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THE CHAKRIPATH SOLUTION SERIES

Answer key

& worked solutions

SET D ONLY | Paper code ERSM/24/I

Full English questions 1-100, with options A-D
Explanations • Worked maths • Clickable answer grid

100	+2	-0.5
QUESTIONS	CORRECT	WRONG

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This answer booklet is for SET D ONLY.
Full questions and option letters follow Set D, paper code ERSM/24/I. Q26 is provisional; Q49 contains a printing error. This is ChakriPath's independently prepared key, not an official commission key.

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Quick answer key

Click any question number to open its explanation. An asterisk marks the provisional entry.

1-25		26-50		51-75		76-100	
01	B	26	B*	51	C	76	D
02	A	27	B	52	A	77	D
03	C	28	C	53	A	78	B
04	B	29	B	54	D	79	B
05	C	30	A	55	A	80	B
06	B	31	A	56	D	81	A
07	C	32	B	57	D	82	A
08	C	33	C	58	C	83	D
09	B	34	A	59	B	84	D
10	B	35	C	60	D	85	B
11	C	36	B	61	C	86	B
12	C	37	B	62	C	87	C
13	B	38	A	63	B	88	D
14	D	39	B	64	C	89	C
15	B	40	B	65	A	90	B
16	B	41	B	66	B	91	A
17	A	42	B	67	B	92	B
18	A	43	D	68	B	93	C
19	C	44	D	69	B	94	B
20	C	45	B	70	A	95	D
21	C	46	B	71	B	96	D
22	B	47	A	72	C	97	C
23	A	48	A	73	B	98	B
24	B	49	A	74	A	99	A
25	C	50	C	75	C	100	D

Q26: B* is provisional pending the official key. **Q49: A** assumes the printed “Buten” means butane. See the detailed notes.

Calculate your score

Score = (2 × correct answers) - (0.5 × wrong answers).
Unanswered questions contribute 0. Reconcile provisional entries with the official key before treating the total as final.

Questions 1-2

BACK TO ANSWER GRID ↑

Q1 **Loktak lake is located in**

(A) Assam
(B) Manipur
(C) Mizoram
(D) Tripura

Correct answer: B | Manipur

Explanation
Loktak Lake lies in Manipur. It is known for its floating phumdis and the adjoining Keibul Lamjao National Park.

Q2 **Two vessels A and B contain milk and water mixed in the ratio 4 : 3 and 2 : 3. The ratio in which these mixtures should be mixed to form a new mixture containing half milk and half water is**

(A) 7 : 5
(B) 6 : 5
(C) 5 : 6
(D) 4 : 3

Correct answer: A | 7:5

Explanation
Let the quantities taken from A and B be x and y. For half milk, 4x/7 + 2y/5 = (x + y)/2. So x/14 = y/10, giving x:y = 14:10 = **7:5**.

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Questions 3-4

BACK TO ANSWER GRID ↑

Q3 **The value of $\frac{1}{20} + \frac{1}{30} + \frac{1}{42} + \frac{1}{56} + \frac{1}{72} + \frac{1}{90}$ is**

(A) $\frac{1}{10}$

(B) $\frac{3}{5}$

(C) $\frac{3}{20}$

(D) $\frac{7}{20}$

Correct answer: C | 3/20

Explanation
Each term is 1/[n(n + 1)] = 1/n - 1/(n + 1), with n = 4 to 9.
The middle terms cancel: sum = 1/4 - 1/10 = (5 - 2)/20 = **3/20**.

Q4 **Costs of two watches were in the ratio 16 : 23. The cost of the first watch increases by 10% and that of the second by ₹477. Now the costs of the two watches are in the ratio 11 : 20. The price of the second watch (in ₹) in the beginning was**

(A) 932
(B) 1,219
(C) 1,696
(D) 848

Correct answer: B | ₹1,219

Explanation
Let the original prices be 16x and 23x. After the increases, 17.6x/(23x + 477) = 11/20.
352x = 253x + 5,247, so x = 53. The second watch originally cost 23 × 53 = **₹1,219**.

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Questions 5-7

BACK TO ANSWER GRID ↑

Q5 **India crossed what milestone in non-fossil fuel based installed electricity generation capacity in July, 2026?**

(A) 200 GW
(B) 250 GW
(C) 300 GW
(D) 350 GW

Correct answer: C | 300 GW

Explanation
India's non-fossil installed power capacity reached 300.50 GW by 31 July 2026, crossing the 300 GW milestone. [PIB]

Q6 **The 2026 Commonwealth Games were held in**

(A) Birmingham, England
(B) Glasgow, Scotland
(C) Cardiff, Wales
(D) Edinburgh, Scotland

Correct answer: B | Glasgow, Scotland

Explanation
Glasgow hosted the 2026 Commonwealth Games from 23 July to 2 August 2026. [Glasgow 2026]

Q7 **Two plane mirrors facing each other are kept at 60°. A point is located on the angle bisector. The number of images of the point is**

(A) 6
(B) 3
(C) 5
(D) infinite

Correct answer: C | 5

Explanation
360°/60° = 6. Since this is an even integer, the number of images is 6 - 1 = **5**.

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Questions 8-10

BACK TO ANSWER GRID ↑

Q8 **Which Pass connects Srinagar with Leh?**

(A) Nathu-La
(B) Bum-La
(C) Zoji-La
(D) Shipki-La

Correct answer: C | Zoji La

Explanation
Zoji La lies on the Srinagar-Leh route, connecting the Kashmir Valley with Ladakh.

