

ANSWER KEY — 7 OCTOBER 2026

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
C	A	D	B	B	D	A	C	C	D
Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
B	C	A	D	A	C	B	D	B	C
Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28		
A	D	B	A	D	B	C	A		

LEGAL REASONING

Q1 C Art 20(1) — bar on a penalty greater than at the time of the act **MED**

Article 20(1) has two limbs. The first bars conviction except for violating a law in force when the act was done; the second bars a penalty greater than that which might have been inflicted under the law in force at the time of the offence. Dinesh's act was an offence in 2023, so the first limb is satisfied and he can be convicted. But the law in force in 2023 allowed a maximum of two years, and the court has imposed four years under the amended law. That exceeds the penalty permitted when the act was committed, so the sentence is invalid to the extent it goes beyond two years: option C. Option A reads Article 20(1) as if it had only its first limb, ignoring the express bar on heavier penalties. Option B wrongly fixes the penalty by the law on the date of conviction, which is precisely what the clause forbids. Option D overreaches: the amendment did not abolish the offence, so the conviction itself stands.

Examiner's note — the trap: Option A is the trap: students remember Article 20(1) as a bar on retrospective offences and forget its second limb, which separately forbids a heavier retrospective penalty.

Q2 A Art 20(2) — 'prosecuted and punished' requires a court or judicial tribunal (Maqbool Hussain) **HARD**

Article 20(2) bars a person from being prosecuted and punished for the same offence more than once. Both elements must exist in the earlier proceeding. In *Maqbool Hussain v. State of Bombay* the Supreme Court held that the clause applies only where the earlier proceeding was a prosecution before a court of law or a judicial tribunal, and that confiscation of goods by customs authorities is not such a prosecution. Farhan's first proceeding was a departmental adjudication by the Collector of Customs, exactly the situation in *Maqbool Hussain*. He has therefore not yet been 'prosecuted' within the meaning of the clause, and the magistrate's trial for smuggling is not barred: option A. Option B treats any adverse consequence as 'punishment' and ignores the requirement of an earlier prosecution. Option C widens the clause to every State action, which the case law expressly rejects. Option D is wrong because the passage states that Article 20 protects every person, citizen or not.

Examiner's note — the trap: Option B tempts because confiscation and a penalty feel like punishment; but Article 20(2) needs an earlier prosecution before a court or judicial tribunal, which a customs adjudication is not.

Q3 D Art 20(3) — testimonial compulsion: Kathi Kalu Oghad versus Selvi **HARD**

Article 20(3) protects an accused from being compelled to be a witness against himself, and the Supreme Court has read 'to be a witness' as imparting personal knowledge through testimony. In *State of Bombay v. Kathi Kalu Oghad* it held that compelling an accused to give specimen handwriting, signatures or fingerprints for comparison does not offend the clause, because such specimens are physical evidence that conveys no personal knowledge. In *Selvi v. State of Karnataka* it held that narco-analysis, polygraph and brain-mapping tests administered without consent violate Article 20(3). Leela was compelled to give specimen signatures, which is permissible, and was subjected to a polygraph test over her objection, which is not. Option D states both halves correctly. Option A ignores the testimonial limitation in *Kathi Kalu Oghad*. Option B confines the clause to courtroom testimony, which *Selvi* rejects. Option C reverses the two rulings, treating the physical specimen as testimony and the polygraph as merely physical.

Examiner's note — the trap: Option C is the attractive reversal: a polygraph 'only records bodily responses' sounds physical, but *Selvi* treats it as compelled testimony, while specimen signatures are mere identification material.

