



## रेलवे भर्ती बोर्ड / RAILWAY RECRUITMENT BOARD

सी ई एन नं. - 04/2024 - CEN No. - 04/2024



Test Date	28/04/2025
Test Time	4:30 PM - 6:00 PM
Subject	PHARMACIST (ENTRY GRADE)

## \* Note

Correct Answer will carry 1 mark per Question.

Incorrect Answer will carry 1/3 Negative mark per Question.

1. Options shown in green color with a tick icon are correct.
2. Chosen option on the right of the question indicates the option selected by the candidate.

## Section : General Ability

Q.1 Which of the following glands secretes growth hormone?

Ans  1. Thyroid gland  
 2. Ovaries  
 3. Testes  
 4. Pituitary gland

Q.2 The focus of a spherical mirror lies 18 cm from the pole of the mirror. What is the position of the centre of curvature in cm from the pole of the mirror?

Ans  1. 27 cm  
 2. 36 cm  
 3. 40 cm  
 4. 9 cm

Q.3 Which ruler is associated with the construction of the famous Alahi Darwaja also called Alai Darwaja?

Ans  1. Mohammad Bin Tughlaq  
 2. Jalal-ud-din Khalji  
 3. Ala-ud-din Khalji  
 4. Firoz Shah Tughlaq

Q.4 Which of the following options describes the enforceability of the Directive Principles of State Policy in India?

Ans  1. They are binding on the legislature and the executive, with penalties for non-compliance.  
 2. They are non-justiciable guidelines and cannot be enforced by courts.  
 3. They are enforceable only by the Supreme Court when Fundamental Rights are violated.  
 4. They are enforceable like Fundamental Rights and can be directly challenged in the courts.

Q.5 What should come in place of the question mark (?) in the given series based on the English alphabetical order?

WIB UFX SCT QZP ?

Ans  1. MUM  
 2. NVJ  
 3. OWL  
 4. NYK

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**Q.6** Select the correct pairing between a Himalayan division and a notable geographical feature associated with it:

Ans  1. Valleys located between the Greater Himalayas and the Lesser Himalayas – Duns  
 2. Valleys located between the Lesser Himalayas and the Outer Himalayas – Duns  
 3. Lesser Himalayas – Mount Everest  
 4. Lesser Himalayas – Bara Lacha-La

**Q.7** Under which Article of the Indian Constitution does the Supreme Court of India have original jurisdiction to adjudicate disputes between the Government of India and one or more States, or between different States?

Ans  1. Article 226  
 2. Article 132  
 3. Article 136  
 4. Article 131

**Q.8** Which of the following factor is NOT responsible for the survival of species over time?

Ans  1. Habitat availability  
 2. Astrological Signs  
 3. Variation  
 4. Reproduction

**Q.9** Why do the hydrophobic tails of soap molecules stay inside the micelles?

Ans  1. They form chemical bonds with water.  
 2. They are repelled by water.  
 3. They are strongly attracted to water.  
 4. They dissolve completely in water.

**Q.10** In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the pair in which the numbers are related in the same way as are the numbers of the following pairs.

(Note: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g., 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

59, 71.6  
86, 98.6

Ans  1. 77, 91.6  
 2. 92, 106.6  
 3. 41, 63.6  
 4. 65, 77.6

**Q.11** 4 men and 6 women can complete a piece of work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 16 women complete it?

Ans  1. 25  
 2. 40  
 3. 36  
 4. 16

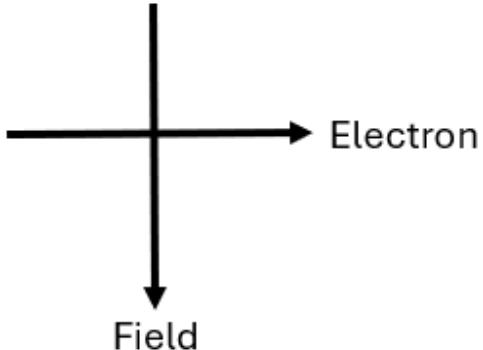
**Q.12** Who among the following was the intended target of the bomb thrown at a carriage by Khudiram Bose and Prafulla Chaki in 1908?

