

**EXPLORE**

The **Next Level** of Preparation

**Most Updated & Thoroughly Revised Edition 2022**

Covering all Recent Updates & Qs up to June 2022 Exams

**The Complete Compendium for FMG Students**



Get **FREE**  
LMR Booklet

A Complete NEXT-Centric Approach

# FMGE SOLUTIONS

For **Foreign Medical Graduates** Appearing  
for *Indian Medical Registration*

## Special Features

- Includes 3 Most Recent Papers—**June 2022, December 2021 & June 2021**
- **2022-2021** New Pattern Model Qs with Explanations
- **250+** Image-Based Qs with Explanations
- **200+** Clinical Pattern Qs with Explanations
- **600** Most Recent Pattern/New Qs Added
- More than **12000** Practice Qs with Explanations
- Controversy Killers with References from Standard Textbooks
- **Free Booklet** Covering Key Points for LMR

**7<sup>th</sup>**  
EDITION

**Fully Colored**



CBS Publishers & Distributors Pvt. Ltd.

**Deepak Marwah**  
**Siraj Ahmad**



Get **FREE**  
LMR Booklet

A Complete NEXT-Centric Approach

# FMGE<sup>®</sup>

## SOLUTIONS

For **Foreign Medical Graduates** Appearing  
for *Indian Medical Registration*

**Deepak Marwah**

Director  
Medicine Buster Classes

**Siraj Ahmad**

Faculty

Dr Marwah Test Series and Unacademy

*Dedicated to Education*



**CBS Publishers & Distributors Pvt Ltd**

- New Delhi • Bengaluru • Chennai • Kochi • Kolkata • Lucknow
- Mumbai • Hyderabad • Nagpur • Patna • Pune • Vijayawada

# Preface to the Seventh Edition

## Dear Students,

We are happy to announce the release of the much-awaited 7th edition of FMGE SOLUTIONS book after overcoming all the challenges posed by the pandemic.

This book has been divided into four sections:

1. Recall-based questions of all 19 subjects
2. Clinical case-based scenarios
3. Image-based questions
4. Free booklet (covering important key points of all the subjects for last minute revision)

The examination typically has questions that take a long time to read, we have adapted to the pattern and introduced many new features to the book. They include clinical vignettes and additional image-based questions to enhance your skills and increase your strike rate in the final exam.

This exam has always been challenging for the students and they describe it as a barrier in their career. In order to overcome this barrier, you will have to be ready in the format it is desired. For this, your preparation level should be from the very basics and it should be continued with persistence, and remember, persistence is a great substitute for talent.

***“A river cuts through the rock, NOT because of its power but because of its persistence.”***

As we always mention in our classes that ***“Hard work beats talent, when talent doesn’t work hard”***. This examination does not test your talent only, rather it tests your dedication, your hard work, your capacity to sit for 12–14 hours per day. We have seen all of you studying the same matter with similar dedication, but only a handful of people taste the success of crossing the boundary line. Many a time the most talented ones are also left behind. Ever wondered what is the thing that separates the winners from the rest of the population? The reasons can be many. But we could recite a few:

First and foremost is the **faith and belief that you can do it**. It is said ***“if you have acquired this belief that you can do it, half of the journey is done.”*** Now the question arises, is it just enough to believe that you can do it? The answer is NO. In addition to this belief, you also need to show the consistency and will to challenge what comes next. You will have to work accordingly.

Secondly, ***“the extra mile they ran”***. After your full day exhaustive classes, it is practically impossible to sit with the notes once again for the next one hour. But dear students, this is what differentiates the winners from the rest. They show this toughness, aggressiveness and will to run that extra mile on the same evening. It is this very attitude that brings them one step closer to victory every day. Therefore, it is very much advisable to all of you, to rejuvenate yourself after all the tiredness and do the revision of that day, the same evening itself. ***“This is your battle, push yourself for one more step, no one else is going to do it for you, the success lies right there.”***

Thirdly, **the willingness to explore the new and to accept the challenge**. Remember ***“if it doesn’t challenge you, it won’t change you”*** and ***“old ways won’t open new doors.”***

As the level of examination has been in most unpredictable way, you will have to accept the challenge and be ready to learn the new things that come along. Remember, the percentage of repeat questions in the examination is very less but ***“the topics are often repeated”***. Hence, your analytical and reading skills will determine your score. In the book, the explanation section covers information over and above those asked in the questions in each topic. Therefore, we would suggest you to read all the explanations in detail at least 3–4 revisions including the **“Extra Mile”** boxes which are add-ons and golden points for your examination.

In order to keep it up to the exam, this time we have segregated the book in separate segments of clinical questions, image-based questions and Booklet on **“Key Points”**, which will be your most important revision tool in last few days of revision.

Last but not least, it is the **proper strategy and time management that make all the difference**. Remember, you all get only 5–6 months for your preparation and in the same time, you have to finish the classes of all 19 subjects, revise them, give tests,

which certainly is a lot of work in a very short span of time. Hence, you are advised to finish the first read in first 3–4 months. In the 4th to 5th month your revisions should start. Whenever you start revision, remember to do 2 to 3 subjects per day (for example—One clinical/major subject + One paraclinical/Pre clinical + One Minor subject). Dry subjects like Anatomy, Biochemistry, Microbiology should be in continuous touch. Give at least 2 hours every day on these subjects alternatively and follow them religiously on priority basis.

***“The key is NOT to prioritize what’s on your schedule, but to schedule your priorities”***

One more point which we would like to highlight is, keep yourself away from negative thoughts and negative people. It somehow degrades your confidence level from within. Only you have the right and power to do this task.

***“Your mind is a powerful thing, when you fill it with positive thoughts, your life will start to change.”***

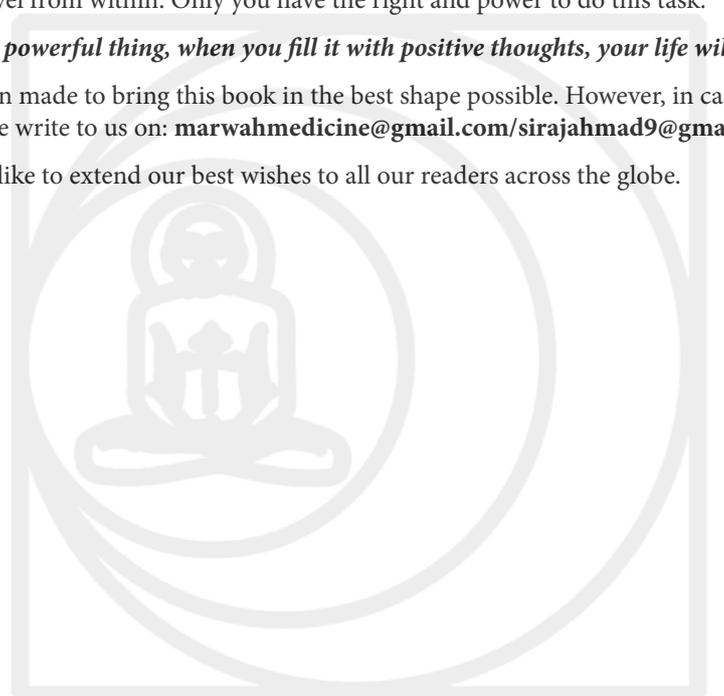
Every possible effort has been made to bring this book in the best shape possible. However, in case of any typographical errors, queries or suggestions, please write to us on: [marwahmedicine@gmail.com](mailto:marwahmedicine@gmail.com)/[sirajahmad9@gmail.com](mailto:sirajahmad9@gmail.com)

With these words we would like to extend our best wishes to all our readers across the globe.

Best Wishes!