Q9 **The temple of Somnath, which was destroyed by Mahmud Ghazni, was a temple dedicated to Lord**

(A) Vishnu
(B) Shiva
(C) Surya
(D) Krishna

Correct answer: B | Shiva

Explanation
Somnath is a Shiva temple in Gujarat and one of the twelve Jyotirlinga shrines.

Q10 **To which of the following dynasties did Karikala, the famous king of Sangam period belong?**

(A) Chera
(B) Chola
(C) Pandya
(D) Pallava

Correct answer: B | Chola

Explanation
Karikala was a prominent early Chola ruler of the Sangam period, associated with the Kallanai dam on the Kaveri.

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Questions 11-13

BACK TO ANSWER GRID ↑

Q11 **What is the capital of Cabo Verde?**

(A) Tunis
(B) Bishkek
(C) Praia
(D) Maputo

Correct answer: C | Praia

Explanation
Praia, on Santiago Island, is the capital of Cabo Verde, the Atlantic island country off West Africa.

Q12 **What is the capital of Ukraine?**

(A) Muscat
(B) Warsaw
(C) Kyiv
(D) Abu Dhabi

Correct answer: C | Kyiv

Explanation
Kyiv is Ukraine's capital and lies on the Dnipro River. It is also a major political and cultural centre.

Q13 **In what proportion water must be added to spirit to gain 20% by selling it at the cost price?**

(A) 2 : 5
(B) 1 : 5
(C) 3 : 5
(D) 4 : 5

Correct answer: B | 1:5

Explanation
Let spirit be s litres at ₹c per litre and free water be w litres. Cost = cs; selling price = c(s + w).
Profit rate = cw/(cs) = w/s = 20/100. Therefore water:spirit = **1:5**.

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Questions 14-15

BACK TO ANSWER GRID ↑

Q14 **If 30% of A is added to 40% of B, the answer is 80% of B. What percentage of A is B?**

(A) 30%
(B) 40%
(C) 70%
(D) 75%

Correct answer: D | 75%

Explanation
0.30A + 0.40B = 0.80B, so 0.30A = 0.40B.
B/A = 0.30/0.40 = 3/4. Hence B is **75%** of A.

Q15 **Which catalyst is used for the synthesis of H_2SO_4 in contact process?**

(A) Fe
(B) V_2O_5
(C) Cu
(D) MnO_2

Correct answer: B | V_2O_5

Explanation
Vanadium(V) oxide catalyses the oxidation of sulphur dioxide to sulphur trioxide, a key step in the contact process.

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Questions 16-18

BACK TO ANSWER GRID ↑

Q16 **Radha spends 40% of her salary on food, 20% on house rent, 10% on entertainment and 10% on conveyance. If her savings at the end of a month is ₹1,500, then her salary per month (in ₹) is**

(A) 8,000
(B) 7,500
(C) 6,000
(D) 10,000

Correct answer: B | ₹7,500

Explanation
Total expenditure = 40% + 20% + 10% + 10% = 80%; savings = 20%.
Salary = 1,500 ÷ 0.20 = **₹7,500**.

Q17 **The Gond is one of the major tribal communities of**

(A) Central India
(B) Punjab
(C) Kerala
(D) Jammu and Kashmir

Correct answer: A | Central India

Explanation
Gond communities are concentrated in central India, especially Madhya Pradesh, Chhattisgarh and adjoining areas.

Q18 **Which one is the primary ore of iron?**

(A) Hematite
(B) Bauxite
(C) Malachite
(D) Limestone

Correct answer: A | Hematite

Explanation
Hematite is iron(III) oxide, Fe_2O_3, and a major commercially important iron ore.

Questions 19-21

BACK TO ANSWER GRID ↑

Q19 **Which smallest number must be added to 2203 so that we get a perfect square?**

(A) 1
(B) 3
(C) 6
(D) 8

Correct answer: C | 6

Explanation
$46^2 = 2,116$ and $47^2 = 2,209$. The next perfect square above 2,203 is 2,209.
Required addition = 2,209 - 2,203 = **6**.

Q20 **Which one of the following is not a greenhouse gas?**

(A) CO_2
(B) CH_4
(C) N_2
(D) Chlorofluorocarbon (CFC)

Correct answer: C | N_2

Explanation
Nitrogen does not significantly absorb terrestrial infrared radiation. CO_2, methane and CFCs do contribute to the greenhouse effect.

Q21 **Who is the present Vice-President of India?**

(A) Jagdeep Dhankhar
(B) M. Venkaiah Naidu
(C) C. P. Radhakrishnan
(D) Mohammad Hamid Ansari

Correct answer: C | C. P. Radhakrishnan

Explanation
C. P. Radhakrishnan assumed office as Vice-President on 12 September 2025. This answer is checked for 4 October 2026. [Official profile]

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Questions 22-24

BACK TO ANSWER GRID ↑

Q22 **The time duration of 1 hour 45 minutes is what percent of a day?**

(A) 7.218%
(B) 7.292%
(C) 8.3%
(D) 8.24%

Correct answer: B | 7.292%

Explanation
1 hour 45 minutes = 105 minutes; a day = 24 × 60 = 1,440 minutes.
Percentage = (105/1,440) × 100 = 7.291666...%, which rounds to **7.292%**.