Ans  1. Magistrate Douglas Kingsford  
 2. Viceroy Lord Hardinge  
 3. Governor-General Lord Curzon  
 4. Lord Ripon

**Q.13** Tarun and Varun move towards town B starting from town A, at a speed of 57 km/h and 60 km/h respectively. If Varun reaches town B 33 minutes earlier than Tarun, what is the distance between towns A and B?

Ans  1. 633 km  
 2. 619 km  
 3. 627 km  
 4. 625 km

**Q.14** What will be the direction of the force based on the direction of current and magnetic field as shown in the figure?



Ans  1. Into the page  
 2. To the left  
 3. Out of the page  
 4. To the right

**Q.15** Which key feature of Thomson's Atomic Model helped explain the electrical neutrality of an atom?

Ans  1. Electrons revolved around the nucleus in fixed orbits.  
 2. The positive and negative charges are equal in magnitude.  
 3. The positive charge was concentrated in the centre.  
 4. The nucleus contained both, protons and neutrons.

**Q.16** Consider the following statements regarding the reactivity series of metals. Which of these statements is/are correct?

Statement I: A piece of iron placed in a solution of copper sulfate gradually develops a reddish layer.

Statement II: Copper is more reactive than iron and replaces it in the solution.

Ans  1. Only Statement 2 is true  
 2. Only Statement 1 is true  
 3. Both statements are true  
 4. Both statements are false

**Q.17** What is the increased credit limit under the Modified Interest Subvention Scheme for Kisan Credit Cards (KCC) as announced in the Union Budget 2025?

Ans  1. ₹2 lakh  
 2. ₹1 lakh  
 3. ₹3 lakh  
 4. ₹5 lakh

**Q.18** Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?

ACT123, IKB110, QSJ97, YAR84, ?

Ans  1. GIM71  
 2. LIZ71  
 3. GIZ71  
 4. GOZ71

**Q.19** Which committee's recommendations have long been influential in defining the poverty line in India using a consumption expenditure approach?

Ans  1. Sachar Committee  
 2. Balakrishnan Committee  
 3. Rangarajan Committee  
 4. Tendulkar Committee

**Q.20** If the lateral surface area of a cylinder is  $336.4 \text{ cm}^2$  and its height is 23 cm, then find its volume.

(Use  $\pi = 3.14$  and round off to two decimal place)

Ans  1.  $384.33 \text{ cm}^3$   
 2.  $372.99 \text{ cm}^3$   
 3.  $391.74 \text{ cm}^3$   
 4.  $370.76 \text{ cm}^3$

**Q.21** Why is a coordinated effort from all the levels of government essential for sustainable development?

Ans  1. It ensures that only economic issues are addressed.  
 2. It helps integrate socio-economic development with environmental sustainability.  
 3. It delays the implementation of sustainable practices.  
 4. It allows for the privatisation of environmental resources.

**Q.22** The image formed by a convex mirror is always \_\_\_\_.

Ans  1. erect and of same size as the object  
 2. erect and diminished  
 3. inverted and diminished  
 4. inverted and of same size as the object

**Q.23** Which of the following statements is correct about the nucleus?

Ans  1. The nucleus contains mitochondria  
 2. Nucleus has a single layer covering  
 3. The nucleus contains chloroplast  
 4. Nuclear membrane has pores