Q4 B Art 20(1) — both limbs together with T. Barai (beneficial reduction) **ELITE**

This question tests both limbs of Article 20(1) together with *T. Barai v. Henry Ah Hoe*. For the discharge, the law in force in 2023 allowed seven years, but a 2025 law has reduced the maximum to three years while Kunal's trial is pending. Article 20(1) forbids only a heavier retrospective penalty; it does not stop an accused from taking the benefit of a later reduction, and *T. Barai* held that a pending accused may claim it. So he can be sentenced to no more than three years. For the labelling, selling without the label was lawful when he did it in 2023. The first limb of Article 20(1) bars conviction except for violating a law in force at the time of the act, so he cannot be convicted for it at all. Option B states both results. Option A applies the trial-date law to both acts. Option C denies the beneficial reduction. Option D treats the new law as indivisible, as if a benefit must be taken with a burden.

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Examiner's note — the trap: Option C is the trap: students learn that penalty is fixed at the time of the act and miss that the bar runs one way only, so a later reduction can still benefit the accused.

Q5 B HSA s.6 — daughter coparcener by birth (Vineeta Sharma) HARD

Under the substituted Section 6 of the Hindu Succession Act, a daughter of a coparcener in a Mitakshara family becomes a coparcener by birth in her own right, with the same rights as a son. In *Vineeta Sharma v. Rakesh Sharma*, a three-judge Bench held that because the right arises by birth, it does not matter whether the father was alive on 9 September 2005, the date the amendment took effect. Ananya is the daughter of a coparcener, the ancestral property has never been partitioned, and so no saved partition stands in her way. Her father's death in 2003 is irrelevant. Her claim therefore succeeds: option B. Option A states the 'living father' condition that Vineeta Sharma rejected. Option C invents a restriction to daughters born after 2005; the passage says the right arises by birth without any such cut-off. Option D wrongly confines her to the father's separate property, whereas Section 6 makes her a coparcener in the joint family property itself.

Examiner's note — the trap: Option A is the trap: it reproduces the older 'father must be alive on 9 September 2005' view, which the passage tells you Vineeta Sharma discarded.

Q6 D HSA s.6(5) and Explanation — only a registered deed or decree is a saved partition HARD

Section 6(5) saves partitions effected before 20 December 2004, but the Explanation confines 'partition' to one effected by a registered deed of partition or by a decree of a court. The Rao family partitioned in 2003 by a registered deed, which is a partition within the Explanation and was effected before the cut-off date; it is therefore saved, and the Rao daughter cannot reopen it. The Iyer family divided their land in 2003 only by an oral family arrangement recorded in no deed and no decree. That is not a 'partition' as the Explanation defines it, so it is not saved by Section 6(5); the property is treated as still joint and the Iyer daughter, a coparcener by birth, may claim her share. Option D is correct. Option A ignores the saving clause. Option B treats the oral division as if it qualified. Option C reverses the outcome by misreading the effect of registration.

Examiner's note — the trap: Option B is the trap: both divisions predate 20 December 2004, but the Explanation saves only a registered deed or a court decree, so the oral Iyer arrangement falls outside it.

Q7 A HSA ss.8 and 10 — Class I shares and the branch of a pre-deceased son HARD

Suresh's self-acquired house devolves under Section 8 on his Class I heirs, and Section 10 fixes the shares. The widow takes one share; the mother takes one share; each surviving son and the daughter take one share each, which gives three shares; and the branch of the pre-deceased son takes between them the one share their father would have taken. Counting: widow 1 + mother 1 + two sons 2 + daughter 1 + branch 1 = 6 equal shares. Each share is one-sixth of the house. The branch's one-sixth is divided between the two grandchildren, giving each one-twelfth: option A. Option B gives each grandchild a full share, ignoring the branch rule. Option D (one-seventh) results from counting the two grandchildren as separate heads alongside the others, giving 7 shares, and option C (one-tenth) results from leaving out the mother, who is a Class I heir, giving 5 shares halved.

Examiner's note — the trap: Option B is the trap: grandchildren of a pre-deceased son are Class I heirs, but under Section 10 the whole branch shares one parent's share rather than each taking a share.

