the vagal triangle by the funiculus separans, a thin semitransparent ridge. The vagal triangle overlies the dorsal vagal nucleus and is situated on the caudal end of the rhomboid fossa or 'floor' of the fourth ventricle.
Ref: http://en.wikipedia.org/wiki/Area_postrema

## Pathology

**Q. 96. What is the normal GFR (Glomerular Filtration Rate)? (RGUHS/Homeo/MD/Ent/2010):**

(a) 6.20 ml/min
(b) 125 ml/min
(c) 160 ml/min
(d) 9.75 ml/min

**Ans: (b)**

***Note:***
The normal GFR is '125ml/min'.

***Also see:***
According to the National Kidney Foundation, normal results range from 90-120 mL/min/1.73 $m^2$. Older people will have lower normal GFR levels, because GFR decreases with age.
Ref: http://www.nlm.nih.gov/medlineplus/ency/article/007305.htm

## Pathology

**Q. 97. The overall condition of elevated concentration of Ketone bodies in tissues and blood is called (RGUHS/Homeo/MD/Ent/2010):**

(a) Ketolysis
(b) Ketogenesis
(c) Ketosis
(d) Ketonemia

**Ans: (c)**

***Note:***
The overall condition of elevated concentration of Ketone bodies in tissues and blood is called 'Ketosis'.

***Also see:***

**(a) Ketolysis:**
Ketolysis is the splitting up of ketone bodies.
Or
Ketolysis is the process in which circulating ketone bodies in tissue is broken down to form acetyl-coA. This product is then used for further oxidative phosphorylation by entering the citric acid cycle (Krebs cycle) to yield reducing equivalents (NADH) which releases stored energy.
Opposing ketolysis is ketogenesis, which is the synthesis of ketone bodies. Some tissues (like vertebrae brain and shark muscle) cannot metabolize fatty acids (i.e. acetyl coA) so they convert the acetyl coA into ketone bodies to circulate.

**(b) Ketogenesis:**
Ketogenesis is the release of ketones into the body when fat is broken down for energy. When carbohydrate stores are exhausted, cells turn to fat cells for fuel. These fat cells break down and release energy, and ketones are the by-product of that breakdown. Acetoacetate and acetone are usually also released.
Ref: http://www.wisegeek.com/what-is-ketogenesis.htm

**(c) Ketosis:**
Ketosis is a state of elevated levels of ketone bodies in the body. It is almost always generalized throughout the body, with hyperketonemia, that is, an elevated level of ketone bodies in the blood. Ketone bodies are formed by ketogenesis when liver glycogen stores are depleted. The ketone bodies acetoacetate and β-hydroxybutyrate are used for energy.
Ref: http://en.wikipedia.org/wiki/Ketosis

**(d) Ketonemia:**
An abnormal increase of ketone bodies in the blood as in diabetes mellitus.
Ref: http://www.thefreedictionary.com/ketonemia

## Surgery

**Q. 98. Gloves, syringes, needles, etc., used for patients whose HIV test result is NOT known, should be immersed in (RGUHS/Homeo/MD/Ent/2010):**
(a) Povidone-iodine 1%
(b) Boiling water
(c) 1% solution of sodium hypochlorite
(d) 14% solution of dettol

**Ans: (c)**

***Note:***
Hospital Infection Control:
Protection against blood borne infections (HBV and HIV):
- Specific measures in laboratories:
  i. Mechanical pipetting aids should be used.
  ii. Spills and breakage should be immediately decontaminated
  iii. Gloves should be worn during handling of blood, blood products and body fluids.
  iv. All open wounds on hands and arms should be covered with watertight dressing.
  v. Hands should be washed with soap and water immediately after exposure to specimens.
  vi. Working surface should be made of non-penetrating material that is easy to clean. Use sodium hypochloride 1% to decontaminate surface.
  vii. Specimens should be decontaminated with 1% sodium hypochloride before disposal.

- Specific measures in hospital wards:

  Infections:
  i. Used needles and syringes should be discarded in disinfectant (1% hypochlorie, bleeching powder 14 g/IL).
  ii. Disposable and reusable needles and syringes should be collected in separate puncture proof containers.
  iii Disposable syringes and needles should be disinfected and shredded / multilatted.
  iv. Reusable syringes should be disinfected, cleaned and autoclaved.

