ENGLISH LANGUAGE & LOGICAL REASONING

PASSAGE - I

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By Amitabh Kant

Just a fortnight back, the US committed billions to semiconductor investments with the Start initiative, laying the groundwork for its technological future. The aim was to create 1,000,000 jobs and secure pole position for the US in AI. In another part of the world, an open-source AI model emerged in DeepSeek, shaking the foundations of proprietary systems with its unmatched cost-efficiency and performance. DeepSeek developed an open-source product in less than two years with 200 employees and less than $10 million in capital. In comparison, OpenAI boasted 4,500 employees and had $6 billion in funding.

OpenAI CEO Sam Altman, who previously called India's efforts to develop its own AI models "totally hopeless," has made a complete about-turn and said that India should take a leadership role in the AI space. The global AI race has begun. Even as the world bears witness to groundbreaking innovation that puts the bounds of human intelligence where once thought possible, India with its young population and a well-established digital foundation will have a pivotal role. This is India's moment.

India has created entirely new economic benefits and possibilities. This infrastructure has created a completely new generation of entrepreneurs and companies. We built close to 108 unicorns. From payments, we moved to healthcare, ed-tech, and the account aggregator framework, giving fintech and commerce companies global recognition. Think of the phenomenal scale during a crisis. During the pandemic, we could instantly transfer $4.5 billion to 160 million people. From construction workers to farmers, we moved labourers — India facilitated direct, instant, and leakage-free transfers when they needed it most.

On this open-source, interoperable infrastructure, we created an ecosystem that allows both public and private innovation to flourish. The results speak for themselves: 44 million businesses registered on GST, 83.2 million direct and indirect taxpayers, and expected 13.42 percent digital economy growth rate. With abundant talent, a strong government focus, and an aspirational entrepreneurial mindset, India has led this race.

A critical pillar of the AI ecosystem where urgent attention is needed is hardware. GPUs are the engine of last-generation intelligence built. The challenge is ensuring we do not fall into the same trap of costlier, imported chips and restrictions on their supply. Owning our AI hardware capability is a necessity for sovereign technology independence in an emerging AI-driven world. Investments in AI hardware will create jobs, attract significant FDI inflows, and spark a ripple effect of innovation across industries.

By developing robust hardware ecosystems, India can position itself as an indispensable partner in global supply chains, amplifying its influence on the international stage. Nurturing cutting-edge research and building homegrown expertise will unlock breakthroughs and strengthen India's leadership in AI hardware innovation. Finally, championing open-source AI ecosystems will foster collaboration and inclusivity, ensuring accessibility for innovators and developers around the world. To lead the AI revolution, we must internalize this truth: hardware is more than an accessory — it is the engine driving it all.

To maintain our sovereignty in technological advancement and lead from the front, we must not allow ourselves to become a technological colony of the US and China. This requires us to do the following one: India must innovate in an nimble, less energy-consuming, cost-effective manner. We must do more for less like ISRO. Two, open source is the way forward, but we must create an environment that encourages brilliant and clever engineering. Our startups

drive software as well as hardware challenges where success emerges from scale and data on our side. It is time to bet on our brains, build our datasets, and use AI for India's growth on our own terms.

India must take decisive steps to build and fortify the hardware backbone powering AI systems, ensuring that they deliver unmatched efficiency, reliability, and performance. Owning our AI hardware capability is a necessity for sovereign technology independence in an emerging AI-driven world. Investments in AI hardware will create jobs, attract significant FDI inflows, while also sparking a ripple effect of innovation across industries.

1. Which of the following best captures the *central thesis* of Amitabh Kant's argument in the passage?

A. India must invest in artificial intelligence because its population demands more digital jobs.
B. India's digital success is temporary and dependent on foreign partnerships in hardware.
C. India must achieve technological sovereignty in AI by developing indigenous hardware and open-source ecosystems, avoiding overreliance on the US or China.
D. India should replicate the U.S. Start initiative to secure global AI dominance.

2. What is the tone of the author in the passage?

A. Cynical and dismissive of India's AI capacity
B. Analytical yet exhortative, combining evidence with a call to action
C. Detached and purely technical in describing India's digital landscape
D. Pessimistic about India's comparative position in global AI

3. In the context of the passage, the author's reference to DeepSeek's rise serves primarily to:

A. Illustrate how open-source innovation can challenge expensive proprietary models.
B. Argue that U.S. AI systems are entirely obsolete.
C. Suggest that India should abandon research in open-source models.
D. Indicate that AI progress is impossible without billion-dollar funding.

4. Which statement best expresses the implicit contrast the author draws between India's current strengths and its challenges in AI development?

A. India's digital infrastructure is robust, but its hardware capacity remains a strategic vulnerability.
B. India's hardware innovation outpaces its digital policy reforms.
C. India's strength lies in its semiconductor export capacity.
D. India's success depends primarily on private sector entrepreneurship, not policy leadership.