Q8 C HSA ss.25 and 27 — murderer disqualified; devolution as if he pre-deceased ELITE

Section 25 disqualifies Vikram, who murdered Harish, from inheriting Harish's property. Section 27 then directs that the property devolves as if Vikram had died before Harish. On that footing, Arav becomes the son of a pre-deceased son, which places him in Class I. Under Section 10 the widow Kamla takes one share, the daughter Rupa takes one share, and the branch of the 'pre-deceased' son, consisting only of Arav, takes the one share that Vikram would have taken. Harish's mother had died, so there are three equal shares, and Kamla, Rupa and Arav each take one-third: option C. Option A treats the disqualification as tainting Arav, but Section 27 does the opposite by deeming Vikram dead and letting his branch take. Option B invents a halving of the branch share that no rule supports. Option D invents an exclusionary rule for the widow that appears nowhere in the passage, which makes the widow one Class I heir among several.

Examiner's note — the trap: Option A is the attractive trap: it feels right that a murderer's son should not benefit, but Section 27 deems the murderer to have predeceased, so his son takes as heir of a pre-deceased son.

Q9 C HSA ss.8 and 10 — branch of a pre-deceased daughter HARD

Under Section 8 the self-acquired flat devolves first on the Class I heirs, and Section 10 tells us how to divide it. Count the shares, not the heads. The widow takes one share. The mother takes one share. The surviving daughter Meera takes one share. The branch of the pre-deceased daughter Nisha takes between them the one share Nisha would have taken. The branch of the pre-deceased son Ravi likewise takes the one share Ravi would have taken. That gives five equal shares, so each share is one-fifth of the flat. Nisha's one-fifth is then divided equally among her three children: one-fifth divided by three is one-fifteenth each. As a check, Ravi's two children take one-tenth each, and the total is $1/5 + 1/5 + 1/5 + 3 \times 1/15 + 2 \times 1/10 = 3/5 + 1/5 + 1/5 = 1$, so the whole flat is accounted for. The passage expressly places the son or daughter of a pre-deceased daughter in Class I, so Nisha's branch is not excluded. Treating Ravi's two children as two separate shares, instead of one branch, wrongly produces six shares. The answer is one-fifteenth, option C.

Examiner's note — the trap: Option D (one-tenth) is the share of each of Ravi's children, not Nisha's; option A (one-eighteenth) comes from counting Ravi's two children as separate shares instead of one branch, and option B from forgetting the mother's share.

LOGICAL REASONING

Q10 D Necessary assumption — no workaround to the price barrier MED

The officer's chain runs: teenage smokers buy singles because they cannot afford a pack; if only packs are sold, they will be priced out; so teenage smoking will fall. For the middle step to hold, teenagers who cannot buy singles must not have an easy way round the price barrier. Pooling money is the obvious workaround: if four or five friends can jointly buy a pack of twenty and share it, the pack's higher price no longer excludes them. Apply the negation test to option D: if teenagers would readily pool money to buy packs, the ban would not price them out and the conclusion collapses. So D is a necessary assumption. Option A concerns why teenagers start smoking, which does not affect whether a pack-only rule prices them out. Option B concerns shopkeepers' profits, which the argument never uses. Option C compares surveys; the argument needs the survey to be accurate, not larger than earlier ones.

Examiner's note — the trap: Option C attracts students who sense the argument rests on the survey; but it needs the survey to be reliable, not bigger than earlier surveys, so negating C leaves the argument intact.

Q11 B Necessary versus sufficient assumption — compliance HARD

The ban can price teenagers out only if loose cigarettes actually stop being available over the counter. The passage stresses that shopkeepers now sell singles openly, so the argument must assume that, for the most part, they will stop doing so once the ban takes effect. Negate option B: if most shopkeepers carried on selling singles, teenagers would buy them as before and teenage smoking would not fall. The argument therefore depends on B. Option C is the trap. It describes one way of securing compliance, namely swift prosecution, but the argument does not need any particular enforcement mechanism; shopkeepers might comply out of caution or social pressure. Negating C (prosecutions take months) does not destroy the argument, so C is sufficient-sounding but not necessary. Option A, about stocking more brands, is irrelevant to whether teenagers can afford packs. Option D offers an explanation of current conduct that the argument neither states nor needs.