  Ref: http://mohfw.nic.in/WriteReadData/l892s/14%20Ch.%20XIV%20Infectioon%20Control.pdf

***Also see:***

Gloves, syringes, needles, etc., belong to two different categories of Bio-medical waste and has needs to be disposed as under:

Bio-medical waste management in India:

Bio-medical waste (Management and Handling) Rule 1998, prescribed by the ministry of Environment and Forests, Government of India, came into force on 28th July 1998. This rule applies to those who generate, collect, receive, store, dispose, treat or handle bio-medical waste, in any manner.

Following table shows the categories of Biomedical waste, type of waste and treatment and disposal options under Rule 1998.

| **Waste Category** | **Option** | **Treatment and Disposal** |
|---|---|---|
| -Syringes, needles, scalpels, blades, glass may cause puncture and cuts - Sharp waste | Category No 4. sharp waste | Disinfection (chemical treatment; there will be no chemical pretreatment treatment before incineration/autoclaving/microwaving and multilation shredding). |
| Gloves, waste generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets, etc. | Category No 7. Solid waste | Disinfection by chemical treatment; using at least 1% hypo-chlorine solution or any other equipment chemical reagent. It must be ensured that chemical treatment ensures disinfection/autoclaving/microwaving and multilation/shredding must be such so as to prevent unauthorized reuse. |
| Table 4. Schedule I- Categories of Bio-medical waste in India | | |

Ref: Park & Park, 21st Ed, Pg-734

## Pathology

**Q. 99. The pathology of Parkinsonism lies in (RGUHS/Homeo/MD/Ent/2010):**

(a) Red nucleus
(b) Nigro-striatal tract
(c) Hypothalamus
(d) Hippocampus

**Ans: (b)**

***Note:***

The pathology of Parkinsonism lies in **'**Nigro-striatal tract'.

***Also see:***

**(a) Red nucleus:**

Red nucleus is collection of gray matter in the tegmentum of the midbrain on each side of the middle line that receives fibers from the cerebellum of the opposite side by way of the superior cerebellar peduncle and gives rise to fibers of the rubrospinal tract of the opposite side.

Ref: http://www.merriam-webster.com/medical/red%20nucleus

Functions: The red nucleus pertains to the shoulder and upper arm, in controlling movement. For instance, the red nucleus is what is active when we swing our arms when we walk or run.
Ref: http://brainareas.pbworks.com/w/page/10983378/Red%20Nucleus

**(b) Nigro-Striatal tract:**

Dopaminergic pathways are neural pathways in the brain that transmit the neurotransmitter dopamine from one region of the brain to another.
The nigrostriatal pathway is a neural pathway that connects the substantia nigra with the striatum. It is one of the four major dopamine pathways in the brain, and is particularly involved in the production of movement, as part of a system called the basal ganglia motor loop.
Loss of dopamine neurons in the substantia nigra is one of the main pathological features of Parkinson's disease, leading to a marked reduction in dopamine function in this pathway. The symptoms of the disease typically do not show themselves until 80-90% of dopamine function has been lost.
Ref: http://en.wikipedia.org/wiki/Nigrostriatal_pathway

**(c) Hypothalamus:**

Hypothalamus is a portion of the brain that contains a number of small nuclei with a variety of functions. One of the most important functions of the hypothalamus is to link the nervous system to the endocrine system via the pituitary gland (hypophysis).
Ref: http://en.wikipedia.org/wiki/Hypothalamus

**(d) Hippocampus:**

The hippocampus (named after its resemblance to the seahorse, from the Greek hippos meaning "horse" and kampos meaning "sea monster") is a major component of the brains of humans and other vertebrates. It belongs to the limbic system and plays important roles in the consolidation of information from short-term memory to long-term memory and spatial navigation. Humans and other mammals have two hippocampi, one in each side of the brain. The hippocampus is located under the cerebral cortex; and in primates it is located in the medial temporal lobe, underneath the cortical surface. It contains two main interlocking parts: Ammon's horn and the dentate gyrus.
In Alzheimer's disease, the hippocampus is one of the first regions of the brain to suffer damage; memory loss and disorientation are included among the early symptoms. Damage to the hippocampus can also result from oxygen starvation (hypoxia), encephalitis, or medial temporal lobe epilepsy. People with extensive, bilateral hippocampal damage may experience anterograde amnesia—the inability to form or retain new memories.
Ref: http://en.wikipedia.org/wiki/Hippocampus