**Deepak Marwah**

**Siraj Ahmad**



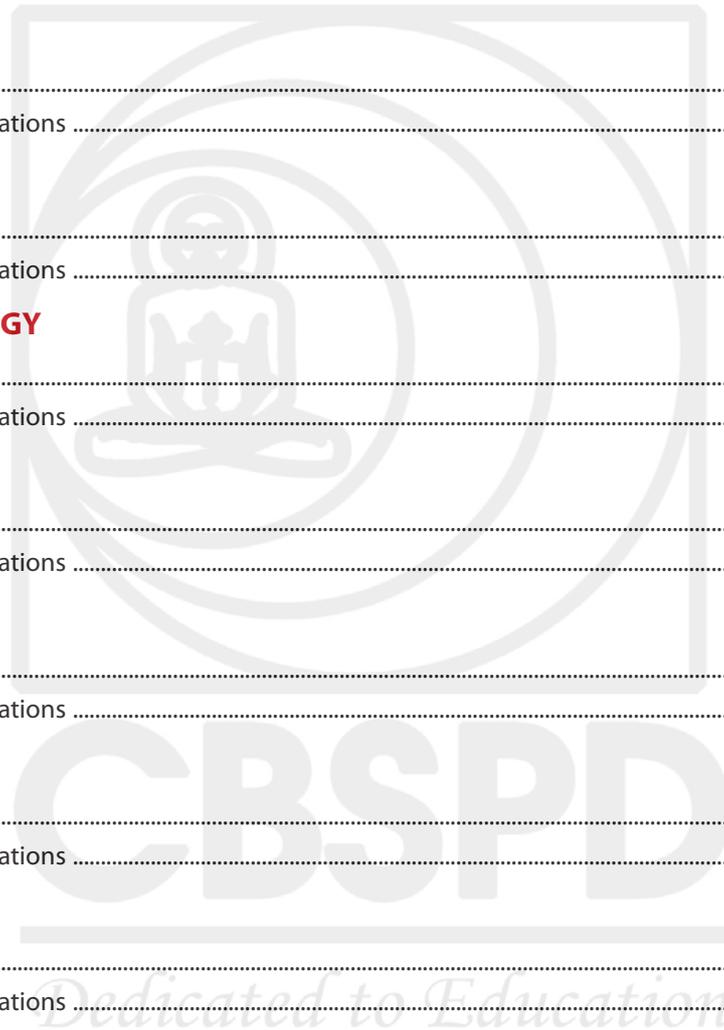
**CBSPD**

*Dedicated to Education*

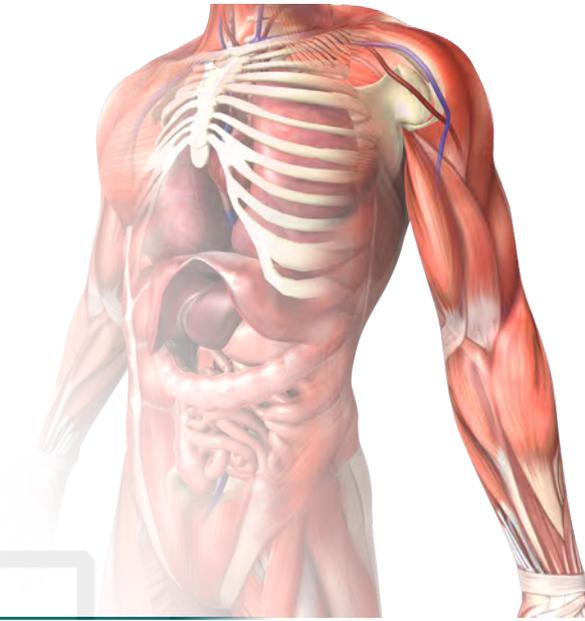
# Contents

<b>1. ANATOMY</b>	<b>1-114</b>
Questions .....	1-26
Answers with Explanations .....	27-114
<b>2. PHYSIOLOGY</b>	<b>115-178</b>
Questions .....	115-129
Answers with Explanations .....	130-178
<b>3. BIOCHEMISTRY</b>	<b>179-243</b>
Questions .....	179-191
Answers with Explanations .....	192-243
<b>4. PHARMACOLOGY</b>	<b>244-353</b>
Questions .....	244-266
Answers with Explanations .....	267-353
<b>5. PATHOLOGY</b>	<b>354-437</b>
Questions .....	354-375
Answers with Explanations .....	376-437
<b>6. MICROBIOLOGY AND PARASITOLOGY</b>	<b>438-491</b>
Questions .....	438-451
Answers with Explanations .....	452-491
<b>7. FORENSIC MEDICINE</b>	<b>492-537</b>
Questions .....	492-502
Answers with Explanations .....	503-537
<b>8. PREVENTIVE AND SOCIAL MEDICINE (PSM)</b>	<b>538-640</b>
Questions .....	538-564
Answers with Explanations .....	565-640
<b>9. MEDICINE</b>	<b>641-783</b>
Questions .....	641-681
Answers with Explanations .....	682-783
<b>10. SURGERY</b>	<b>784-921</b>
Questions .....	784-826
Answers with Explanations .....	827-921

<b>11. PEDIATRICS</b>	<b>922–977</b>
Questions .....	922–936
Answers with Explanations .....	937–977
<b>12. OBSTETRICS AND GYNECOLOGY</b>	<b>978–1108</b>
Questions .....	978–1005
Answers with Explanations .....	1006–1108
<b>13. ENT</b>	<b>1109–1168</b>
Questions .....	1109–1123
Answers with Explanations .....	1124–1168
<b>14. ORTHOPEDICS</b>	<b>1169–1220</b>
Questions .....	1169–1183
Answers with Explanations .....	1184–1220
<b>15. OPHTHALMOLOGY</b>	<b>1221–1292</b>
Questions .....	1221–1239
Answers with Explanations .....	1240–1292
<b>16. DERMATOLOGY</b>	<b>1293–1336</b>
Questions .....	1293–1307
Answers with Explanations .....	1308–1336
<b>17. ANESTHESIA</b>	<b>1337–1362</b>
Questions .....	1337–1343
Answers with Explanations .....	1344–1362
<b>18. PSYCHIATRY</b>	<b>1363–1390</b>
Questions .....	1363–1370
Answers with Explanations .....	1371–1390
<b>19. RADIOLOGY</b>	<b>1391–1444</b>
Questions .....	1391–1411
Answers with Explanations .....	1412–1444
<b>CLINICAL PATTERN QUESTIONS</b>	<b>1445–1509</b>
<b>IMAGE-BASED QUESTIONS</b>	<b>1510–1578</b>



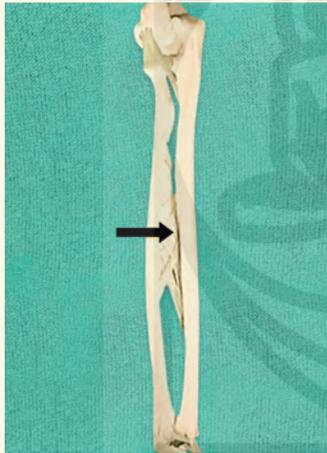
# 1



## ANATOMY

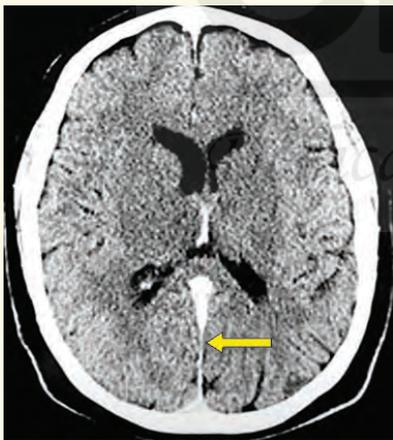
### MOST RECENT QUESTIONS 2022-21

1. Name the type of joint present at the arrow marked region  
(Most Recent Question June 2022)



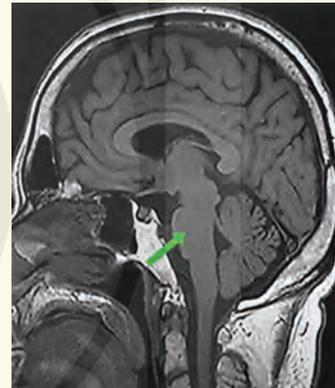
- a. Synchondrosis
- b. Syndesmosis
- c. Symphysis
- d. Synostosis

2. Name the dural venous sinus arrow marked in the radiograph:  
(Most Recent Question June 2022)



- a. Straight sinus
- b. Superior sagittal sinus
- c. Inferior sagittal sinus
- d. Confluence of sinuses

3. Identify the arrow marked structure in the radiograph:  
(Most Recent Question June 2022)



- a. Midbrain
- b. Pons
- c. Medulla oblongata
- d. Spinal cord

4. In unilateral hypoglossal nerve lesion, position of tongue on protrusion is:  
(Most Recent Question June 2022)

- a. Midline
- b. Deviates to ipsilateral side
- c. Deviates to contralateral side
- d. No protrusion possible

5. Identify the arrow marked structure in the dissected specimen  
(Most Recent Question June 2022)



- a. Oesophagus
- b. Superior vena cava
- c. Inferior vena cava
- d. Descending aorta



## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

1. Ans. (b) **Syndesmosis**

Ref: *BD Chaurasia's Handbook of General Anatomy, 6<sup>th</sup> ed, pg. 93*

- The type of joint represented in the above picture is Syndesmosis. It is a fibrous union between bones.
- It may be represented as interosseous ligament as in inferior tibiofibular joint or a tense membrane.

2. Ans. (a) **Straight sinus**

Ref: *BD Chaurasia's Human Anatomy, Volume 3, 8<sup>th</sup> ed, pg. 220*

- The arrow in the above figure represents Straight Sinus. It lies in the median plane within the junction of Falx cerebri and tentorium cerebelli.
- It is formed anteriorly by the union of the inferior sagittal sinus with the great cerebral vein, and ends at the internal occipital protuberance by continuing as transverse sinus.

3. Ans. (b) **Pons**

Ref: *BD Chaurasia's Human Anatomy, Volume 4, 8<sup>th</sup> ed, pg. 107*

- The arrow marked structure in the above radiograph is Pons, a part of the Brainstem.
- It is also called metencephalon. It is 2.5 cm long and extends from cranial end of medulla oblongata to the cerebral peduncles of Midbrain.
- Cranial Nerves 5,6,7, and 8 are attached here.
- Anteriorly it is related to clivus, laterally middle cerebral peduncle and posteriorly to fourth ventricle.

4. Ans. (b) **Deviates to ipsilateral side**

Ref: *BD Chaurasia's Human Anatomy, Volume 4, 8<sup>th</sup> ed, pg. 95*

- The hypoglossal nerve 12<sup>th</sup> cranial nerve, is tested clinically by asking the patient to protrude his/her tongue. Normally, the tongue is protruded straight forwards.
- If the nerve is paralyzed, the tongue deviates to the paralyzed site.
- An infranuclear unilateral lesion of the hypoglossal nerve produces paralysis of the tongue on that side.

- On protrusion, its tip deviates to paralyzed side as normal genioglossus muscle pulls the base toward normal side.

5. Ans. (d) **Descending aorta**

Ref: *BD Chaurasia's Human Anatomy, Volume 1, 8<sup>th</sup> ed, pg. 314*

The arrow marked structure in the figure is Descending aorta. It is the continuation of Arch of aorta. It lies in the posterior mediastinum. It continues as abdominal aorta which ends by dividing into right and left common iliac arteries.

6. Ans. (b) **Junction of medial 2/3 and lateral 1/3**

Ref: *BD Chaurasia's Human Anatomy, Volume 1, 8<sup>th</sup> ed, pg. 8*

- The most common site of clavicle fracture is the junction between the two curvatures of the bone, i.e. the Junction of Medial 2/3rd and lateral 1/3, which is the weakest point.
- The lateral fragment is displaced downwards by the weight of limbs as trapezius muscle alone is unable to support the weight of upper limb.