Q23 **The Tehri Dam is built on the**

(A) Bhagirathi river
(B) Alakananda river
(C) Yamuna river
(D) Son river

Correct answer: A | Bhagirathi

Explanation
Tehri Dam stands on the Bhagirathi River in Uttarakhand, upstream of its confluence with the Alaknanda.

Q24 **COP 31, the 2026 UN Climate Change Conference will be held in**

(A) Dubai, UAE
(B) Antalya, Türkiye
(C) Paris, France
(D) Nairobi, Kenya

Correct answer: B | Antalya, Türkiye

Explanation
COP31 is scheduled in Antalya, Türkiye, from 9 to 20 November 2026. [UNFCCC]

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Questions 25-26

BACK TO ANSWER GRID ↑

Q25 **Which of the following is a direct tax?**

(A) Goods and Services Tax (GST)
(B) Value Added Tax (VAT)
(C) Corporate Tax
(D) Customs Duty

Correct answer: C | Corporate Tax

Explanation
Corporate tax is imposed directly on a company's taxable profits. GST, VAT and customs duty are indirect taxes.

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Q26 **About the Deccan policy of Aurangzeb, Jadunath Sarkar has written, "The Spanish ulcer ruined Napoleon and the Deccan ulcer ruined Aurangzeb," because**

(A) the Mughal-Maratha wars spread to the whole of the South, except Kerala.
(B) the endless wars in the South demoralised the Mughal army and ruined economy in the South completely.
(C) the wars in the South turned into civil wars, the end of which seemed impossible.
(D) All of the above

Correct answer: B* | Endless wars weakened the army and economy

Explanation
The prolonged Deccan campaigns drained resources and weakened Mughal military morale. **B is the best-supported explanation; keep Q26 provisional until the official key is issued.** [History reference]

Questions 27-29

BACK TO ANSWER GRID ↑

Q27 **The chief architect of the Prarthana Samaj in Maharashtra was**

(A) R. G. Bhandarkar
(B) M. G. Ranade
(C) Pandita Ramabai
(D) Ganesh Agarkar

Correct answer: B | M. G. Ranade

Explanation
Ranade was a leading organiser and reformer of the Prarthana Samaj. Atmaram Pandurang founded it in 1867; the question asks its chief architect.

Q28 **When a computer is switched on, the BIOS is loaded from**

(A) Hard disk
(B) RAM
(C) ROM
(D) CD-ROM

Correct answer: C | ROM

Explanation
BIOS firmware is stored in non-volatile memory, conventionally called ROM. Modern computers generally use rewritable flash memory.

Q29 **Disease triangle consists of**

(A) pathogen, primary host and secondary host.
(B) host, pathogen and environment.
(C) primary, secondary and tertiary host.
(D) host, parasite and pesticide.

Correct answer: B | Host, pathogen and environment

Explanation
Disease develops through the interaction of a susceptible host, a disease-causing pathogen and a favourable environment.

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Questions 30-32

BACK TO ANSWER GRID ↑

Q30 **The simplification of $\frac{1}{8} + \frac{1}{8^2} + \frac{1}{8^3} + \frac{1}{8^4} + \frac{1}{8^5}$ up to three places of decimals yields**

(A) 0.143
(B) 0.163
(C) 0.215
(D) 0.715

Correct answer: A | 0.143

Explanation
This is a geometric progression with a = r = 1/8 and n = 5.
S = (1/8)[1 - (1/8)^5]/[1 - 1/8] = 4,681/32,768 = 0.14285278...
Rounded to three decimal places, S = **0.143**.

Q31 **If CAT is coded as DBU, how will DOG be coded?**

(A) E P H
(B) E O G
(C) F P H
(D) E P G

Correct answer: A | EPH

Explanation
Move each letter one position forward: D → E, O → P and G → H. Thus DOG becomes EPH.

Q32 **If 5 × 4 = 41 and 6 × 3 = 45 according to a certain rule, then 7 × 2 = ?**

(A) 51
(B) 53
(C) 55
(D) 57

Correct answer: B | 53

Explanation
The symbol represents the sum of squares: $5^2 + 4^2 = 41$ and $6^2 + 3^2 = 45$.
Therefore $7^2 + 2^2 = 49 + 4 =$ **53**.

Questions 33-34

BACK TO ANSWER GRID ↑

Q33 **3 men or 5 women can do a work in 12 days. How long will 6 men and 5 women take to finish the work?**

(A) 20 days
(B) 10 days
(C) 4 days
(D) 3 days

Correct answer: C | 4 days

Explanation
3 men or 5 women finish the work in 12 days. One man's daily rate = 1/36; one woman's = 1/60.
Combined daily rate = 6/36 + 5/60 = 1/6 + 1/12 = 1/4.
Time = 1 ÷ (1/4) = **4 days**.

Q34 **Who served as President of the 80th Session of the UN General Assembly?**

(A) Annalena Baerbock
(B) Ursula Von de Leyen
(C) Mia Mottley
(D) Amina J. Mohammed

Correct answer: A | Annalena Baerbock

Explanation
Annalena Baerbock was elected on 2 June 2025 to preside over the 80th session, covering 2025-26. [United Nations]

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Questions 35-37

BACK TO ANSWER GRID ↑

Q35 **The smallest five-digit number which is divisible by 12, 18 and 21 is**

(A) 10224
(B) 30256
(C) 10080
(D) 50321

Correct answer: C | 10,080

Explanation
$12 = 2^2 \times 3$; $18 = 2 \times 3^2$; $21 = 3 \times 7$. LCM $= 2^2 \times 3^2 \times 7 = 252$.
$252 \times 39 = 9{,}828$; $252 \times 40 =$ **10,080**, the first five-digit multiple.