**Extended information:**

Parkinson's disease is primarily associated with the gradual loss of cells in the substantia nigra of the brain. This area is responsible for the production of dopamine. Dopamine is a chemical messenger that transmits signals between two regions of the brain to coordinate activity. For example, it connects the substantia nigra and the corpus striatum to regulate muscle activity.
If there is deficiency of dopamine in the striatum the nerve cells in this region "fire" out of control. This leaves the individual unable to direct or control movements. This leads to the initial symptoms of Parkinson's disease. As the disease progresses, other areas of the brain and nervous system degenerate as well causing a more profound movement disorder.
The exact cause for the loss of cells is unknown. Possible causes include both genetic and environmental factors.
Ref: http://www.news-medical.net/health/Parkinsons-Disease-Pathophysiology.aspx

## Pathology

**Q.100. Liquefactive necrosis is common in (RGUHS/Homeo/MD/Ent/2010):**

(a) GIT
(b) Brain
(c) Liver
(d) Heart

**Ans: (b)**

***Note:***
Liquefactive necrosis is common in 'brain'.

***Also see:***
The process of infarction takes place as follows:

i) *Localised hyperaemia* due to local anoxaemia occurs immediately after obstruction of the blood supply
ii) Within a few hours, the affected part becomes swollen due to *oedema and haemorrhage*. The amount of haemorrhage is variable, being more marked in the lungs and spleen, and less extensive in the kidneys and heart.
iii) *Cellular changes* such as cloudy swelling and degeneration appear early, while death of the cells or necrosis occurs in 12-48 hours.
iv) There is progressive *autolysis* of the necrotic tissue and haemolysis of the red cells.
v) *An acute inflammatory reaction and hyperaemia* appear at the same time in the surrounding tissues in response to products of autolysis.
vi) *Blood pigments*, haematoidin and haemosiderin, liberated by haemolysis are deposited in the infarct. At this stage, most infarcts become pale due to loss of red cells.
vii) Following this, there is progressive *ingrowth of granulation tissue* from the margin of the infarct so that eventually the infarct is replaced by a fibrous scar. Dystrophic calcification may occur sometimes. However, in the case of infarct brain, there is liquefactive necrosis which heals by gliosis.

Re: Textbook of Pathology by Harsh Mohan, 5th Ed, Pg-130

# Chapter 13

# QUESTION PAPER KPSC 2011

Maximum: 100 marks. Time: 2 hours.
Write the answers in English.
Answer all questions.
Answers should be accurate and brief.
**Each correct** answer carries 1 mark and for **each wrong answer** 1/3 mark will be deducted. No negative mark for unattended questions.

**Anatomy**

**Q. 1. Trigeminal nerve is the……cranial nerve (KPSC/Tutor/Organon & Pharmacy/Dec-2011):**

(a) $6^{th}$
(b) $4^{th}$
(c) $5^{th}$
(d) $3^{rd}$

**Ans: (c)**

***Note:***
Trigeminal nerve is the $5^{th}$ Cranial Nerve.
Discussion:
Twelve pairs of nerves—the cranial nerves—lead directly from the brain to various parts of the head, neck, and trunk.

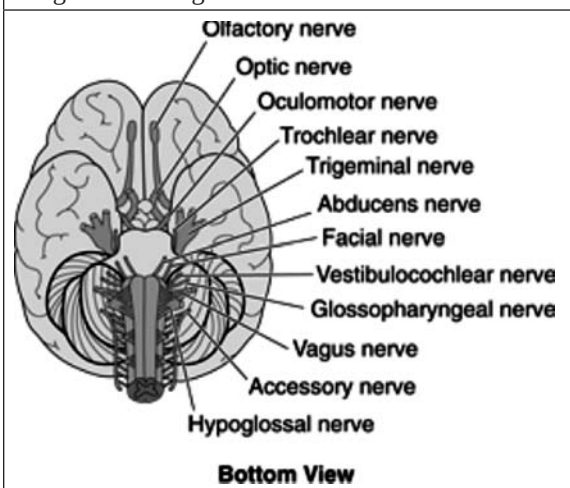
| Diagram showing Inferior view Brain with CN | Cranial nerves in serial order: |
|---|---|
|   | 1. Olfactory nerve<br>2. Optic Nerve<br>3. Oculomotor nerve<br>4. Trochlear Nerve<br>5. Trigeminal nerve<br>6. Abducent nerve<br>7. Facial nerve<br>8. Vestibulocochlear nerve<br>9. Glossopharyngeal nerve<br>10. Vagus nerve<br>11. Accessory nerve<br>12. Hypoglossal nerve |

Diagram Ref: http://www.merckmanuals.com/home/brain_spinal_cord_and_nerve_disorders/cranial_nerve_disorders/overview_of_the_cranial_nerves.html