7. Ans. (a) **Abduction**

Ref: *BD Chaurasia's Human Anatomy, Volume 1, 8<sup>th</sup> ed, pg. 163*

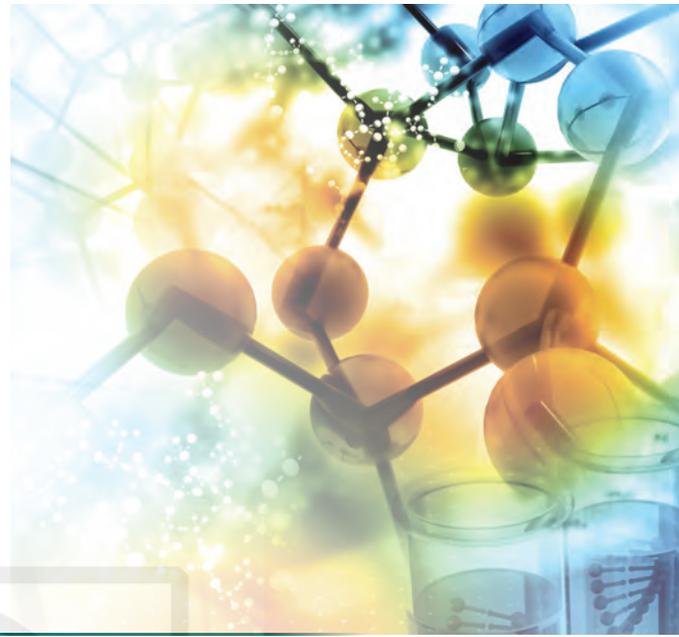
- Frozen shoulder is a common occurrence due to injury to rotator cuff muscles.
- The two layers of the synovial membrane become adherent to each other. The patient complains of progressively increasing pain in the shoulder, stiffness and restriction of Movements particularly **abduction**.
- As the contribution of the glenohumeral joint is reduced, the patient shows altered scapulohumeral rhythm due to excessive use of scapular motion while performing abduction.

8. Ans. (c) **Extensor pollicis longus**

Ref: *BD Chaurasia's Human Anatomy, Volume 1, 8<sup>th</sup> ed, pg. 144*

- The arrow marked tendon is of Extensor Pollicis Longus. The anatomical snuffbox is a triangular depression on the posterolateral side of the wrist. It is seen best when the thumb is extended.
- The tendon of Extensor pollicis longus form the medial/posterior boundary of anatomical snuffbox.

## BIOCHEMISTRY



## MOST RECENT QUESTIONS 2022-21

1. Identify the image and its vitamin deficiency.

(Most Recent Question June 2022)



- a. Niacin                                      b. Copper  
c. Iron    d. Selenium
2. A child presents with complaints of urine turning black on standing. What is the diagnosis?  
(Most Recent Question June 2022)
- a. Homocystinuria                            b. Tyrosinemia  
c. Alkaptonuria                                d. Maple syrup urine disease
3. Complex IV inhibitors: (Most Recent Question June 2022)
- a. Cyanide                                      b. Carbon dioxide  
c. Oligomycin                                 d. Qubain
4. A patient has swelling in metacarpophalangeal joints. Serum uric acid levels was raised. Doctor prescribed medicine for same. The medicine act by inhibiting which enzyme.  
(Most Recent Question June 2022)
- a. Thymidylate synthase  
b. Xanthine oxidase  
c. ADA (Adenosine deaminase)  
d. HGPRT
5. Vitamin deficiency causes tingling sensation:  
(Most Recent Question June 2022)
- a. Vitamin A                                    b. Vitamin B1  
c. Folic acid                                    d. Vitamin B6
6. Menke's kink hair disease is due to:  
(Most Recent Question June/Dec 2021)
- a. P53 defect                                    b. Copper excess  
c. Copper deficiency                        d. Zinc deficiency

7. A patient came to OPD with complaints of diarrhea, dermatitis and dementia. It was also found that he was a maize eater. Which of the following could be most probably deficient? (Most Recent Question June/Dec 2021)

- a. Thiamin                                      b. Riboflavin  
c. Niacin                                        d. Biotin

8. A 40-year-old female patient came to OPD with features of anemia. She had undergone subtotal gastrectomy few months back. General examination showed the following changes in the tongue as shown in the image. Which of the following vitamin is responsible for this?  
(Most Recent Question June/Dec 2021)



- a. Vitamin A                                    b. Vitamin B12  
c. Vitamin C                                    d. Vitamin B2

9. Which of the following condition is true about fed state?  
(Most Recent Question June/Dec 2021)

- a. Increase in insulin level and decrease in glucagon level  
b. Increase in glucagon level and decrease in insulin level  
c. Both insulin and glucagon levels decrease  
d. Only insulin levels increase

10. Patient who is a chronic alcoholic has signs of B1 deficiency. Which of the following is the marker for vitamin B1 deficiency? (Most Recent Question June/Dec 2021)

- a. RBC transketolase activity  
b. RBC glyceraldehyde reductase activity  
c. Homocysteine activity  
d. Pyridoxal 5'-phosphate



## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

1. Ans. (a) **Niacin**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 532*

- The image shows Casal's necklace pattern, which is seen in Pellagra.
- It is caused by deficiency of Vitamin B3 commonly known as **Niacin**.
- It involves skin, gastrointestinal tract, and CNS
- The symptoms of pellagra progress through the three Ds: dermatitis, diarrhea, and dementia. If untreated, death (a fourth D) occurs.

2. Ans. (c) **Alkaptonuria**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 409*

- Alkaptonuria is an **autosomal recessive** condition
- The metabolic defect is the deficiency of enzyme **homogentisate oxidase**.
- This results in excretion of **homogentisic acid** in urine. It is compatible with fairly normal life. The only abnormality is the **blackening of urine** on standing.
- The homogentisic acid is oxidized by polyphenol oxidase to **benzoquinone acetate**. It is then polymerized to black colored **alkapton bodies**.

3. Ans. (a) **Cyanide**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 166*

- Cyanide has been long recognized as an inhibitor of mitochondrial electron transport due to its binding to the heme prosthetic group in Complex IV.
- The shutdown of aerobic ATP generation is recognized as the primary mode of cyanide's cytotoxic action in eukaryotes.
- Cyanide binds to Fe<sup>3+</sup> in heme-containing proteins. This inhibits the terminal cytochrome complex IV of the electron transport chain. The block of complex IV by cyanide depletes ATP culminating in cell death.

4. Ans. (b) **Xanthine oxidase**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 581*

- The given case is of Gout, which is treated with Xanthine oxidase inhibitors like Allopurinol.

5. Ans. (d) **Vitamin B6**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 529*

- Vitamin B6 is the only water-soluble vitamin with significant toxicity.
- Neurologic symptoms (sensory neuropathy) occur at intakes above 500 mg/day.
- Symptoms include pain, tingling sensation, pins-and-needles sensation, numbness and weakness.

6. Ans. (c) **Copper deficiency**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 556*

- Menkes disease (MNK), also known as Menkes syndrome, is an X-linked recessive disorder caused by mutations in genes coding for the copper-transport protein **ATP7A**, leading to copper deficiency.
- Characteristic findings include kinky hair, growth failure, and nervous system deterioration.

7. Ans. (c) **Niacin**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 532*

- Pellagra can be common in people who obtain most of their food energy from corn, notably rural South America, where maize is a staple food.
- If maize is not nixtamalized, it is a poor source of tryptophan, as well as niacin, that can lead to pellagra.
- Nixtamalization is done to remove the toxins from the maize and other grains by soaking and cooking it in an alkaline solution (like lime water) followed by washing and removing its shell.

8. Ans. (b) **Vitamin B12**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 525*

- Vitamin B12 is one of important nutritional components that affect oral health.
- Individuals with decreased levels of vitamin B12 have been reported to exhibit various oral manifestations such as glossitis, glossodynia, recurrent ulcers, cheilitis, dysgeusia, lingual paresthesia, burning sensations, and pruritus.

9. Ans. (a) **Increase in insulin level and decrease in glucagon level**

*Ref: Lippincott's Illustrated Reviews, 6<sup>th</sup> ed. pg. 453*

- High insulin to low glucagon ratio occurs in the fed state activating anabolic pathways, such as storage of glucose and fatty acids as triglycerides.