Q36 **Keoladeo National Park is internationally renowned for its**

(A) coral reef ecosystem.
(B) bird sanctuary.
(C) desert lake ecosystem.
(D) mangrove forest.

Correct answer: B | Bird sanctuary

Explanation
Keoladeo, at Bharatpur in Rajasthan, is renowned for its wetland birds and is a UNESCO World Heritage Site.

Q37 **Which state of India shares the longest boundary with West Bengal?**

(A) Bihar
(B) Jharkhand
(C) Odisha
(D) Assam

Correct answer: B | Jharkhand

Explanation
Among the Indian states adjoining West Bengal, Jharkhand shares the longest boundary with it.

Questions 38-40

BACK TO ANSWER GRID ↑

Q38 **Which of the following rivers does not make a delta?**

(A) Tapti
(B) Kaveri
(C) Krishna
(D) Godavari

Correct answer: A | Tapti (Tapi)

Explanation
The west-flowing Tapti reaches the Gulf of Khambhat through an estuary, unlike the delta-forming rivers in the other choices.

Q39 **Which country holds the G7 Presidency in 2026?**

(A) Germany
(B) France
(C) Italy
(D) Canada

Correct answer: B | France

Explanation
France held the 2026 G7 presidency and hosted the leaders' summit at Évian from 15 to 17 June. [French Presidency]

Q40 **What is the central bank of India called?**

(A) State Bank of India
(B) Reserve Bank of India (RBI)
(C) Bank of India
(D) Central Bank of India

Correct answer: B | Reserve Bank of India

Explanation
The RBI conducts monetary policy, issues currency and regulates major parts of India's banking system.

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Questions 41-43

BACK TO ANSWER GRID ↑

Q41 **Which of the following is an example of a ‘Merit Good’?**

(A) Cigarettes
(B) Education
(C) Luxury Cars
(D) Fast Food

Correct answer: B | Education

Explanation
Education produces benefits for both the learner and society. Merit goods tend to be under-consumed relative to their social value.

Q42 **Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) was adopted by**

(A) African Union
(B) United Nations
(C) SAARC
(D) European Union

Correct answer: B | United Nations

Explanation
The UN General Assembly adopted the Convention on the Elimination of All Forms of Discrimination against Women in 1979.

Q43 **Which one of these fighter aircrafts was purchased by India from France?**

(A) MiG-21
(B) MiG-27
(C) F-16
(D) Rafale

Correct answer: D | Rafale

Explanation
Rafale is a multirole combat aircraft manufactured by France's Dassault Aviation.

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Questions 44-46

BACK TO ANSWER GRID ↑

Q44 **The smallest halogen atom is**

(A) I
(B) Br
(C) Cl
(D) F

Correct answer: D | Fluorine

Explanation
Atomic size generally increases down Group 17 as additional electron shells are added. Fluorine is the smallest halogen.

Q45 **When a number is divided by 56, the remainder obtained is 29. What will be the remainder when the number is divided by 8?**

(A) 4
(B) 5
(C) 3
(D) 7

Correct answer: B | 5

Explanation
Write N = 56k + 29. Since 56 is divisible by 8, only the remainder of 29 matters.
29 = 8 × 3 + 5, so the required remainder is **5**.

Q46 **Which of the following optical phenomena is mainly responsible for the formation of a rainbow?**

(A) Reflection of light only
(B) Refraction, dispersion and internal reflection of light
(C) Diffraction of light only
(D) Polarization of light only

Correct answer: B | Refraction, dispersion and internal reflection

Explanation
Sunlight refracts and separates into colours inside water droplets, undergoes internal reflection, and refracts again on leaving.

Questions 47-49

BACK TO ANSWER GRID ↑

Q47 **Sulphur containing amino acids are _____ and _____.**

(A) cysteine, methionine
(B) methionine, threonine
(C) threonine, cysteine
(D) cysteine, serine

Correct answer: A | Cysteine and methionine

Explanation
Cysteine contains a thiol group; methionine contains sulphur in a thioether group. Both are sulphur-containing amino acids.

Q48 **The Purna Swaraj resolution was passed at which session of the Congress?**

(A) Lahore
(B) Karachi
(C) Lucknow
(D) Calcutta

Correct answer: A | Lahore, 1929

Explanation
The Lahore session, presided over by Jawaharlal Nehru, adopted complete independence as the Congress goal in December 1929.

Q49 **The primary chemical compound present in LPG is**

(A) Buten
(B) Acetylene
(C) Ethylene
(D) Ethanol

Correct answer: A | Butane (intended wording)

Explanation
LPG consists mainly of propane and butane. Option A is printed as 'Buten'; it is treated here as a spelling error for butane.

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Questions 50-51

BACK TO ANSWER GRID ↑

Q50 **Akbar introduced the Mansabdari System in order to**

(A) create a loyal band of followers.
(B) distribute favours among his supporters.
(C) organise the nobility as well as his army.
(D) satisfy the natural ego of his officers.

Correct answer: C | Organise the nobility and army

Explanation
Mansabs assigned ranks that governed status, pay and military responsibilities, integrating nobles into imperial administration and service.