Examiner's note — the trap: Option C is the trap: it is stronger than required. The argument needs shopkeepers to comply, not that non-compliers be prosecuted within weeks; negating C does not destroy the conclusion.

Q12 C Assumption EXCEPT — scope of the conclusion HARD

Three of the options are needed to get from 'singles are banned' to 'teenage smoking will fall sharply'. Option A is needed: if teenagers switched to bidis still sold singly, they would keep smoking and teenage smoking would not fall. Option B is needed: if they crossed into neighbouring districts to buy singles, the ban would not price them out. Option D is needed: the argument rests on the students' claim that they cannot afford a pack; if that claim merely expressed a preference and they could in fact afford packs, they would simply buy packs. Option C, by contrast, is about adult smokers. The officer's conclusion is confined to teenage smoking, so whether adults who buy singles for convenience reduce their smoking is irrelevant to it. Negating C, so that adults smoke as much as before, leaves the argument about teenagers untouched. C is therefore the one option that is not an assumption.

Examiner's note — the trap: Option D is the tempting pick because it questions a survey answer rather than an action; but the whole 'priced out' step depends on that answer reflecting real means.

Q13 A Necessary assumption — distinguishing necessary from overstated assumptions ELITE

The argument requires that the ban actually cut teenagers off from cigarettes. If most teenage smokers could simply get cigarettes from adults or older siblings who buy packs, the price of a pack would be no barrier and teenage smoking would not fall. So the argument needs at least a substantial share of teenage smokers to lack such ready access, which is option A. Apply the negation test: if hardly any teenage smoker lacked such access, the conclusion would fail. Option B is the overstated version of the same idea. The argument predicts that smoking will fall sharply, not vanish, so it does not need every teenager to be cut off from every source; negating B (some teenagers still get the odd cigarette) is consistent with a sharp fall. Option C compares the habits of pack-buyers and single-buyers, which the argument does not rely on. Option D concerns litigation over the order, which the argument never addresses.

Examiner's note — the trap: Option B is the trap: it sounds like a stronger form of the right answer, but an argument predicting a sharp fall does not need total exclusion, so B is not necessary.

Q14 D Necessary assumption — representativeness of the sample HARD

The officer's premises describe only the district's school students who smoke: four in five buy singles, and most say a sealed pack is beyond their means. Her conclusion, however, is that teenage smoking in the district as a whole will fall sharply. To move from the first to the second she must assume that school students are a fair guide to all teenage smokers, including those who have left school or never enrolled. Negate option D: suppose out-of-school teenagers, perhaps earning wages, mostly buy full packs and could easily keep doing so. Then the ban would leave a large part of teenage smoking untouched, and the prediction of a sharp district-wide fall would collapse. So D is necessary. Option A concerns how the habit began, which does not matter to whether a price barrier will now reduce it. Option B looks beyond the conclusion: the claim is about teenage smoking within two years, not about adult relapse later. Option C concerns the officer's legal power, but her argument is conditional ('if every cigarette must be bought in a sealed pack'), so it does not depend on who may impose the ban.

Examiner's note — the trap: Option C tempts because a ban cannot work if it cannot be imposed, but the argument is framed as a conditional prediction about the effect of the ban, so authority to impose it is not an assumption it needs.

Q15 A Flaw — necessary condition treated as sufficient (affirming the consequent) HARD

The commissioner's premise is that every ward that won the award last year had door-to-door collection. At most, this shows that door-to-door collection is common to winners, perhaps even necessary for winning. It does not show that having door-to-door collection is

sufficient to win. From 'all winners had X' and 'Ward 14 has X', he concludes 'Ward 14 will certainly win', which is the formal error of affirming the consequent: many wards might have door-to-door collection and still lose on other criteria. Option A names this flaw exactly. Option B is wrong because the argument reasons from many past winners to one ward, not from one ward to every ward. Option C describes a real flaw in the passage, but in the commissioner's remark about objectors, not in the reasoning about Ward 14. Option D attributes to the commissioner a claim about Ward 14's motives that he never makes.