102. All are true about arterial thrombosis; EXCEPT?

- a. Retrograde growth
- b. Line of Zahn
- c. White thrombus
- d. Complete lumen obstruction

103. Which is the most common site of arterial embolization?

- a. Brain
- b. Kidney
- c. Mesentery
- d. Lower extremities

104. Chicken fat appearance is seen in?

- a. Antemortem clots
- b. Postmortem clots
- c. Fat necrosis
- d. Fibrinoid necrosis

105. All of the following are true in respect of angioneurotic edema; EXCEPT?

- a. It is caused by deficiency of complement proteins
- b. It is more common in females
- c. It manifests as pitting edema
- d. It is an autosomal dominant disorder

106. Hypersensitivity angiitis is seen in?

- a. SLE
- b. Polyarteritis Nodosa
- c. Henoch Schonlein purpura
- d. Burgers disease

109. A 60-year-old male presents with low backache. X-ray LS spine shows osteoblastic changes. What is the clinical diagnosis? (Most Recent Question Dec 2020)

- a. Multiple myeloma
- b. Pott spine
- c. Carcinoma prostate
- d. Renal cell carcinoma

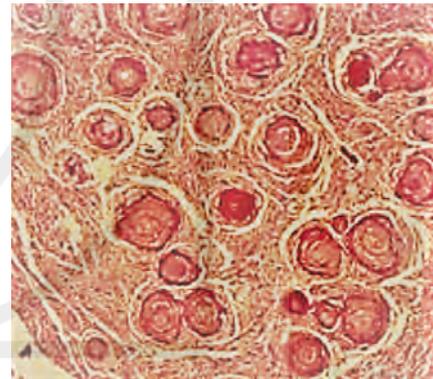
110. Which of the following is a tumor marker of pancreatic cancer? (Most Recent Question Aug 2020)

- a. CEA
- b. CA15-3
- c. NSE
- d. AFP

111. Which of the following contributes to the immortality of cancer cells? (Most Recent Question Aug 2020)

- a. Topoisomerase
- b. Telomerase
- c. RNA polymerase
- d. Helicase

112. A patient presented with development of seizures for which the CT guided biopsy was done. The histopathology reported presence of psammoma bodies as shown in the image. Which of the following is the most likely diagnosis of this patient? (Most Recent Question Aug 2020)



- a. Astrocytoma
- b. Ependymoma
- c. Meningioma
- d. Medulloblastoma

113. Which is the most common tumor of mediastinum? (Most Recent Question Dec 2019)

- a. Thymoma
- b. Lymphoma
- c. Neurogenic tumor
- d. Pericardial cyst

114. Which of the following is an embryonic neural tumor? (Most Recent Question Dec 2019)

- a. Fibrous astrocytoma
- b. Neuroglioma
- c. Ependymoma
- d. Medulloblastoma

115. Most common anterior mediastinal tumour? (Recent Pattern Question 2019)

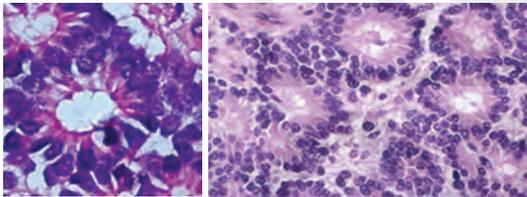
- a. Thymoma
- b. Neurofibroma
- c. Pericardial cyst
- d. Bronchogenic cyst

116. Which of the following is true about Anaplasia? (Recent Pattern Question 2018-19)

- a. Loss of cohesion between cells
- b. Loss of differentiation
- c. Change of epithelium types
- d. Benign and fully reversible

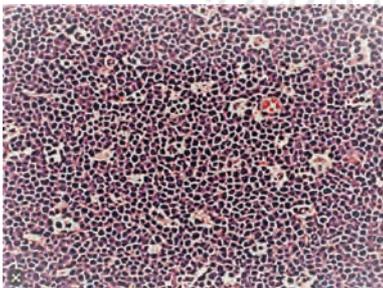
## NEOPLASIA

107. What is the likely diagnosis of the given condition? (Most Recent Question Dec 2020)



- a. Retinoblastoma
- b. Medulloblastoma
- c. Ewing's sarcoma
- d. Neuroblastoma

108. A child presents with difficulty in eating due to jaw swelling and enlarged cervical lymph nodes. Lymph node biopsy report is shown below. What is the clinical diagnosis? (Most Recent Question Dec 2020)



- a. Hodgkin disease
- b. Infectious mononucleosis
- c. Kikuchi disease
- d. Burkitt lymphoma



## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

1. Ans. (a) **Hepatitis B**

*Ref: Clinical Hepatology by Dancygier pg. 219*

- “Ground-glass” hepatocytes are liver cells which have eosinophilic granular, glassy cytoplasm on light microscopy.
- It is a histological hallmark of chronic hepatitis B virus infection and contains surface antigens in the proliferated endoplasmic reticulum. Different types of ground glass hepatocytes are recognized at different hepatitis B virus replicative stages.

2. Ans. (d) **Gilbert syndrome**

*Ref: Robbins E-book 2021 pg. 289*

- Option A presents in pediatric age group and leads to kernicterus in neonates.
- Since patient is having unconjugated hyperbilirubinemia, option B and C are ruled out.
- Gilbert syndrome presents with episodic jaundice and common triggers are fasting, hemolytic reactions, febrile illnesses, menstruation, and physical exertion.
- *Gilbert's syndrome* is marked by the impaired conjugation of bilirubin due to reduced bilirubin UDPGT activity (typically 10–35% of normal). Unlike both Crigler-Najjar syndromes, Gilbert's syndrome is very common. The reported incidence is 3–7% of the population.

3. Ans. (b) **Hemochromatosis**

*Ref: Harrison 21<sup>st</sup> ed. pg. 3233*

- Combination of hyperpigmentation with liver cirrhosis and pancreatic damage leading to diabetes mellitus leads to diagnosis as hemochromatosis.
- Option A leads to pan-acinar emphysema and cirrhosis.
- Option C presents with liver cirrhosis and basal ganglia damage.
- Option D presents with RUQ pain and derangement of SGOT.

4. Ans. (a) **Albumin**

*Ref: Ganong 26<sup>th</sup> ed. pg. 552*

- Albumin is the most abundant protein in the blood and accounts for about 50 percent of all plasma proteins. It gets synthesized by the liver and secreted immediately without storage.

- The physiological regulators of albumin are the colloid osmotic pressure and nutritional status.
- Fibrinogen is least abundant protein in the blood.

5. Ans. (b) **Blood transfusion**

*Ref: Harrison 21<sup>st</sup> ed. pg. 758*

- Crescent shaped RBCs point to sickle cell anemia. During extensive hemolysis of these rigid sickle shaped RBC the child is anemic and needs another blood transfusion.
- Even if child presented with bone pain or abdominal pain due to sickling crisis, Blood transfusion should be given.
- Option A and D are dummy choices and are ruled out.
- Option C, IV fluids are given in sickling crisis patients depending on level of dehydration of patient.

6. Ans. (d) **Hep A**

*Ref: Harrison 21<sup>st</sup> ed. pg. 896*

- Blood should be mandatorily tested for minimum of following infections before infusion: Hepatitis B, Hepatitis C, HIV, Syphilis and Malaria.
- Hepatitis A spreads via feco-oral route.

7. Ans. (c) **Gamma – Globulin**

*Ref: Harrison 21<sup>st</sup> ed. pg. 871*

- Multiple myeloma has excessive production of incomplete light chains of antibodies which are being excreted in urine and are called Bence jones proteins.
- Antibodies belong to gamma globulin fraction of proteins.

8. Ans. (b) **Ferritin**

*Ref: Harrison 21<sup>st</sup> ed. pg. 749-750*

- Since the child has not responded to oral iron supplementation which is likely due to side effects of oral iron intake, hence a baseline serum ferritin must be done before starting parenteral iron to compare and check for response.
- Option A will remain elevated till Iron levels normalize but objective is not to normalize serum iron but build iron stores as well.
- Option C and D will be low but do not tell information about levels of iron stores.

9. Ans. (b) **Multiple myeloma**

*Ref: Harrison 21<sup>st</sup> ed. pg. 871*

## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

1. Ans. (c) **M. leprae**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 371, 372*

- It has not been possible thus far to cultivate lepra bacilli either in bacteriological media or in tissue culture.
- It was discovered that lepra bacilli could multiply in the footpads of mice kept at a low temperature (20°C).
- This has become the standard procedure for experimental work with the bacillus.

2. Ans. (a) **Bartonella henselae**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 420*

- A febrile illness with lymphadenopathy following a cat scratch had been known for long under the name 'cat scratch disease'.
- Symptoms typically include a non-painful bump or blister at the site of injury and painful and swollen lymph nodes.

3. Ans. (b) **Chromoblastomycosis**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 605*

- In Chromoblastomycosis, Histologically, the lesions show the presence of the fungus as round Or irregular, dark brown, yeast-like bodies with septae, called sclerotic bodies.

4. Ans. (b) **S. Aureus**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 204*

- Staphylococcus aureus is the single most common cause of bacterial infection among drug users.
- Persons who inject drugs are at increased risk of developing a bloodstream infection caused by the bacterium Staphylococcus aureus.

5. Ans. (a) **Propionibacterium acne**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 274*

- Propionibacterium acnes is a gram-positive human skin commensal that prefers anaerobic growth conditions and is involved in the pathogenesis of acne
- Acne often debuts during changes in hormonal levels in pre-teens; however, it is also very common as an adult-onset condition, often associated with hormonal fluctuation during the menstrual cycle and pregnancy.

6. Ans. (a) **Trichomonas**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 682*

- In trichomoniasis, pus cells and motile trophozoites of Trichomonas vaginalis are seen.

7. Ans. (a) **Madura foot**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 398*

- The disease is a chronic granulomatous infection occurring in human beings and animals.
- It is characterised by the development of indurated swellings, mainly in the connective tissue, suppuration and the discharge of 'sulphur granules'.
- The lesion often points towards the skin, leading to multiple sinuses.

8. Ans. (a) **Hep B**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 545, 546*

- HBV is a bloodborne virus and the infection is transmitted by parenteral, sexual and perinatal modes.
- All blood is screened for hepatitis B, as well as other blood-borne viruses such as HIV and hepatitis C.