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Q51 **Which is the longest river in peninsular India?**

(A) Narmada
(B) Krishna
(C) Godavari
(D) Mahanadi

Correct answer: C | Godavari

Explanation
The Godavari is the longest peninsular river and is often called the Dakshin Ganga.

Questions 52-54

BACK TO ANSWER GRID ↑

Q52 **Which Article of the Indian Constitution ensures ‘Equality before the Law’?**

(A) Article 14
(B) Article 15
(C) Article 16
(D) Article 17

Correct answer: A | Article 14

Explanation
Article 14 guarantees equality before the law and equal protection of the laws within the territory of India.

Q53 **The Asiatic Society of Bengal (1784) was founded by whom?**

(A) William Jones
(B) Warren Hastings
(C) James Mackintosh
(D) James Prinsep

Correct answer: A | Sir William Jones

Explanation
William Jones founded the Asiatic Society in Calcutta in January 1784 to advance research on Asia's history, languages and culture.

Q54 **Which one of the following has the lowest oxidizing power?**

(A) Cl_2
(B) Br_2
(C) F_2
(D) I_2

Correct answer: D | Iodine

Explanation
For the elemental halogens, oxidising strength decreases down the group: $F_2 > Cl_2 > Br_2 > I_2$.

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Questions 55-56

BACK TO ANSWER GRID ↑

Q55 **$\frac{2}{3}$ of three-fourth of a number is**

(A) $\frac{1}{2}$ of the number.

(B) $\frac{1}{5}$ of the number.

(C) $\frac{7}{9}$ of the number.

(D) $\frac{15}{13}$ of the number.

Correct answer: A | 1/2 of the number

Explanation
Let the number be x. (2/3) × (3/4) × x = (6/12)x = **x/2**.
The required fraction is **1/2** of the number.

Q56 **Which of the following is not a basis for the classification of animals?**

(A) Segmentation
(B) Levels of organization
(C) Symmetry
(D) Mode of nutrition

Correct answer: D | Mode of nutrition

Explanation
Standard animal classification uses features such as organisation, symmetry, germ layers, coelom and segmentation. Animals broadly share heterotrophic nutrition. [NCERT]

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Questions 57-59

BACK TO ANSWER GRID ↑

Q57 **Which of the following States is the full member of BRICS?**

(A) Italy
(B) Sweden
(C) Iraq
(D) China

Correct answer: D | China

Explanation
China is a founding BRICS member. Italy, Sweden and Iraq are not full members of the grouping.

Q58 **Before the foundation of Calcutta, the biggest English Settlement in Bengal was**

(A) Qasim Bazar
(B) Chittagong
(C) Hughli
(D) Murshidabad

Correct answer: C | Hughli (Hooghly)

Explanation
The English East India Company established an important factory at Hughli in the seventeenth century, before Calcutta became its main base.

Q59 **A triple bond present in which of the following molecules?**

(A) H_2
(B) N_2
(C) O_2
(D) Br_2

Correct answer: B | N_2

Explanation
The two nitrogen atoms in N_2 share three electron pairs, forming an N≡N triple bond.

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Questions 60-61

BACK TO ANSWER GRID ↑

Q60 **A can do $\frac{1}{2}$ of a piece of work in 5 days, B can do $\frac{3}{5}$ of the same work in 9 days and C can do $\frac{2}{3}$ of that work in 8 days. In how many days can the three of them together do the work?**

(A) 3 days
(B) 5 days
(C) 4½ days
(D) 4 days

Correct answer: D | 4 days

Explanation
A's rate = (1/2)/5 = 1/10; B's = (3/5)/9 = 1/15; C's = (2/3)/8 = 1/12.
Total daily rate = 1/10 + 1/15 + 1/12 = (6 + 4 + 5)/60 = 1/4.
Time = 1 ÷ (1/4) = **4 days**.

Q61 **Which of the following is not a stem modification?**

(A) Bulb of onion
(B) Corm of arbi
(C) Tuber of sweet potato
(D) Tuber of potato

Correct answer: C | Sweet potato tuber

Explanation
Sweet potato stores food in a modified root. Potato tubers, onion bulbs and arbi corms are stem modifications. [NCERT]

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Questions 62-63

BACK TO ANSWER GRID ↑

Q62 **'Cost-push inflation' is caused by**

(A) an increase in aggregate demand.
(B) a decrease in the supply of money.
(C) an increase in the wages or raw materials.
(D) a decrease in the velocity of money.

Correct answer: C | Higher wages and raw-material costs

Explanation
Higher production costs reduce supply or raise the prices firms must charge. This is cost-push, rather than demand-pull, inflation.

Q63 **A man borrowed some money from a private organization at 5% simple interest per annum. He lent 50% of this money to another person at 10% compound interest per annum and thereby made a profit of ₹3,205 in 4 years. The man borrowed**

(A) ₹80,000
(B) ₹1,00,000
(C) ₹1,20,000
(D) ₹1,50,000

Correct answer: B | ₹1,00,000

Explanation
Let the borrowed principal be P. Interest paid = P × 0.05 × 4 = 0.20P.
Interest earned on P/2 = (P/2)[$(1.10)^4$ - 1] = (P/2)(0.4641) = 0.23205P.
Net profit = 0.23205P - 0.20P = 0.03205P = ₹3,205.
Therefore P = 3,205/0.03205 = **₹1,00,000**.