Examiner's note — the trap: Option C is the trap: the passage does contain an attack on motives, but the question asks only about the Ward 14 reasoning, whose defect is the necessary-sufficient confusion.

Q16 C Flaw — ad hominem (attacking motives instead of reasons) MED

The commissioner says those who object to the fee 'plainly do not care about a clean city, for anyone who truly cared would gladly pay it.' He does not consider what the objectors actually say, for instance that the fee is too high, falls unfairly on poorer households, or duplicates property tax. Instead he questions their concern for cleanliness and treats that as a reason to dismiss them. This is an attack on the opponents rather than on their arguments, which option C describes. The remark also builds in a false choice, that one either pays gladly or does not care, which reinforces the same dismissal. Option A is wrong because the remark invokes no authority; the state award is used elsewhere in the passage. Option B describes the separate flaw in the poll. Option D is wrong because the remark does not assume the fee's popularity to prove its popularity; it attacks the objectors' motives.

Examiner's note — the trap: Option B attracts careless readers because the poll appears in the very next sentence, but the question targets the remark about objectors, which is an attack on motives.

Q17 B Flaw — unrepresentative, self-selected sample HARD

The poll was held on the corporation's own website, and anyone who chose to visit and vote could do so. Such a sample is self-selected: those who visit a corporation's website and bother to vote are likely to differ from residents in general, for example by being more engaged with the corporation or more supportive of its initiatives. The 82 per cent figure may therefore say little about the views of the city as a whole, which is option B. Option C is the trap. A sample of 1,400 is not, in itself, too small; well-designed surveys draw sound conclusions from samples of that size. The defect lies in how the respondents came to be in the sample, not in how many there were, and C's claim that the method does not matter is plainly wrong. Option A misreads 82 per cent as a narrow margin. Option D is irrelevant, since the commissioner claims support for the fee, which is what the poll asked about.

Examiner's note — the trap: Option C is the trap: it blames sample size, but 1,400 respondents can be ample; the real defect is self-selection, which a larger self-selected poll would not cure.

Q18 D Parallel flaw — matching the structure of affirming the consequent ELITE

The Ward 14 reasoning has the form: every A had feature B; this item has feature B; so this item will be an A. That is affirming the consequent. Option D has exactly this form: every bridge that collapsed was built by Kesar Infra (every A had B); the flyover was built by Kesar Infra (this item has B); so the flyover will collapse (this item will be an A). Option A is the trap. It reasons: every topper studied at least two years; Riya did not; so she will not top. That denies the consequent, a pattern that is valid in form, so it is not the same error at all, though its content (past winners, a feature) looks similar. Option B reproduces the commissioner's other flaw, an unrepresentative sample, but not the Ward 14 flaw. Option C reproduces the attack on motives. Only D shares the structure the question asks about.

Examiner's note — the trap: Option A is the trap: its subject matter mirrors Ward 14, but it denies the consequent rather than affirming it, so its structure differs and its inference follows from its premise.

Q19 B Flaw — conflating a service with one way of funding it HARD

Every reason the commissioner offers for keeping the fee is really a reason for keeping door-to-door collection: award-winning wards had it, Ward 14 has begun it, and those who care about a clean city should want it. But the conclusion is about the fee, which is only one way of paying for the service. The argument therefore assumes, without saying so, that collection cannot continue without this particular fee. If door-to-door collection could be funded from the corporation's general budget, a state grant or some other source, then all the benefits he describes could be kept while the fee was withdrawn, and his premises would give no support to his conclusion. That overlooked possibility is option B. Option A, if anything, makes Ward 14's success likelier, so it is not a weakness he has missed. Option C is a genuine problem with the poll, but the question asks about the move from the benefits of the service to the fee, and the poll is a separate strand of the argument. Option D is about the fee's level, which would, if anything, support charging a fee.