9. Ans. (b) **TB meningitis**

*Ref: Ananthanarayana and Panicker's Textbook of Microbiology, 10th ed. pg. 677*

- Neutrophils ( $\times 10^6/L$ ) - Usually  $< 100$  (but may be normal)

# 8

## PREVENTIVE AND SOCIAL MEDICINE (PSM)



### MOST RECENT QUESTIONS 2022-21

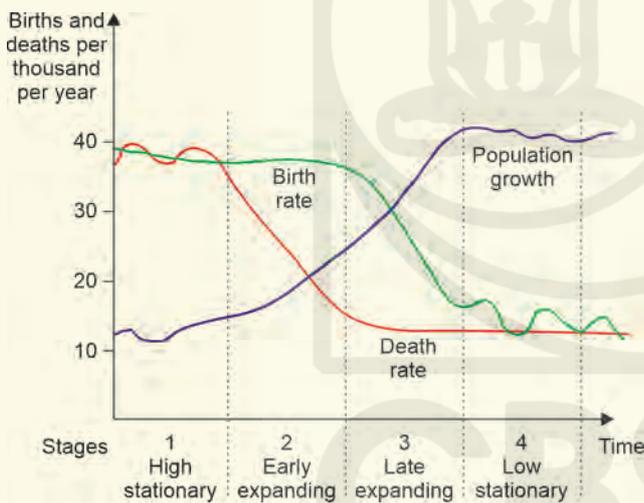
1. Blood bag is discarded in which color bag?

(Most Recent Question June 2022)

- a. Red
- b. Yellow
- c. White
- d. Blue

2. Identify image

(Most Recent Question June 2022)



- a. Population cycle
- b. Demographic transition model
- c. Disaster management cycle
- d. Planning cycle

3. All health care providers are working at village level; EXCEPT?

(Most Recent Question June 2022)

- a. ANM
- b. AWW
- c. TBA
- d. ASHA

4. In measles epidemic, 7-month-old child was given measles vaccine. When should the next dose of measles vaccine be given?

(Most Recent Question June 2022)

- a. Give booster at 16 months
- b. 9 months
- c. Give boost at 9-16 months
- d. Booster at 9 month
- e. At preschool age

5. A 30-year-old male is presents with chief complains of diarrhea, ascites, knee edema. He reports that his family eats food cooked with mustard oil. Identify the condition?

(Most Recent Question June 2022)

- a. Neurolathyrism
- b. Epidemic dropsy
- c. Endemic ascites
- d. Alfatoxicosis

6. In a European country birth rate is below death rate with no population addition (no new birth is reported but deaths are continuously happening) what does it indicate?

(Most Recent Question June 2022)

- a. Low stationary
- b. High stationary
- c. Declining
- d. Late expanding

7. What is the content present in given contraceptive image?

(Most Recent Question June 2022)



- a. LNG
- b. Ethinyl estradiol
- c. Nonoxynol 9
- d. EE+LNG

8. If counseling and screening for TB in a HIV patient is done in ICTC clinic as per NACO guidelines, what is the level of prevention?

(Most Recent Question June 2022)

- a. Primordial
- b. Primary
- c. Secondary
- d. Tertiary

9. 4-8 speakers interact in from of a large group of audience to talk about a topic. There is no specific agenda, no set speech and no order of speaking. At the end there is interaction with audience?

(Most Recent Question June 2022)

- a. Panel discussion
- b. Group discussion
- c. Symposium
- d. Workshop



## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

1. Ans. (b) **Yellow**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 853*

- Blood bag is discarded in yellow color bag.
- More information about waste disposal is given later in this chapter

2. Ans. (b) **Demographic transition model**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 530*

- Demographic Transition Model refers to the transition from high birth and high death rates to low birth and low death rates regime as a country develops from a pre-industrial to an industrialized economic system.

**The four stages of the demographic transition model:**

- **Stage 1: High fluctuating**  
Birth Rate and Death rate are both high. Population growth is slow and fluctuating.
- **Stage 2: Early expanding**  
Birth Rate remains high. Death Rate is falling. Population begins to rise steadily.
- **Stage 3: Late expanding**  
Birth Rate starts to fall. Death Rate continues to fall. Population is rising.
- **Stage 4: Low fluctuating**  
Birth Rate and Death Rate both low. Population is steady.

3. Ans. (a) **ANM**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 564*

- ANMs works at health sub-centers. The sub-center is a small village-level institution that provides primary health care to the community.
- The sub-center works under the Primary Health Centre (PHC).

4. Ans. (b) **9 months**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 136*

The Indian Academy of Pediatrics (IAP) recommends the next dose measles vaccine at 9 months of age in an epidemic.

5. Ans. (b) **Epidemic dropsy**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 714*

- Consumption of adulterated mustard oil (*Brassica nigra*) with argemone oil (*Argemone mexicana*) even for a short duration leads to a clinical condition known as Epidemic dropsy.
- Sanguinarine and dehydrosanguinarine are two major toxic alkaloids of Argemone oil, which cause widespread capillary dilatation, proliferation and increased capillary permeability.

6. Ans. (c) **Declining**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 530*

- According to demographic model, when the birth rate is less than death rate or when no new birth is reported and death is continuously happening, the population goes into decline phase.
- A population decline in humans is a reduction in a human population size.

7. Ans. (c) **Nonoxynol 9**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 546*

- Today contraceptive pills are a specially shaped, soft pessary that is inserted deep in the vagina, 10 Minutes before the intercourse.
- It belongs to the class of medicines called spermicidal contraceptives used to prevent pregnancy.
- It contains Non-oxynol 9.

8. Ans. (c) **Secondary**

*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 48*

- Secondary prevention emphasizes early disease detection through screening test so that the treatment can be started early.

*More detailed discussion about level of prevention has been given later in this chapter*

9. Ans. (a) **Panel discussion**

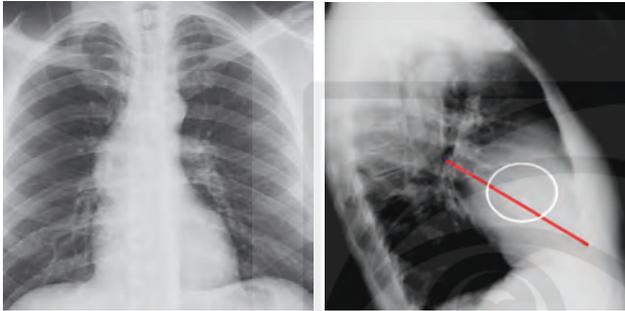
*Ref: Park Textbook of Preventive and Social Medicine, 25<sup>th</sup> ed. pg. 928*

- A panel discussion is a specific format used in a meeting, conference, or convention. It is a live, in-person or virtual



73. A 70-year-old man has recurrent episodes of exertional syncope and recurrent episodes of chest pain on climbing stairs. He was diagnosed as a case of valvular aortic stenosis. Which of the following is the radiological finding of XRC of this patient?

(Most Recent Question Aug 2020)

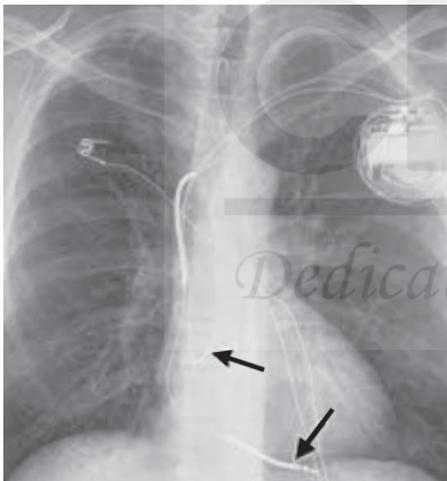


- Dilated aortic Root
  - Double atrial shadow
  - Widening of anterior mediastinum
  - Post stenotic dilatation of aorta
74. A 50-year-old man presents with recurrent episodes of chest pain on exertion. He is diagnosed as a case of chronic stable angina. On routine monitoring BP is found to be consistently elevated. Which of the following is the best drug for management of this patient?

(Most Recent Question Aug 2020)

- Enalapril
  - Amlodipine
  - Metoprolol
  - Thiazides
75. What is the impression from the following CXR?

(Most Recent Question Aug 2020)



- Chemo-port device
- Pacemaker
- Artifact
- Travel tract for bypassing accessory pathway

76. A young woman presents as shown below, and these complaints are triggered by cold temperatures or emotional stress. Episodes usually affect the fingers and toes along with numbness and pain in the affected areas. There is no underlying comorbidity in the patient. Comment on the diagnosis.

(Most Recent Question Aug 2020)



- Primary Raynaud phenomenon
  - Secondary Raynaud phenomenon
  - Harlequin sign
  - Ainhum
77. A 60-year-old woman who is a known case of lung cancer is having shortness of breath. On examination her neck veins are engorged showing gross elevation of JVP, Heart sounds are distant and breath sounds appear reduced on left side infra-scapular area. CXR is done and is shown below. Comment on the diagnosis of the patient.