Questions 64-66

BACK TO ANSWER GRID ↑

Q64 **India is the member of which of the following organizations?**

(A) NATO
(B) Mercosur
(C) Quad
(D) OPEC

Correct answer: C | Quad

Explanation
The Quad comprises India, Australia, Japan and the United States. India is not a member of NATO, Mercosur or OPEC.

Q65 **An item costing ₹840 was sold by a shopkeeper at a gain of 10% and it was again sold by the new buyer at a loss of 5%. The final selling price of the item is**

(A) ₹877.80
(B) ₹798
(C) ₹924
(D) ₹37.80

Correct answer: A | ₹877.80

Explanation
First selling price = 840 × 1.10 = ₹924. This becomes the next seller's cost price.
Final selling price = 924 × 0.95 = **₹877.80**.

Q66 **Which among the following is called as 'Portuguese man of war'?**

(A) Pennatula
(B) Physalia
(C) Adamsia
(D) Metridium

Correct answer: B | Physalia

Explanation
Physalia is a colonial hydrozoan with specialised zooids. Despite its appearance, it is not a true jellyfish. [AMNH]

Questions 67-69

BACK TO ANSWER GRID ↑

Q67 **In the context of financial markets, what does ‘SEBI’ stand for?**

(A) State Economic Bureau of India
(B) Securities and Exchange Board of India
(C) Stock Exchange and Banking Institution
(D) Social Enterprise and Business Initiative

Correct answer: B | Securities and Exchange Board of India

Explanation
SEBI regulates India's securities market and protects investors while promoting orderly market development.

Q68 **In which year did Swami Vivekananda deliver his legendary speech at the Parliament of the World’s Religions in Chicago?**

(A) 1891 A.D.
(B) 1893 A.D.
(C) 1895 A.D.
(D) 1897 A.D.

Correct answer: B | 1893

Explanation
Swami Vivekananda addressed the World's Parliament of Religions in Chicago in September 1893.

Q69 **If the displacement-time graph of a particle is parallel to the time axis, then**

(A) the particle is moving with uniform velocity.
(B) the particle is at rest.
(C) the particle is moving with uniform acceleration.
(D) the particle is moving with increasing acceleration.

Correct answer: B | Particle at rest

Explanation
A horizontal displacement-time graph shows constant displacement. Its slope, and therefore velocity, is zero.

Questions 70-71

BACK TO ANSWER GRID ↑

Q70 **The ratio of the number of boys to that of girls in a school having 504 students is 13 : 11. What will be the new ratio if 3 more girls are admitted?**

(A) 7 : 6
(B) 6 : 7
(C) 10 : 11
(D) 13 : 14

Correct answer: A | 7:6

Explanation
Initial ratio 13:11 has 24 parts; each part = 504/24 = 21.
Boys = 13 × 21 = 273; girls = 11 × 21 = 231. New girls = 234.
New ratio = 273:234 = **7:6**.

Q71 **The wrath of the indigo agitation of the nineteenth century was mainly directed against the oppression of the peasants by**

(A) the Government
(B) the Foreign Planters
(C) the Zamindars
(D) the Money Lenders

Correct answer: B | Foreign planters

Explanation
Indigo ryots resisted coercion and exploitation by European planters, culminating in the Bengal Indigo Revolt of 1859-60.

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Questions 72-74

BACK TO ANSWER GRID ↑

Q72 **Which of the following is the main source of income for the government of India?**

(A) Foreign Aid
(B) Printing Currency
(C) Taxes
(D) Sale of Public Sector Undertakings

Correct answer: C | Taxes

Explanation
Tax revenue, including direct and indirect taxes, is the principal source of regular government revenue among the listed choices.

Q73 **Find the next number: 2, 6, 12, 20, 30, ?**

(A) 40
(B) 42
(C) 44
(D) 46

Correct answer: B | 42

Explanation
The terms are n(n + 1): 1×2, 2×3, 3×4, 4×5 and 5×6.
The next term is 6 × 7 = **42**; equivalently, add the next even difference, 12.

Q74 **Who is popular in Indian history as the ‘Grand Old Man of India’?**

(A) Dadabhai Naoroji
(B) Mahatma Gandhi
(C) Gopal Krishna Gokhale
(D) Bal Gangadhar Tilak

Correct answer: A | Dadabhai Naoroji

Explanation
Dadabhai Naoroji is known by this title and for explaining the drain of wealth from colonial India.

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Questions 75-76

BACK TO ANSWER GRID ↑

Q75 **Which fundamental right cannot be suspended even during a national emergency?**

(A) Right to freedom of speech
(B) Right to equality
(C) Right to life and personal liberty
(D) Right to constitutional remedies

Correct answer: C | Right to life and personal liberty

Explanation
Article 21 protects life and personal liberty. Article 359 excludes Articles 20 and 21 from orders suspending the right to seek enforcement.

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Q76 **The cost of manufacture of a tape recorder is ₹1,500. The manufacturer fixes the marked price 20% above the cost of manufacture and allows a discount in such a way as to get a profit of 8%. The rate of discount is**

(A) 12%
(B) 8%
(C) 20%
(D) 10%

Correct answer: D | 10%

Explanation
Marked price = 1,500 × 1.20 = ₹1,800; selling price = 1,500 × 1.08 = ₹1,620.
Discount = 1,800 - 1,620 = ₹180.
Discount percentage = (180/1,800) × 100 = **10%**.