**Q.24** A man receives ₹8680 per month as salary. He saves 65% of his salary every month. His expenditure per month is:

Ans  1. ₹2995  
 2. ₹2959  
 3. ₹3043  
 4. ₹3038

**Q.25** Under which scheme will the registered gig workers on the e-Shram portal receive healthcare benefits in 2025?

Ans  1. Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

2. Atal Pension Yojana (APY)

3. Ayushman Bharat PM Jan Arogya Yojana (AB-PM-JAY)

4. Pradhan Mantri Awas Yojana (PMAY)

**Q.26** Which of the following is NOT correct regarding connective tissue?

Ans  1. Ligaments connect bone to bone

2. Tendons connect muscle to bone

3. Fat storing adipose tissue is found above the skin

4. Areolar connective tissue is found between the skin and muscle

**Q.27** Each of L, M, N, O, W, X and Y has an exam on a different day of a week starting from Monday and ending on Sunday of the same week. Only Y has exam before X. Only three people have exam between M and X. Only three people have exam between L and O. W has exam on some day before O and on some day after N.

How many people have exam after L?

Ans  1. One

2. Two

3. Three

4. Four

**Q.28** Rohan starts from Point A and drives 4 km towards East. He then takes a right turn, drives 3 km, turns left and drives 6 km. He then takes a left turn and drives 3 km. He takes a final right turn, drives 3 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90 degrees turns only unless specified)

Ans  1. 3 km towards North

2. 13 km towards East

3. 7 km towards South

4. 13 km towards West

**Q.29** Which Indian film won the Best Film Award at the Asian Film Awards 2025?

Ans  1. The Disciple

2. Gully Boy

3. The White Tiger

4. All We Imagine As Light

**Q.30**

The value of  $\left(\frac{5}{8}\right) \times \left(\frac{24}{25}\right) + \left(\frac{9}{5} - 4\right)$  is

Ans

1.  $-\frac{2}{3}$

2.  $-\frac{6}{7}$

3.  $\frac{1}{4}$

4.  $-\frac{8}{5}$

**Q.1** The term “standardization” in herbal drug quality control refers to:

Ans  1. uniform particle size distribution  
 2. packaging specifications  
 3. consistent levels of marker compounds  
 4. sterilization validation

**Q.2** What is the role of P-glycoprotein in drug absorption?

Ans  1. Acts as a receptor  
 2. Enhances absorption  
 3. Facilitates uptake  
 4. Mediates efflux

**Q.3** According to GMP for sterile dosage forms, which grade of clean area is used for preparation and filling?

Ans  1. Grade A  
 2. Grade C  
 3. Grade D  
 4. Normal room conditions

**Q.4** Artificial sweeteners like saccharin are used in monophasic liquids to:

Ans  1. Enhance antimicrobial activity  
 2. Improve taste without calories  
 3. Stabilise pH  
 4. Prevent oxidation

**Q.5** Which drug is used as an appetite stimulant in cancer cachexia?

Ans  1. Megestrol acetate  
 2. Lorcaserin  
 3. Topiramate  
 4. Phentermine

**Q.6** Which drug is a direct-acting vasodilator?

Ans  1. Minoxidil  
 2. Propranolol  
 3. Captopril  
 4. Metoprolol

**Q.7** The physical method of evaluation of crude drugs is:

Ans  1. odour  
 2. colour  
 3. shape  
 4. refractive Index

**Q.8** The chemical potential ( $\mu$ ) of a component in a system is defined as :

Ans  1. The partial molar enthalpy  
 2. The partial molar internal energy  
 3. The partial molar Gibbs free energy  
 4. The partial molar entropy

**Q.9 The minimum inhibitory concentration (MIC) measures:**

Ans  1. Lowest concentration to kill bacteria  
 2. Lowest concentration to inhibit growth  
 3. Time required for sterilisation  
 4. Highest concentration tolerated by humans

**Q.10 Complex reactions are:**

Ans  1. single step reactions  
 2. elementary reactions  
 3. 2-step reactions  
 4. multistep reactions

**Q.11 Which of the following is a parenteral anticoagulant?**

Ans  1. Low molecular weight heparins  
 2. Warfarin sod.  
 3. Dabigatran etexilate  
 4. Apixaban

**Q.12 Permethrin is a:**

Ans  1. Antipruritic  
 2. Pediculocide  
 3. Fungicide  
 4. Pyrethroid insecticide