Examiner's note — the trap: Option C is the trap: it describes a real weakness in the website poll, but the stem confines the question to the step from the service's benefits to keeping the fee, which the poll does not touch.

QUANTITATIVE TECHNIQUES

Q20 C Percentage share from a data table MED

First find the state's total exports in 2024-25 by adding the five sectors: $1,380 + 1,760 + 1,000 + 360 + 1,100$. Step by step, $1,380 + 1,760 = 3,140$; $3,140 + 1,000 = 4,140$; $4,140 + 360 = 4,500$; $4,500 + 1,100 = 5,600$. So total exports were Rs 5,600 crore. Pharmaceuticals exported Rs 1,000 crore. Share = $1,000 / 5,600 \times 100 = 100,000 / 5,600 = 17.857$ per cent, which is 17.9 per cent to one decimal place: option C. Check: 17.857 per cent of $5,600 = 0.17857 \times 5,600 = 1,000$, confirming the figure. Option A (20.0 per cent) results from using the 2023-24 total of Rs 5,000 crore as the base, mixing two years. Option B (16.0 per cent) is pharmaceuticals' share in 2023-24, $800 / 5,000$, the wrong year. Option D (33.3 per cent) is pharmaceuticals' share of the state's increase in exports, $200 / 600$, which answers a different question.

Examiner's note — the trap: Option A is the trap: dividing 1,000 by the 2023-24 total of 5,000 gives a clean 20 per cent, but the share must use the 2024-25 total of 5,600.

Q21 A Percentage growth of a sub-total HARD

Excluding engineering goods, the 2023-24 exports of the other four sectors are the total minus engineering goods. The 2023-24 total is $1,200 + 1,600 + 800 + 400 + 1,000 = 5,000$, so the four sectors exported $5,000 - 1,600 = \text{Rs } 3,400$ crore. In 2024-25 the total is 5,600, so the four sectors exported $5,600 - 1,760 = \text{Rs } 3,840$ crore. Check directly: $1,380 + 1,000 + 360 + 1,100 = 3,840$. Growth = $(3,840 - 3,400) / 3,400 \times 100 = 440 / 3,400 \times 100 = 12.94$ per cent, which is about 12.9 per cent: option A. Option B (12.0 per cent) is the growth of the whole state, $(5,600 - 5,000) / 5,000$, which wrongly keeps engineering goods in. Option C (11.5 per cent) divides the increase of 440 by the 2024-25 figure of 3,840 instead of the 2023-24 base. Option D (10 per cent) is the simple average of the four sectors' growth rates (15, 25, -10 and 10 per cent), which ignores their different sizes.

Examiner's note — the trap: Option B is the trap: 12 per cent is the state-wide growth rate, which students quote without removing engineering goods from both years' totals.

Q22 D Ratio comparison — per-unit values against an overall average HARD

Total exporting units in 2024-25 = $240 + 160 + 50 + 90 + 160 = 700$. Total exports = Rs 5,600 crore. Overall export per unit = $5,600 / 700 = \text{Rs } 8$ crore. Now the sector figures. Textiles: $1,380 / 240 = 5.75$. Engineering goods: $1,760 / 160 = 11$. Pharmaceuticals: $1,000 / 50 = 20$. Leather: $360 / 90 = 4$. Gems and jewellery: $1,100 / 160 = 6.875$. Only engineering goods (11) and pharmaceuticals (20) exceed 8, so the answer is two sectors: option D. The trap is to compare against the simple average of the five sector figures, $(5.75 + 11 + 20 + 4 + 6.875) / 5 = 47.625 / 5 = 9.525$, which still gives two, or to misjudge gems and jewellery, whose large exports of Rs 1,100 crore suggest a high per-unit figure until one divides by its 160 units. Students who count gems and jewellery reach option B (three).