(Most Recent Question Aug 2020)

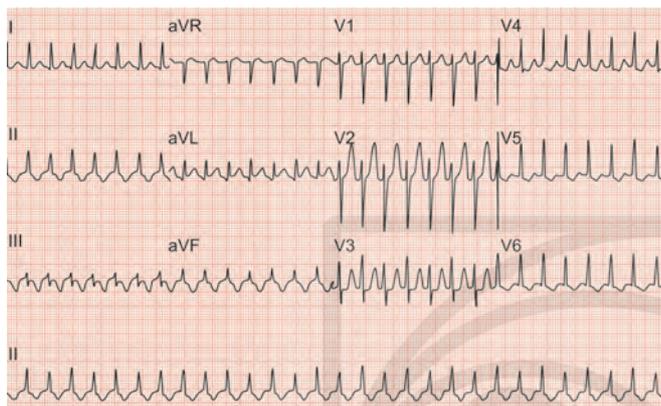


- Cardiac Tamponade
- Congestive heart failure
- Bilateral pleural effusion
- SVC Syndrome



101. Which rhythm disorder is shown in this ECG?

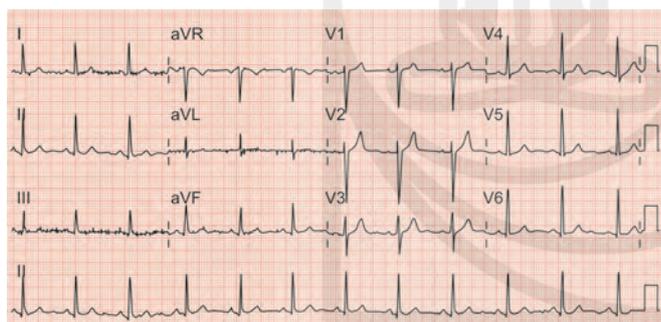
(Recent Pattern Question 2017)



- a. Ventricular fibrillation    b. PSVT  
c. Atrial fibrillation        d. Atrial flutter

102. Which is incorrect about the ECG shown below?

(Recent Pattern Question 2017)



- a. QT = 0.04 sec                b. PR = 0.16 sec  
c. QRS = 0.10 sec            d. P wave = 0.12 sec

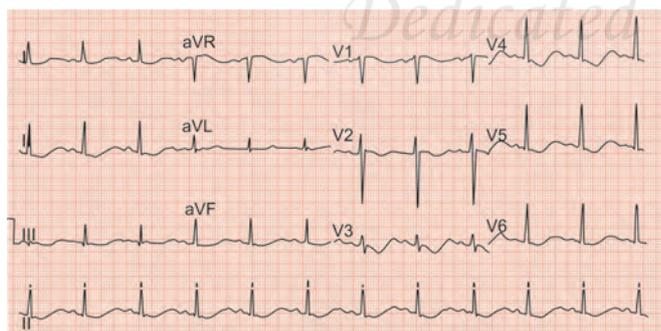
103. Which drug is not useful in chronic CHF?

(Recent Pattern Question 2017)

- a. Carvedilol                    b. Ramipril  
c. Esmolol                        d. Diuretics

104. The ECG finding shown below is due to which of the following drugs?

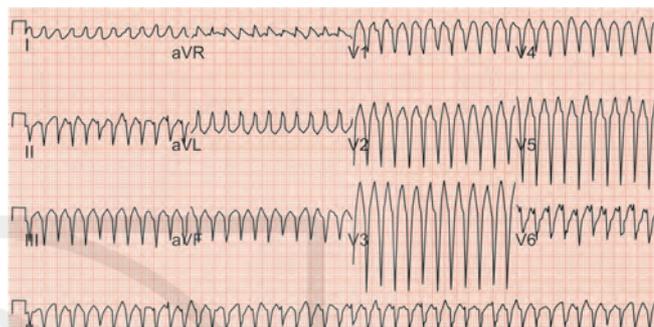
(Recent Pattern Question 2017)



- a. Diuretics                        b. A.R.B  
c. A.C.E inhibitors            d. Beta blockers

105. Which of the following is correct about the image shown below?

(Recent Pattern Question 2017)



- a. Atrial fibrillation            b. Atrial flutter  
c. PSVT                            d. VT

106. During CPR when is vasopressin given?

(Recent Pattern Question 2016)

- a. No role  
b. Use every 3 minutes  
c. First line drug of choice  
d. Given along with adrenaline

107. Which antiarrhythmic drug is given in post resuscitation arrhythmia?

(Recent Pattern Question 2016)

- a. Lignocaine                    b. Magnesium sulfate  
c. Amiodarone                d. Atropine

108. In JVP y descent is absent and X wave is prominent? This suggests:

- a. Restrictive cardiomyopathy  
b. Cardiac tamponade  
c. Constrictive pericarditis  
d. Right ventricular failure

109. Digitalis is used in mitral stenosis when patient develops?

- a. Atrial fibrillation  
b. Right ventricular failure  
c. Acute pulmonary edema  
d. Myocarditis

110. Murmur heard in aortic stenosis?

- a. Right 2nd intercostal, low pitch murmur  
b. Apex, low pitch murmur  
c. Left Sternal area, low pitch murmur  
d. Pan-systolic murmur, high pitch murmur

111. In coarctation of aorta, site of rib notching is?

- a. Superior to rib                b. Inferior to rib  
c. At sternum                      d. At Vertebra

112. Cardiac marker earliest to rise in MI?

- a. CPK MB                        b. LDH  
c. SAP                                d. Troponin I

113. Hypotension with muffled heart sounds and congested neck veins is seen in?

- a. Cardiac tamponade  
b. Pericardial effusion  
c. Constrictive pericarditis  
d. Acute congestive heart failure

## ANSWERS WITH EXPLANATIONS

## MOST RECENT QUESTIONS 2022-21

## 1. Ans. (b) PSVT

Ref: Harrison 20<sup>th</sup> ed. pg. 1890

The ECG shows narrow complex tachycardia with heart rate of approximately 200bpm. P waves are not visible and global ST depression is seen in all leads. This can be explained by sudden increase in oxygen consumption of heart due to re-entry phenomenon of PSVT.

## 2. Ans. (a) Atrial fibrillation

Ref: Harrison 20<sup>th</sup> ed. pg. 1903

The word is irregularly irregular radial pulse which is a characteristic feature of atrial fibrillation. Absent P wave can be explained by SAN activity being suppressed by ectopic foci activity in left atrium in these patients.

## 3. Ans. (b) Glucagonoma

Ref: Harrison 20<sup>th</sup> ed. pg. 665

The characteristic dermatologic feature of Glucagonoma is necrolytic migratory erythema. It is characterized by rash/erosion and bullae in intertriginous and periorofacial sites.

## Extra Mile

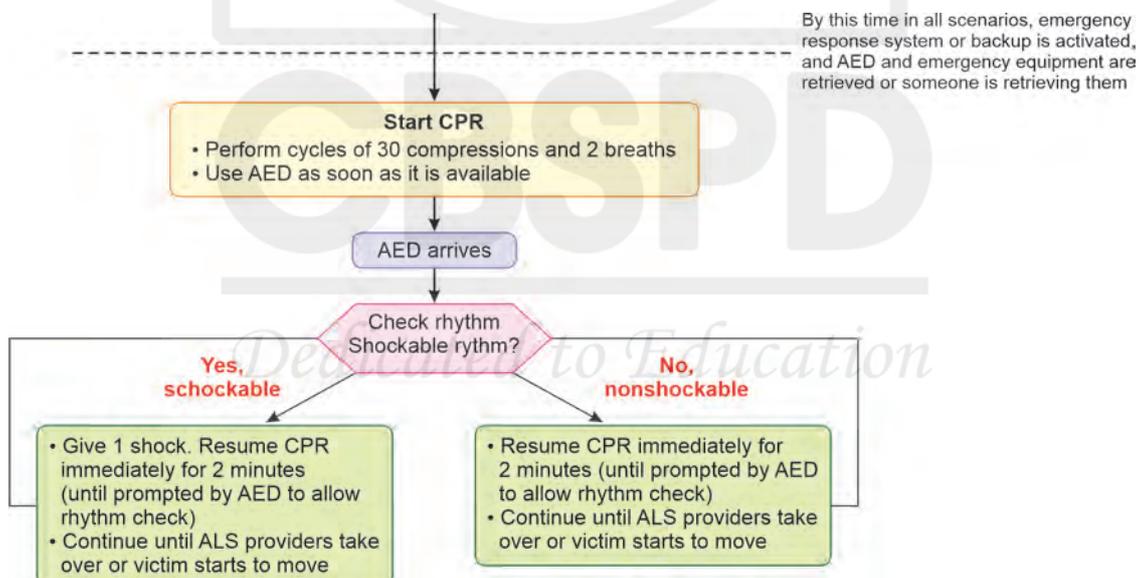
Mnemonic for Glucagonoma: 4D

1. Dermatitis
2. Diabetes/ Impaired glucose tolerance
3. Deep Vein thrombosis risk and depression
4. Diarrhea (less common feature)

## 4. Ans. (b) Continue CPR while team applies AED Paddles

Ref: AHA 2020 Update

- The main component of BLS is deployment of AED to terminate tachyarrhythmia.
- Option a is wrong because if we wait for five rounds 10 minutes would have passed by and person would be brain dead. One round/cycle of CPR = 2 minutes
- Option c is wrong as CPR should never be stopped while other tasks like putting an IV line or putting paddles of AED is being done
- Option d is wrong as it is applicable in case of a bystander CPR where a non-medico is giving CPR. He should vacate his position and let a trained person handle the case.



## 5. Ans. (b) NS

Ref: Harrison 21<sup>st</sup> ed. pg. 366-67

# CLINICAL PATTERN QUESTIONS



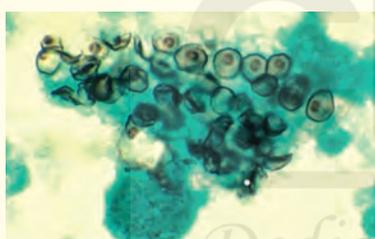
## CLINICAL SCENARIOS

### Important points

- These are integrated questions covering more than one subject and hence are not segregated subject wise
- These questions comprise 30% -40% of paper. Do not get distracted by their length but focus to identify pick up points in each of these questions. The explanations of these questions will help you pick up those subtle hints given by the examiner.
- Ideally attempt these questions when you are done with first read of all 19 subjects to increase the strike rate.

### CASE 1

A 30-year-old AIDS positive truck driver is suffering from fever and breathlessness for last 5 days. On auscultation occasional crepitations are heard in bilateral lung fields and  $spO_2 = 80\%$ . CXR was done along with Bronchoalveolar lavage. What drug treatment will be started for this patient?



- a. Azithromycin                      b. Cotrimoxazole  
c. Anti-Tubercular drugs          d. Fluconazole

Ans. (b) **Cotrimoxazole**

Ref: Harrison 20<sup>th</sup> ed. pg. 1547

- AIDS Positive status points to opportunistic infections being present. CXR shows bilateral infiltrates.
- Bronchoalveolar lavage shows a green background with black cysts of *Pneumocystis jirovecii*. The stain used is Gomori methenamine stain
- Cotrimoxazole is used for treatment of *P. jirovecii*. The question integrates microbiology with pharmacology.