**Q.13 Hess's Law states that:**

Ans  1. heat capacity determines reaction spontaneity  
 2. enthalpy increases with temperature  
 3. the total enthalpy change depends only on initial and final states  
 4. enthalpy is conserved in all reactions

**Q.14 Steam distillation is used to extract:**

Ans  1. Insoluble solids  
 2. Inorganic salts  
 3. Volatile oils from plant materials  
 4. Non-volatile polymers

**Q.15 Aspirin exerts its anti-platelet effect by:**

Ans  1. Activating plasminogen  
 2. Irreversibly inhibiting cyclooxygenase (COX)  
 3. Inhibiting phosphodiesterase  
 4. Blocking P2Y12 receptors

**Q.16 Which of the following gases is used for gaseous sterilisation?**

Ans  1. Hydrogen sulphide  
 2. Ethylene oxide  
 3. Nitrogen oxide  
 4. Nitrogen

**Q.17** What is the separation and purification of different components in a liquid mixture known as?

Ans  1. Filtration  
 2. Size separation  
 3. Sublimation  
 4. Distillation

**Q.18** The smallest standard hard capsule size is :

Ans  1. Size 3  
 2. Size 2  
 3. Size 5  
 4. Size 0

**Q.19** Which inhibitor competes with oxygen at the terminal oxidase?

Ans  1. Malonate  
 2. Cyanide  
 3. Rotenone  
 4. Amytal

**Q.20** A straw colored liquid after the removal of the formed elements in the blood is called ---.

Ans  1. RBC  
 2. WBC  
 3. Serum  
 4. Plasma

**Q.21** Which of the following methods is NOT used for enzyme immobilisation?

Ans  1. Complexation  
 2. Non-covalent adsorption and deposition  
 3. Covalent attachment  
 4. Physical entrapment

**Q.22** Which of the following is an example of an azole antifungal?

Ans  1. Fluconazole  
 2. Caspofungin  
 3. Amphotericin B  
 4. Terbinafine

**Q.23** Which benzodiazepine has a nitro group at the 7-position, contributing to its anticonvulsant activity?

Ans  1. Nitrazepam  
 2. Diazepam  
 3. Lorazepam  
 4. Clonazepam

**Q.24** Which component of an enzyme is directly involved in substrate binding?

Ans  1. Regulatory site  
 2. Cofactor  
 3. Allosteric site  
 4. Active site

**Q.25** Which of the following is a calcium channel blocker used in the treatment of anti-hypertensive drugs?

Ans  1. Clonidine  
 2. Labetalol  
 3. Methyldopa  
 4. Amlodipine

**Q.26** Appetite stimulants can be also called as:

Ans  1. Mutagenic agent  
 2. Cholinergic agent  
 3. Antianginal agent  
 4. Orexigenic agent

**Q.27** Dipyridamole enhances anti-platelet effects by:

Ans  1. Antagonizing thromboxane receptors  
 2. Inhibiting phosphodiesterase and adenosine uptake  
 3. Directly inhibiting cyclooxygenase activity  
 4. Activating plasminogen

**Q.28** Who is responsible for approving the Installation qualification (IQ) protocol .

Ans  1. Production manager  
 2. Equipment vendor  
 3. Regulatory inspector  
 4. Quality Assurance (QA) department

**Q.29** Chlorine-based disinfectants primarily act by:

Ans  1. Denaturing proteins  
 2. Disrupting membrane integrity  
 3. Oxidising cell walls  
 4. Inhibiting DNA replication

**Q.30** Relative bioavailability compares:

Ans  1. Two oral formulations of the same drug  
 2. A drug's absorption in fasting vs. fed states  
 3. Plasma levels across species  
 4. Two different routes of administration

**Q.31** Ksira paka is obtained by:

Ans  1. plant boiled in ethanol and decanted  
 2. plant boiled in ethanol and filtered  
 3. plant boiled in milk and filtered  
 4. plant boiled in water and filtered