Questions 77-79

BACK TO ANSWER GRID ↑

Q77 **If a + b + c = 0, then find the value of $\left(\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab}\right)$.**

(A) -1
(B) 0
(C) 1
(D) 3

Correct answer: D | 3

Explanation
Taking the common denominator abc, the sum is $(a^3 + b^3 + c^3)/(abc)$.
Since $a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca) = 0$,
$a^3 + b^3 + c^3 = 3abc$. Hence the sum is **3**, with $abc \neq 0$.

Q78 **An association of interacting species inhabiting a define area is**

(A) Individual
(B) Community
(C) Ecotype
(D) Population

Correct answer: B | Community

Explanation
A community consists of populations of different species living and interacting in an area. A population contains members of one species.

Q79 **The sum of all even numbers between 21 and 51 is**

(A) 518
(B) 540
(C) 560
(D) 596

Correct answer: B | 540

Explanation
The numbers are 22, 24, ..., 50. Number of terms = (50 - 22)/2 + 1 = 15.
Sum = 15 × (22 + 50)/2 = 15 × 36 = **540**.

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Questions 80-82

BACK TO ANSWER GRID ↑

Q80 **Which radiation can pass through a sheet of paper but is stopped by a few millimetres of aluminium sheet?**

(A) Alpha rays
(B) Beta rays
(C) Gamma rays
(D) Visible rays

Correct answer: B | Beta radiation

Explanation
Beta particles penetrate paper but can be stopped by a suitable thickness of aluminium. Gamma radiation requires much denser or thicker shielding. [NRC]

Q81 **The velocity of P waves is**

(A) 5 to 8 km/second.
(B) 3 to 5 km/second.
(C) 1 to 2 km/second.
(D) None of the above

Correct answer: A | 5-8 km/s

Explanation
P-waves are the fastest seismic body waves. The expected range here is 5-8 km/s; actual speed depends on the medium and depth.

Q82 **Who is the Director General of the World Health Organization (WHO) in 2026?**

(A) Tedros Adhanom Ghebreyesus
(B) Margaret Chan
(C) Gro Harlem Brundtland
(D) Ngozi Okonjo-Iweala

Correct answer: A | Tedros Adhanom Ghebreyesus

Explanation
Tedros was re-elected for a second five-year term in 2022 and is WHO Director-General in 2026. [WHO]

Questions 83-85

BACK TO ANSWER GRID ↑

Q83 **A vendor buys 3 bananas in a rupee and sells 4 in a rupee. Find his profit or loss percentage.**

(A) Profit 15%
(B) Profit 25%
(C) Loss 15%
(D) Loss 25%

Correct answer: D | 25% loss

Explanation
Use 12 bananas: cost price = 12/3 = ₹4; selling price = 12/4 = ₹3.
Loss = ₹1; loss percentage = (1/4) × 100 = **25%**.

Q84 **Which of the following is the autobiography of Nelson Mandela?**

(A) All About Love: New Visions
(B) The Wretched of the Earth
(C) Waiting for a Visa
(D) Long Walk to Freedom

Correct answer: D | Long Walk to Freedom

Explanation
Long Walk to Freedom recounts Mandela's life, the struggle against apartheid and his years of imprisonment.

Q85 **What was the theme of National Science Day, 2026?**

(A) Science for Sustainable Development
(B) Women in Science: Catalysing Viksit Bharat
(C) Science for New India
(D) Science and Innovation for all

Correct answer: B | Women in Science: Catalysing Viksit Bharat

Explanation
The official 2026 theme highlights women's participation in science and their role in a developed India. [PIB]

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Questions 86-88

BACK TO ANSWER GRID ↑

Q86 **Who was the first Law Minister of independent India?**

(A) C. D. Deshmukh
(B) Dr. B. R. Ambedkar
(C) Maulana Abul Kalam Azad
(D) Dr. Rajendra Prasad

Correct answer: B | B. R. Ambedkar

Explanation
Ambedkar served as independent India's first Law Minister and chaired the Constitution's Drafting Committee.

Q87 **Which Indian athlete is aiming for a hat-trick of Asian Games gold medals in men’s javelin throw?**

(A) Kishore Jena
(B) Rohit Yadav
(C) Neeraj Chopra
(D) Tajinder Pal Singh Toor

Correct answer: C | Neeraj Chopra

Explanation
Chopra won javelin gold at the 2018 and 2022 Asian Games editions. The question refers to his bid for a third successive title.

Q88 **How many permanent members are there in the Security Council of the United Nations?**

(A) 7
(B) 8
(C) 6
(D) 5

Correct answer: D | 5

Explanation
The permanent members are China, France, Russia, the United Kingdom and the United States.

Questions 89-91

BACK TO ANSWER GRID ↑

Q89 **Equal sums of money are lent to X and Y at 7.5% S.I. per annum for periods of 4 years and 5 years respectively. If the difference in the interest paid by them was ₹150, the sum lent to each was**

(A) ₹500
(B) ₹1,000
(C) ₹2,000
(D) ₹3,000

Correct answer: C | ₹2,000

Explanation
The time difference is one year. Hence the interest difference is P × 7.5/100 × 1 = ₹150. P = 150 × 100/7.5 = **₹2,000** for each loan.