Examiner's note — the trap: Option B is the trap: gems and jewellery have large total exports, but spread across 160 units they yield only Rs 6.875 crore per unit, below the overall Rs 8 crore.

Q23 B Projection with sector-specific growth rates ELITE

Each sector grows at its own rate, so each must be projected separately. Growth rates: textiles $(1,380 - 1,200) / 1,200 = 180 / 1,200 = 15$ per cent; engineering goods $160 / 1,600 = 10$ per cent; pharmaceuticals $200 / 800 = 25$ per cent; leather $-40 / 400 = -10$ per cent; gems and jewellery $100 / 1,000 = 10$ per cent. Projections for 2025-26: textiles $1,380 \times 1.15 = 1,587$; engineering goods $1,760 \times 1.10 = 1,936$; pharmaceuticals $1,000 \times 1.25 = 1,250$; leather $360 \times 0.90 = 324$; gems and jewellery $1,100 \times 1.10 = 1,210$. Total = $1,587 + 1,936 + 1,250 + 324 + 1,210 = 6,307$. The answer is Rs 6,307 crore: option B. Option A (6,272) applies the state's overall growth of 12 per cent to 5,600, which ignores that faster-growing sectors now carry more weight. That reweighting is exactly why the sector-wise projection exceeds 6,272.

Examiner's note — the trap: Option A is the trap: applying the overall 12 per cent to Rs 5,600 crore ignores that the fast-growing pharmaceutical sector now forms a larger part of the base.

Q24 A Pie chart — central angle from a percentage EASY

In a pie chart the whole circle of 360 degrees represents 100 per cent, so each percentage point corresponds to $360 / 100 = 3.6$ degrees, as the passage states. Equipment accounts for 15 per cent of the college's total expenditure. Its central angle is therefore $15 \times 3.6 = 54$ degrees: option A. As a check, $54 / 360 = 0.15$, which is 15 per cent. Option D (36 degrees) is the trap: Rs 36 crore is the rupee value of the equipment head (15 per cent of Rs 240 crore), and students who confuse the amount with the angle pick it. Option B (45 degrees) results from multiplying 15 by 3 instead of 3.6, and option C (60 degrees) from multiplying by 4, both rough approximations of the conversion factor. Because the conversion factor is fixed, every pie-chart question should begin by converting percentages to degrees, or degrees to percentages, using 3.6, and then checking the result against the full circle of 360 degrees.

Examiner's note — the trap: Option D is the trap: 36 is the equipment spending in crore rupees, not its angle; mixing the two scales is the commonest pie-chart slip.

Q25 D Pie chart — converting shares to amounts and comparing MED

Convert the relevant shares to rupee amounts using the total of Rs 240 crore. Teaching hospital operations: 25 per cent of 240 = 60 crore. Research grants: 8 per cent of 240 = 19.2 crore. Library and laboratories: 7 per cent of 240 = 16.8 crore. Combined, research and library come to $19.2 + 16.8 = 36$ crore, or 15 per cent of 240. The difference is $60 - 36 = \text{Rs } 24$ crore: option D. A quicker route works entirely in percentages: $25 - (8 + 7) = 10$ percentage points, and 10 per cent of 240 = 24 crore. Option C (Rs 36 crore) is the combined amount of the two smaller heads, which answers a different question. Option A (Rs 40.8 crore) subtracts only research grants, $60 - 19.2$, and option B (Rs 43.2 crore) subtracts only library and laboratories, $60 - 16.8$; each forgets one of the two heads.

Examiner's note — the trap: Option C is the trap: Rs 36 crore is the combined spending on research and libraries, the figure being subtracted, not the gap the question asks for.