**Q.32** Boxer's fracture is the fracture of:

Ans  1. Ilium  
 2. Metacarpel  
 3. Facial bones  
 4. Pelvic Girdle

**Q.33** The first pure alkaloid isolated from a natural source was :

Ans

- 1. Morphine
- 2. Atropine
- 3. Quinine
- 4. Cocaine

**Q.34** Which neurotransmitter acts on the detrusor muscle to initiate contraction?

Ans

- 1. Dopamine
- 2. Acetylcholine
- 3. Serotonin
- 4. Norepinephrine

**Q.35** The name given to a drug by the manufacturer is known as:

Ans

- 1. Generic name
- 2. Proprietary name
- 3. Non-proprietary name
- 4. Chemical name

**Q.36** Which of the following numbers is referred to as the largest sized capsule?

Ans

- 1. 4
- 2. 3
- 3. 5
- 4. 000

**Q.37** The primary mechanism in a fluid bed mixer is:

Ans

- 1. Electrostatic attraction
- 2. Shear
- 3. Diffusion
- 4. Convection

**Q.38** Which of the following do not act as antidepressants:

Ans

- 1. Trifluoperazine
- 2. Moclobemide
- 3. Fluoxetine
- 4. Fluvoxamine

**Q.39** Large molecules like heparin and insulin can be easily made absorbable by the preparation of:

Ans

- 1. suspension
- 2. emulsion
- 3. lotions
- 4. syrups

**Q.40** Which enzyme system is most commonly involved in drug metabolism interactions?

Ans

- 1. Cytochrome P450
- 2. Alcohol dehydrogenase
- 3. UDP-glucuronosyltransferase
- 4. Monoamine oxidase

**Q.41** Which is an example of a dentifrice?

Ans  1. Mouthwash  
 2. Denture adhesive  
 3. Toothpaste  
 4. Dental floss

**Q.42** Which of the following is a harmful effect of free radicals in the human body?

Ans  1. Improves digestion  
 2. Causes oxidative damage to cells  
 3. Enhances enzyme activity  
 4. Promotes cell repair

**Q.43** A thin partition between left and right artery is known as:

Ans  1. Interatrial septum  
 2. Sulci  
 3. Pectinate muscles  
 4. Coronary sulcus

**Q.44** How do regulatory requirements influence channel selection for controlled-substances?

Ans  1. Allow unrestricted distribution  
 2. Mandate direct-to-consumer sales  
 3. Encourage online sales  
 4. Restrict distribution to licensed pharmacies

**Q.45** Radio immunoassays can be done using:

Ans  1. radioactive ions  
 2. label  
 3. enzyme antibodies  
 4. radioactive antibodies

**Q.46** What quantitative method helps optimize drug store inventory?

Ans  1. ABC classification  
 2. Focus group feedback  
 3. Brand equity mapping  
 4. SWOT analysis

**Q.47** Anaphylaxis is an example of:

Ans  1. type II hypersensitivity  
 2. type IV hypersensitivity  
 3. type I hypersensitivity  
 4. type III hypersensitivity

**Q.48** DNA ligase is used to:

Ans  1. seal the cut down DNA fragments  
 2. cut down DNA fragments  
 3. bind with start codon  
 4. start the replication process

**Q.49** Genetical abnormal reactivity to a chemical is also known as:

Ans  1. Hypersensitivity  
 2. Intolerance  
 3. Idiosyncrasy  
 4. Poisoning

**Q.50** Which statement violates the Drug and Magic Remedies Act?

Ans  1. Cures cancer in 30 days.  
 2. Consult your doctor before use.  
 3. Safe for all ages.  
 4. This drug is clinically proven.