5. Which rhetorical strategy is *most prominently* used by the author to persuade readers of his argument?

A. Use of anecdotes about failures in Indian AI
B. Repetition of imperatives and success-oriented verbs to inspire collective action
C. Overreliance on foreign criticisms to evoke sympathy
D. Technical jargon to obscure the policy message

6. Which assumption underlies the author's recommendation that India "own its AI hardware capability"?

A. That global supply chains will remain cooperative and stable.

B. That dependence on imported hardware poses risks to national sovereignty and innovation autonomy.

C. That open-source software requires no hardware infrastructure.

D. That U.S. firms are willing to transfer AI chip technology to India.

7. Which of the following, if true, would most *strengthen* the author's argument?

A. Data shows countries with indigenous hardware manufacturing grow faster in digital GDP.
B. Studies reveal that open-source systems consistently perform worse than proprietary systems.
C. India's AI mission focuses solely on social media algorithms.
D. Global AI chip supply remains abundant and unrestricted.

8. Which of the following, if true, would most *weaken* the author's argument for prioritizing AI hardware manufacturing?

A. India's current infrastructure already ensures full control over AI supply chains.
B. Hardware production in India is so expensive that it would divert funds from core AI research.
C. AI software can operate independently without any specialized hardware.
D. India's AI ecosystem already matches global standards in chip design.

9. The author's reasoning that India must avoid becoming a "technological colony" is logically comparable to:

A. A nation deciding to manufacture its own vaccines to avoid dependence during pandemics.
B. A company outsourcing all its functions to improve profits.
C. A student using open notes during an exam to improve transparency.
D. A farmer selling all his land to neighbors to gain goodwill.

10. Which logical flaw might a critic identify in the author's argument?

A. It assumes that open-source models will always outperform proprietary systems.
B. It fails to consider the environmental and resource costs of large-scale hardware production.
C. It confuses correlation between digital adoption and innovation with causation.
D. It denies that India has any AI potential without hardware investments.

LEGAL REASONING

The following passage and the scenarios derived from it are purely hypothetical and intended for academic purposes only. They are based on the principles and facts drawn from existing constitutional and statutory frameworks. The factual descriptions in this passage may not reflect the actual position of law or real-world developments. While answering the questions that follow, students must confine themselves strictly to the facts and legal principles provided in the passage, without drawing upon any external knowledge or assumptions.

Article 101(4) of the Constitution of India provides a safeguard to ensure that Members of Parliament (MPs) continue to fulfil their parliamentary responsibilities. It reads:

"If for a period of sixty days a member of either House of Parliament is, without permission of the House, absent from all meetings thereof, the House may declare his seat vacant."

This provision ensures accountability and prevents prolonged absenteeism that hampers parliamentary functioning. However, the clause "without permission of the House" introduces a discretionary mechanism allowing MPs to justify legitimate absences.

In practice, Members seeking to remain absent for extended periods must write to the Committee on Absence of Members from the Sittings of the House, explaining their reasons and seeking permission. The Committee then examines the request and makes recommendations, which the House must ratify. The decision of the House is final.

The 60-day rule counts only *actual sittings*, excluding days when Parliament is adjourned or prorogued. Therefore, even if an MP is absent for several months, the 60-day threshold applies only to working days of the House.

Past cases illustrate how the provision operates. In 2023, *Amritpal Singh*, an MP detained under the National Security Act, sought permission to attend Parliament sessions from judicial custody, fearing loss of seat due to prolonged absence. Similar permissions were sought by other MPs in judicial custody, including *Raja Bhaiya* (2002) and *Atul Rai* (2023). While Article 101(4) protects the institution of Parliament from dysfunction due to non-attendance, it also raises ethical and constitutional questions about representation, fairness, and the right of constituencies to have active participation in parliamentary affairs.

The Committee has discretion to accept or reject absence requests. However, applications based on illness, imprisonment, or personal emergencies are often granted to prevent undue disqualification. The underlying principle is to balance individual rights of representation with institutional duty to uphold parliamentary integrity.

Thus, Article 101(4) functions as a constitutional check against negligence but not as a tool of punishment. It embodies the constitutional morality of responsibility, ensuring that MPs either participate actively or justify their absence transparently.

11. An MP, *Raghav Verma*, elected from Bihar, was hospitalised for 75 consecutive days due to a severe accident. The Lok Sabha held 28 sittings during this period. He failed to seek prior permission for absence but later submitted a medical certificate. The Opposition demanded that his seat be declared vacant under Article 101(4). The Committee on Absence of Members reviewed the case and recommended excusing the absence on compassionate grounds. The House, however, rejected the recommendation and declared his seat vacant.

Which of the following statements best describes the constitutional position?

A. The Committee's recommendation is binding, so the House's action is unconstitutional.
B. Medical emergencies automatically qualify for exemption.
C. The Speaker has the power to overturn the Committee's decision independently.
D. The House's decision is final and within its discretionary authority under Article 101(4).