### CASE 2

A 35-year-old woman presents with weakness in both legs for past 2 days leading to inability to stand. On examination bilateral knee jerk and ankle jerk are absent with power of 1/5 in both legs for all muscle groups. There is no sensory deficit and bladder bowel control is present. Skirrow media was used in the patient for identification of aetiology of presentation. Which of the following organism is incriminated?

- a. *Brucella Abortus*                      b. *Bordetella*  
c. *Listeria Monocytogenes*              d. *Campylobacter jejuni*

Ans. (d) **Campylobacter jejuni**

Ref: Jawetz Microbiology 25<sup>th</sup> ed. pg. 240 and Harrison 20<sup>th</sup> ed. pg. 3227

- Patient has developed paraplegia with areflexia indicating lower motor neuron lesion involving the spinal cord. This is a presentation of Guillain Barre syndrome. The mention of Skirrows media in the question itself points to the incriminated agent which is *Campylobacter jejuni*.
- GBS is an example of type 4 hypersensitivity which presents with ascending symmetrical flaccid paralysis with Lumbar puncture findings of Albumino cytological dissociation. The incriminated agents are *Campylobacter jejuni* and more recently COVID -19 and zika virus.

### CASE 3

An 80-year-old man is having severe low backache leading to difficulty in daily activity. He takes pain killers daily but no relief is noted. Recently he has also started developing swelling around eyes in the morning which resolves as the day progresses and comes back next morning. MRI spine shows lytic lesions in L4 and L5 vertebra. On blood work: Hb = 8 gm%, Normocytic normochromic anemia, TLC = 15,000, ESR = 100 mm fall in 1<sup>st</sup> hour, Serum creatinine = 3 mg%, Blood urea nitrogen = 80 mg, urine routine examination by dipstick is normal. Which is next best step for management of this patient?

- a. Start hemo-dialysis  
b. Check urine for paraproteins  
c. Schedule a kidney biopsy  
d. Start prednisolone for next 8 weeks

Ans. (b) **Check urine for paraproteins**

Ref: Harrison 20<sup>th</sup> ed. pg. 797

Lower backache in an old man with lytic lesion in lumbar vertebra points to two possible aetiologies-

- Metastasis from solid organ tumor like carcinoma prostate
- Lesions of multiple myeloma

Points in favour of multiple myeloma, using **CRAB** mnemonic (Hypercalcemia, Renal failure, Anemia and Bony lytic lesions)

- Old age
- ESR of 100 mm fall in 1<sup>st</sup> hour
- Elevated creatinine indicative of renal failure
- Anemia due to Hb of 8 mg%
- Bony lytic lesions confirmed by MRI spine

Hence the urine of patient should be checked for Bence Jones proteins which are also called paraproteins.

**CASE 4**

A 65-year-old man experiences difficulty in changing channels in a television remote and buttoning up his shirt. He takes longer than usual for his morning walk and feels that he may fall. On examination, rigidity and bradykinesia are noted in all the limbs with normal plantar reflexes and deep tendon reflexes. Cranial nerve examination is within normal limits. Which of the following drugs shall not be used in management of this patient?

- Entacapone
- cabergoline
- Apomorphine
- Tetrabenazine

Ans. (d) **Tetrabenazine**

Ref: Harrison 20<sup>th</sup> ed. pg. 3126-27

- Bradykinesia (slowness in doing activity) with rigidity points to clinical diagnosis of Parkinsonism. The question integrates medicine with pharmacology.
- Option A is a COMT inhibitor that is used to reduce off time with Levodopa carbidopa.
- Option B is a Dopamine agonist that reduces symptoms in PD while option C is an injectable drug used for severe off time seen in PD patients.
- Option D is a Dopamine depletor and will worsen a patient of PD who already has dopamine depletion in substantia nigra.

**Extra Mile**

- Tetrabenazine is used in management of Huntington's chorea
- Bradykinesia with any of following: resting tremors, rigidity and postural instability is used for diagnosis of PD
- Off and on phenomenon is seen with effects of levodopa in patients of PD

**CASE 5**

A 25-year-old burn victim is admitted in the hospital for last one week for management of extensive burns on legs due to blast in the cooking stove. On day eight of admission, she is having high grade fever with chills and rigors, Pulse rate = 120/min with BP = 100/60 mm Hg on dobutamine. Blood culture of the patient is likely to reveal characteristics of which organism?



- Gram positive cocci in grape like clusters
- Gram positive cocci in chains
- Gram negative rod, motile with multiple flagella
- Gram negative rod, motile with single polar flagellum

Ans. (d) **Gram negative rod, motile with single polar flagellum**

Ref: Jawetz Microbiology, 25<sup>th</sup> ed. pg. 30

- Post burns sepsis is a common complication and occurs due to pseudomonas colonization of burnt surface and subsequent bacteremia.
- The low BP and use of dobutamine points to development of septic shock in the patient.
- Pseudomonas aeruginosa is a gram-negative rod which is motile with single polar flagellum.

**CASE 6**

A 50-year-old man has been diagnosed with liver cancer. He used to do needle sharing in college days to take IV drugs and had tested positive for hepatitis C. Which is correct about the primary malignant liver tumor that he has developed?

- Depletion of CD95 receptors and inhibition of apoptosis
- Activation of CD95 receptors and inhibition of apoptosis
- Overexpression of beta catenin protein and inhibition of apoptosis
- Under expression of beta catenin protein and inhibition of apoptosis

Ans. (a) **Depletion of CD95 receptors and inhibition of apoptosis**

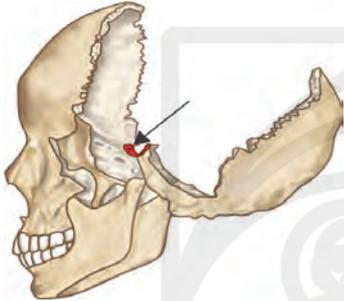
Ref: Harsh Mohan Textbook of Pathology, 7<sup>th</sup> ed. pg. 207-208

- Hepatocellular carcinoma develops in patients who had hepatitis B or C infection in the past. The reason for development of cancer is inhibition of apoptosis via depletion of CD95 receptor.
- Beta catenin protein is related to APC gene and development of Familial adenomatous polyposis. APC gene is inhibitory to mitosis and acts via cytoplasmic protein Beta catenin. Hence Option C and D are ruled out.

## IMAGE-BASED QUESTIONS

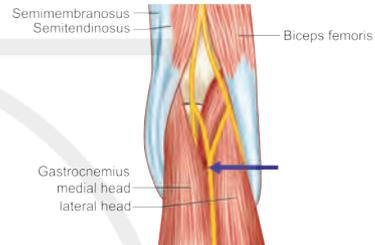
### ANATOMY

1. Which part of brain is present in Turkish saddle-shaped space in cranium?



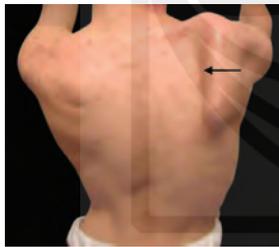
- a. Pituitary gland
- b. Frontal lobe
- c. Hypothalamus
- d. Basal ganglia

4. Which nerve is marked by an arrow in the vicinity of popliteal fossa?



- a. Common peroneal nerve
- b. Deep peroneal nerve
- c. Sural nerve
- d. Sciatic nerve

2. Which nerve is involved in this presentation?



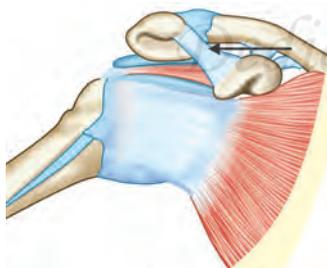
- a. Long thoracic nerve
- b. Musculocutaneous nerve
- c. Lateral anterior thoracic nerve
- d. Thoracodorsal nerve

5. A patient complains of pain in the distribution shown below. All are true about the condition except:



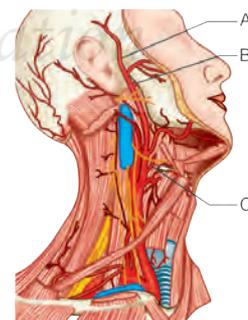
- a. Sciatic nerve is involved
- b. Pain worse on standing
- c. Straight leg raising leads to pain in opposite leg indicating disc herniation
- d. Nerve originates from nerve roots L5-S2

3. Name the ligament:



- a. Coracoacromial ligament
- b. Acromio-clavicular ligament
- c. Coraco-humeral ligament
- d. Sterno-clavicular ligament

6. Which of the following is branch of external carotid Artery?



- a. A
- b. B
- c. C
- d. All of these



7. The blockage of which of the following blood vessels will lead to medial medullary syndrome?



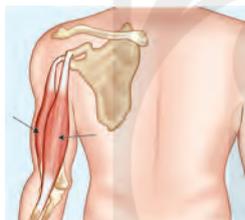
- a. A
- b. B
- c. C
- d. D

11. What is the nerve supply of the structure marked in the image below?



- a. Median nerve
- b. Radial nerve
- c. Posterior interosseus nerve
- d. Ulnar nerve

8. What is the insertion of shown muscle? (2018)



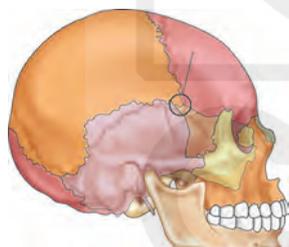
- a. Supraglenoid tubercle of scapula
- b. Tip of coracoid process of scapula
- c. Radial tuberosity
- d. Ulnar tuberosity