Q90 **'Disguised Unemployment' is a situation where**

(A) people are not willing to work at the going wage rate.
(B) people are employed but their marginal productivity is zero or negligible.
(C) the unemployment rate is hidden due to lack of proper data.
(D) people are employed only in the informal sector.

Correct answer: B | Workers with zero or negligible marginal productivity

Explanation
More people work than are needed for the same output. Removing the surplus workers leaves total production largely unchanged.

Q91 **Which one is the feature of economic globalization?**

(A) Foreign Direct Investment
(B) Subsidies to the Industries
(C) Community-led Economic Development
(D) License-based Industrialization

Correct answer: A | Foreign direct investment

Explanation
FDI links economies through cross-border ownership and investment in productive enterprises.

Questions 92-93

BACK TO ANSWER GRID ↑

Q92 **An increase in the Cash Reserve Ratio (CRR) by the central bank generally leads to**

(A) an increase in the money supply.
(B) a decrease in the money supply.
(C) no change in the money supply.
(D) an increase in the fiscal deficit.

Correct answer: B | Decrease in money supply

Explanation
A higher CRR requires banks to hold more deposits as reserves with the RBI, reducing the funds available for lending.

Q93 **If a liquid does not wet glass, the angle of contact is**

(A) Zero angle
(B) Acute angle
(C) Obtuse angle
(D) Right angle

Correct answer: C | Obtuse angle

Explanation
For a non-wetting liquid, the contact angle measured through the liquid is greater than 90°, so it is obtuse.

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Questions 94-95

BACK TO ANSWER GRID ↑

Q94 **Two men are standing at opposite ends of a bridge 1200 metres long. If they walk towards each other at the rate of 5 m/minute and 10 m/minute respectively, in how much time will they meet each other?**

(A) 60 minutes
(B) 80 minutes
(C) 85 minutes
(D) 90 minutes

Correct answer: B | 80 minutes

Explanation
The walkers approach each other, so relative speed = 5 + 10 = 15 m/min.
Time = distance/relative speed = 1,200/15 = **80 minutes**.

Q95 **In which state of India, Tamilaga Vettri Kazhagam (TVK) party has formed the coalition government in 2026?**

(A) Kerala
(B) Andhra Pradesh
(C) Telangana
(D) Tamil Nadu

Correct answer: D | Tamil Nadu

Explanation
TVK leader C. Joseph Vijay was sworn in as Chief Minister of Tamil Nadu on 10 May 2026. [Tamil Nadu Lok Bhavan]

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Questions 96-98

BACK TO ANSWER GRID ↑

Q96 **'Red Data Book' gives an account of**

(A) extinct animals only.
(B) plant fossils.
(C) endangered plants only.
(D) endangered plants, animals and fungi.

Correct answer: D | Endangered plants, animals and fungi

Explanation
Red Data Books document threatened species and their conservation status, rather than only extinct species or only plants.

Q97 **A man rows 750 m in 675 seconds against the stream and returns in 7½ minutes. Find his rowing speed in still water.**

(A) 3 km/hr
(B) 4 km/hr
(C) 5 km/hr
(D) 6 km/hr

Correct answer: C | 5 km/h

Explanation
Distance = 0.75 km. Upstream speed = 0.75/(675/3,600) = 4 km/h.
Downstream speed = 0.75/(7.5/60) = 6 km/h.
Still-water speed = (upstream + downstream)/2 = (4 + 6)/2 = **5 km/h**.

Q98 **Astronauts cannot talk directly to each other on the Moon because**

(A) there is no gravity.
(B) there is no atmosphere.
(C) sound travels too fast.
(D) the Moon absorbs all sounds.

Correct answer: B | Absence of an atmosphere to transmit sound

Explanation
Sound needs a material medium. The Moon has no substantial atmosphere to carry speech; astronauts communicate by radio.

Questions 99-100

BACK TO ANSWER GRID ↑

Q99 **The product of two numbers is 1280 and their H.C.F. is 8. The L.C.M. of the numbers will be**

(A) 160
(B) 150
(C) 120
(D) 140

Correct answer: A | 160

Explanation
For two positive integers, HCF × LCM = their product.
LCM = 1,280/8 = **160**.

Q100 **Find the odd one out.**

(A) Square
(B) Triangle
(C) Circle
(D) Cube

Correct answer: D | Cube

Explanation
A cube is a three-dimensional solid. A square, triangle and circle are two-dimensional plane figures.

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Notes & further practice

How this key was prepared
Full English questions, options and numbering follow the supplied Set D paper. Original wording and printed errors are retained; corrections appear separately in the explanations. Maths and reasoning answers are independently worked; current-affairs entries were checked against primary sources where available. Current office-holder answers are dated 4 October 2026.

Two entries to read carefully
Q26: B is the best-supported explanation of the “Deccan ulcer” quotation, but the official examination key could interpret the grouped statements differently. Treat B* as provisional.
Q49: Option A is printed “Buten”. The intended answer is butane; LPG is chiefly a propane-butane mixture.

Selected verification links

Q5 / Q85 - Press Information Bureau: power capacity and Science Day theme
Open first source → | Open second source →

Q21 / Q24 - Vice-President of India and UNFCCC COP31
Open first source → | Open second source →

Q34 / Q39 - United Nations and French Presidency
Open first source → | Open second source →

Q56 / Q61 - NCERT animal classification and plant morphology
Open first source → | Open second source →

Q80 / Q82 - U.S. NRC radiation basics and WHO Director-General
Open first source → | Open second source →

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