**Q.51** Vigorous agitation during filtration may lead to:

Ans  1. Increased filtrate clarity  
 2. Enhanced particle capture  
 3. Cake compaction and reduced flow  
 4. Uniform cake distribution

**Q.52** Methyl polysiloxane can be classified as:

Ans  1. Digestants  
 2. Prokinetic drugs  
 3. Gallstone dissolving drugs  
 4. Antiemetics drugs

**Q.53** The term 'precipitant drug' refers to:

Ans  1. A drug requiring dose adjustment  
 2. The drug whose effect is altered  
 3. The drug causing the interaction  
 4. A drug that precipitates out of solution

**Q.54** An inert electrode is used in electrochemical cells when:

Ans  1. the cell requires high voltage  
 2. the reaction involves gas evolution  
 3. the electrode material participates in the redox reaction  
 4. the electrode must conduct electrons without reacting

**Q.55** What is the purpose of a 'bonded warehouse' associated with a bonded laboratory?

Ans  1. Storage of raw materials  
 2. Secure storage of proprietary medicine samples  
 3. Distribution center for finished products  
 4. Waste disposal facility

**Q.56** What is the purpose of the annealing step in a Polymerase Chain Reaction?

Ans  1. To terminate the reaction  
 2. To extend primers  
 3. To bind primers to template DNA  
 4. To melt DNA strands

**Q.57** Parabens act as preservatives by:

Ans  1. Neutralising acids  
 2. Disrupting microbial cell membranes  
 3. Chelating metal ions  
 4. Oxidising pathogens

**Q.58** According to Huckel's rule, an aromatic compound contains:

Ans  1.  $4n + 2\pi$  electrons  
 2.  $4n + 3\pi$  electrons  
 3.  $N + \pi$  electrons  
 4.  $4n - 2\pi$  electrons

**Q.59** Cholestyramine reduces low-density lipoprotein cholesterol by:

Ans  1. Inhibiting cholesterol absorption  
 2. Blocking cholesterol synthesis  
 3. Enhancing reverse cholesterol transport  
 4. Binding bile acids in the gut

**Q.60** Which of the following is an example of MAO-B Inhibitors?

Ans  1. Amantadine  
 2. Bromocriptine  
 3. Selegiline  
 4. Ropinirole

**Q.61** Identify the type of centrifuge that can be used to separate two immiscible liquids, from the given options.

Ans  1. Non-perforated basket centrifuge  
 2. Continuous horizontal centrifuge  
 3. Super centrifuge  
 4. Perforated basket centrifuge

**Q.62** Metal ion indicators are used in:

Ans  1. complexometric titration  
 2. acid-base titration  
 3. precipitation titration  
 4. oxidation-reduction titration

**Q.63** Calculate the equivalent weight of  $H_2SO_4$  (molar mass = 98 g/mol) in an acid-base reaction.

Ans  1. 49 g/equiv  
 2. 100 g/equiv  
 3. 196 g/equiv  
 4. 24.5 g/equiv

**Q.64** 7.045 can be rounded off as:

Ans  1. 7.4  
 2. 7.5  
 3. 7.05  
 4. 7.04

**Q.65** A major disadvantage of gelatin capsules is:

Ans  1. Cost-effective manufacturing  
 2. High stability in humid conditions  
 3. Patient-friendly administration  
 4. Incompatibility with acidic drugs

**Q.66** Which of the following is an example of an allylamine antifungal?

Ans  1. Amphotericin B  
 2. Terbinafine  
 3. Fluconazole  
 4. Caspofungin

**Q.67** The formation of microencapsulation technique using coacervation phase separation technique is a \_\_\_\_\_.

Ans  1. three-step process  
 2. single-step process  
 3. two-step process  
 4. five-step process

**Q.68** Latin or English names of crude drugs are considered in which system of classification of drugs?

Ans  1. Chemical classification  
 2. Pharmacological classification  
 3. Morphological classification  
 4. Alphabetical classification

**Q.69** HMG-COA reductase inhibitors are also known as:

Ans  1. Statins  
 2. Triglyceride synthesis inhibitor  
 3. PPAR $\alpha$  agonists: Fibrates  
 4. Bile acid sequestrants

**Q.70** Leprosy can be classified into:

Ans  1. 5 classes  
 2. 6 classes  
 3. 7 classes  
 4. 3 classes