12. The shown muscle in the image is innervated by:



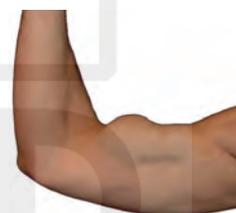
- a. Dorsal scapular nerve
- b. Suprascapular nerve
- c. From the dorsal rami of C1
- d. Subscapular nerve

9. The marked area in skull represents: (2018)



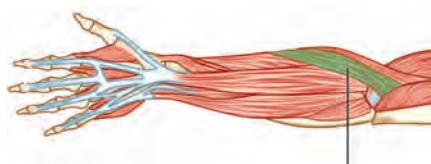
- a. Asterion
- b. Pterion
- c. Bregma
- d. Lambda

13. Identify the sign shown in the image below:



- a. Popeye sign
- b. Hill-Sachs sign
- c. Griesinger sign
- d. Rising sun sign

10. The arrow in the image denotes which of the following muscles?



- a. Brachioradialis
- b. Supinator
- c. Extensor carpi radialis longus
- d. Flexor carpi radialis brevis

14. Identify the green marked structure in the image:



- a. Corpus callosum
- b. Orbital cortex
- c. Striate cortex
- d. Optic chiasma



ANSWERS WITH EXPLANATIONS

ANATOMY

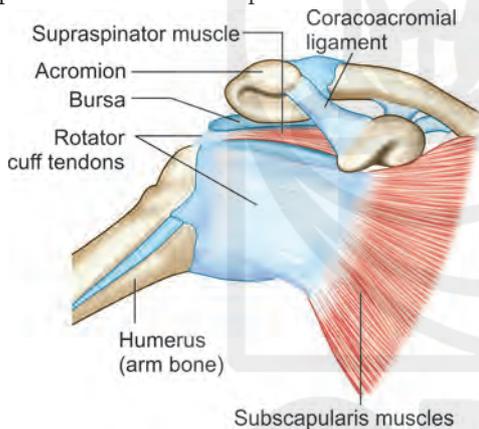
1. Ans. (a) Pituitary

2. Ans. (a) Long thoracic nerve

Nerve involved	Muscle
Long thoracic nerve	Serratus anterior
Musculocutaneous nerve	Coracobrachialis muscle
Lateral anterior thoracic nerve	Pectoralis major muscle
Thoracodorsal Nerve	Latissimus dorsi

3. Ans. (a) Coracoacromial ligament

- The image shows a ligament extending from the coracoid process to the acromion process.



4. Ans. (c) Sural nerve

The image shows sural nerve.

5. Ans. (d) Nerve originates from nerve roots L5-S2

- The image shows pain in the distribution of sciatic nerve, which can occur due to disc prolapse. Such pain is worsened on standing.
- Arterial claudication pain is worsened on walking.
- The sciatic nerve originates from lumbosacral plexus L4-S3
  - Tibial division
    - Originates from anterior preaxial branches of L4, L5, S1, S2, S3
  - Peroneal division
    - Originates from postaxial branches of L4, L5, S1, S2

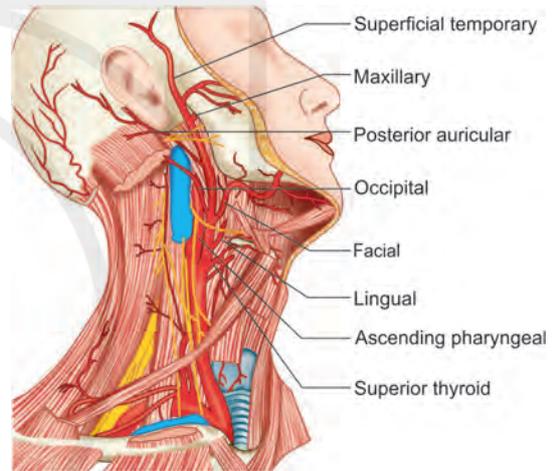
6. Ans. (d) All of the above

**Mnemonic for Branches for External Carotid Artery**

Some anatomists like freaking out poor medical students

S : superior thyroid artery

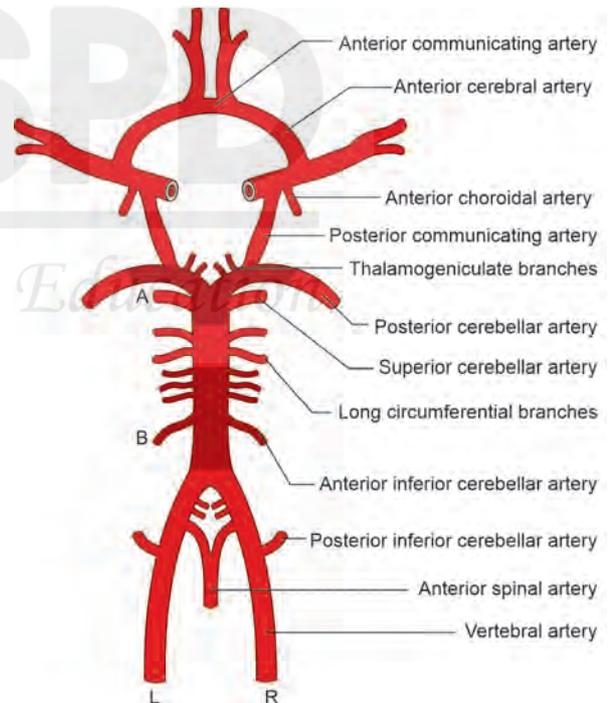
- A : ascending pharyngeal artery
- L : lingual artery
- F : facial artery
- O : occipital artery



- P : posterior auricular artery
- M : maxillary artery
- S : superficial temporal artery

7. Ans. (b) B

The following diagram and its branches should be remembered.



## What's New in this Edition?

Features	FMGE Solutions	Other Publications
Latest Qs	Fully updated with recent pattern Qs up to June 2022 with explanations	No new Qs
Clinical Pattern Qs	200+ Clinical Pattern Qs with explanations	Not available
Image-based Qs	250+ Image-based Qs with explanations	Not given
Number of Qs	More than 12000 explained Qs, Practice Qs and IBQs	Hardly 4000 Qs
Author(s)	National level faculties	Not available
Content	Fully authentic and based on recent data and changes as per the latest NBE pattern	Still harping on same old data
Layout	Fully colored layout with 1200+ illustrations and photographs	Two-color layout
Reference Books	All references updated with recent editions like Harrison's 21/e, Bailey & Love 27/e, Dutta's Obstetrics 9/e, etc.	Primitive/outdated data
Free Booklet	Covering most important revision key points for Last Minute Revision.	Not given
Extra Mile Boxes	Golden points for examination	Not given
Explanations	Contain more information than the number of Qs in each topic	Not available
Feedback Support	Strong facebook support available <a href="https://www.facebook.com/fmgesolutions/?ref=bookmarks">https://www.facebook.com/fmgesolutions/?ref=bookmarks</a>	No support

## What Student Says About FMGE Solutions?

**FMGE Jun 2022**

 Dr Stuti Singh

★★★★★ Solutions to clear your FMGE

Thank you FMGE Solutions Helped me in my journey of becoming doctor. I passed my FMGE with 171 marks. FMGE solutions helped me a-lot to know imp. Topics + pyq with very good explanations.

**FMGE Dec 2021**

 Rajat Gupta

★★★★★ Solutions to clear your FMGE

Hello! Dr Marwah and Dr Siraj Sir. I cleared my FMGE Dec 2021 exam with 207 marks. FMGE Solutions book is very helpful. Final Edge IBQ. Book is also very helpful.

**FMGE Dec 2021**

 Kumaresan

★★★★★ Solutions to clear your FMGE

Hy Dr Marwah and Dr Siraj Sir. I'm really thankful to your book FMGE Solutions. I got 217/300.

**FMGE Jun 2021**

 Dr Arisha

★★★★★ Solutions to clear your FMGE

I loved all the mocks which are given at the end of FMGE Solutions. They are so high yielding. Also the solution book is with me for my NEET PG preparations as well. Some tables and explanations are so good which are just imprinted in my mind.

**FMGE Jun 2021**

 Dr Abhinash Yadav

★★★★★ Solutions to clear your FMGE

Special thanks to Dr Deepak Marwah Sir. Finally cleared FMGE with 165 marks. "FMGE Solutions" added a lots of support to my preparation.

**FMGE Dec 2021**

 Dr Leena

★★★★★ Solutions to clear your FMGE

Thank u very much Dr Deepak Marwah Sir n Siraj Ahmad Sir for wonderful book FMGE Solutions. It's a best book for FMGE... I cleared Dec 21 FMGE with 159 marks...

**FMGE Dec 2021**

 Hemant

★★★★★ Solutions to clear your FMGE

Thank you so much Deepak Marwah Sir and Siraj Ahmad sir, this time so many images and Qs came from this book. I cleared my FMGE in first attempt with 159, with the help of FMGE Solutions.

**FMGE Dec 2021**

 Abhay

★★★★★ Solutions to clear your FMGE

Hello! Dr Marwah sir, I cleared my FMGE Dec 2021 exam with 207 marks. FMGE Solutions book is very helpful. Final Edge IBQ book is also very helpful.



**CBS Publishers & Distributors Pvt. Ltd.**

4819/XI, Prahlad Street, 24 Ansari Road, Daryaganj, New Delhi 110 002, India  
 E-mail: [feedback@cbspd.com](mailto:feedback@cbspd.com), Website: [www.cbspd.com](http://www.cbspd.com)  
 New Delhi | Bengaluru | Chennai | Kochi | Kolkata | Lucknow | Mumbai | Pune  
 Hyderabad | Nagpur | Patna | Vijayawada

ISBN: 978-93-90619-31-3



9 789390 619313