Q26 B Percentage share when the total changes and one part is fixed HARD

This year, faculty salaries are 35 per cent of Rs 240 crore = Rs 84 crore. Next year's total budget is 25 per cent higher: $240 \times 1.25 = \text{Rs } 300$ crore. Faculty salaries remain at Rs 84 crore, so their share of next year's total is $84 / 300 \times 100 = 28$ per cent: option B. A shortcut: when a part stays fixed and the whole grows by a factor of 1.25, the part's share is divided by 1.25, and $35 / 1.25 = 28$. Option A (35 per cent) wrongly assumes the share stays constant, which would require salaries to grow with the budget. Option C (26.25 per cent) results from

cutting the share by 25 per cent, that is 35×0.75 , which is not the same as dividing by 1.25. Option D (30 per cent) is a rough guess. The key distinction is that a 25 per cent increase in the base reduces a fixed part's share by one-fifth, not by one-quarter.

Examiner's note — the trap: Option C is the trap: reducing 35 by 25 per cent gives 26.25, but a fixed amount over a base 1.25 times larger is 35 divided by 1.25, which is 28.

Q27 **C** Per-capita change — two quantities changing together **HARD**

This year, hostel spending is 10 per cent of Rs 240 crore = Rs 24 crore for 1,500 students, so per-student spending is $24 \text{ crore} / 1,500 = 0.016 \text{ crore} = \text{Rs } 1.6 \text{ lakh}$. Next year the total is Rs 300 crore and hostels receive 12 per cent of it: $0.12 \times 300 = \text{Rs } 36 \text{ crore}$, shared among 1,800 students. Per-student spending becomes $36 \text{ crore} / 1,800 = 0.02 \text{ crore} = \text{Rs } 2 \text{ lakh}$. The rise is $(2 - 1.6) / 1.6 \times 100 = 0.4 / 1.6 \times 100 = 25 \text{ per cent}$: option C. Check with ratios: spending rises by a factor of $36 / 24 = 1.5$ and students by $1,800 / 1,500 = 1.2$, so per-student spending rises by $1.5 / 1.2 = 1.25$, a 25 per cent rise. Option A (50 per cent) is the rise in total hostel spending, ignoring the extra students. Option B (20 per cent) is the rise in student numbers. Option D results from subtracting the two percentages, $50 - 20$.

Examiner's note — the trap: Option A is the trap: hostel spending rises by 50 per cent, but it is spread over 20 per cent more students, so per-student spending rises by $1.5 / 1.2$, only 25 per cent.

Q28 **A** Pie chart — working backwards from a target angle on a new total **ELITE**

A central angle of 120 degrees is $120 / 360 = \text{one-third}$ of the pie. Next year's total budget is $240 \times 1.25 = \text{Rs } 300 \text{ crore}$, so equipment and research together must be one-third of 300 = Rs 100 crore. Equipment stays at this year's amount, which is 15 per cent of 240 = Rs 36 crore. Research grants must therefore be $100 - 36 = \text{Rs } 64 \text{ crore}$: option A. Check: $(36 + 64) / 300 \times 360 = 100 / 300 \times 360 = 120 \text{ degrees}$. This is more than three times this year's research grant of Rs 19.2 crore. Option B (Rs 80 crore) is one-third of this year's total of 240, which uses the wrong year's base and also forgets to subtract equipment. Option C (Rs 44 crore) subtracts equipment from that wrong figure of 80. Option D (Rs 100 crore) is the combined target for both heads, given as if it were research alone. Each trap fails one of the two steps: using the new total, then subtracting the fixed head.

Examiner's note — the trap: Option C is the trap: it correctly subtracts the Rs 36 crore of equipment but starts from one-third of this year's Rs 240 crore instead of next year's Rs 300 crore.

RAPID FIRE — ANSWERS

- Article 20(2) — which protection does it give? — **Against being prosecuted and punished twice for the same offence**
- Which case held narco-analysis without consent violates Article 20(3)? — **Selvi v. State of Karnataka (2010)**
- Hindu Succession Act — partitions before which date are saved by Section 6(5)? — **20 December 2004**
- A pie-chart sector of 15% has what central angle? — **54 degrees**
- Which case held specimen signatures and fingerprints may be compelled? — **State of Bombay v. Kathi Kalu Oghad (1961)**