12. MP *Aarti Mehta* was imprisoned for three months pending trial under the Prevention of Corruption Act. She wrote to the Committee on Absence seeking leave but was denied permission since her case involved moral turpitude. The Speaker then declared her seat vacant. She challenged the decision in court, claiming her imprisonment was "involuntary absence" and thus beyond her control.

Which statement correctly reflects the constitutional interpretation?

A. Any imprisonment automatically excuses attendance obligations.
B. Article 101(4) does not distinguish voluntary from involuntary absence; permission of the House remains mandatory.
C. Criminal charges suspend application of Article 101(4).
D. A pending criminal case automatically protects an MP's seat.

13. MP *Shahid Khan* attended only one sitting of Parliament in six months due to extended constituency visits. He did not seek leave. After his absence reached 65 working days, the House declared his seat vacant. He argued that his work in the constituency was part of his parliamentary duties.

Which constitutional reasoning applies?

A. Attendance in the House and constituency work are distinct; absence from sittings without leave triggers Article 101(4).
B. Constituency work is equivalent to parliamentary duty and excuses absence.
C. The Speaker's permission is not needed if the MP is performing public duties.
D. Article 101(4) does not apply to Lok Sabha members engaged in constituency work.

14. MP *Dharini Roy* from West Bengal attended only 10 of 70 sittings in a year but regularly filed written questions and participated through video conferences. The Committee on Absence recommended leniency due to her digital participation. A rival MP contended that Article 101(4) refers only to "physical sittings."

How should this dispute be resolved constitutionally?

A. Digital participation satisfies the attendance requirement.
B. The Speaker has unfettered discretion to count participation.
C. The constitutional term "attendance" implies physical presence unless modified by parliamentary rules.
D. Courts may redefine "attendance" in light of evolving digital norms.

15. MP *Harshad Patel* was detained under the National Security Act for suspected unlawful activities. During his detention, he contested and won a parliamentary election. He sought permission to attend sessions while under custody, citing the electorate's right to representation. The Committee denied permission citing security risks.

What is the most constitutionally valid reasoning?

A. Winning an election automatically entitles attendance.
B. Preventing attendance violates democratic representation.
C. The court can compel the Speaker to allow attendance.
D. National security considerations can justify restricting attendance despite electoral mandate.

16. MP *Saira Naqvi* failed to attend 68 sittings over four months. She claimed she never received notice of sittings due to administrative oversight. The Committee verified the claim but the House proceeded to declare her seat vacant.

What principle of natural justice applies?

A. Ignorance of sittings is no excuse.
B. A declaration of vacancy without hearing or proper notice violates procedural fairness under Article 101(4).
C. MPs have no right to notice once elected.
D. The Committee's findings have no bearing on the House's decision.

17. MP *Nakul Sharma* was absent from 55 consecutive sittings, then sought retrospective permission citing family illness. The Committee granted the request after verifying evidence. The Speaker still recommended vacating his seat.

Which principle governs such situations?

A. Once the House grants permission (prospectively or retrospectively), the absence cannot be treated as "without permission."
B. Retrospective leave has no legal validity.
C. The Speaker can override the Committee's decision.
D. Permission after 60 days is automatically invalid.

18. MP *Zara Fernandes* was on maternity leave for 120 days. She formally sought permission from the Committee, but the Speaker delayed placing her request before the House, and the 60-day period expired. Her seat was declared vacant before the matter was voted on.

Which statement reflects the correct legal position?

A. The 60-day rule automatically applies regardless of pending requests.
B. The Speaker's delay absolves the MP of responsibility.
C. Declaring the seat vacant without deciding on the pending request violates Article 101(4).
D. Maternity leave automatically suspends the provision.

19. MP *Tenzin Dorje* attended 15 sittings but left midway without signing the attendance register. The Secretariat marked him absent. When his absence reached 65 days, the House declared his seat vacant. He argued that physical presence, not signature, should determine attendance.

Which interpretation aligns with constitutional intent?

A. Attendance requires both physical presence and recorded signature.
B. Mere presence in the premises is enough.
C. Attendance can be verified only by Speaker's observation.
D. Parliamentary procedure defines attendance by official record, hence absence is validly recorded.

20. MP *Leela Menon* was expelled from her party but continued as an independent member. During the ongoing crisis, she missed 62 sittings and sought retrospective permission, which the Committee rejected on grounds of indiscipline. She alleged political bias.

Which constitutional safeguard applies here?

A. Courts cannot review internal parliamentary proceedings.
B. Judicial review is permissible if Article 101(4) powers are exercised arbitrarily or mala fide.
C. The President must decide in such disputes.
D. Party affiliation affects validity of absence permission.

GENERAL KNOWLEDGE

Passage - I

The Amrit Bharat Station Scheme (ABSS), launched by the Ministry of Railways in December 2022, seeks to transform the country's railway stations into modern, multi-functional, and passenger-centric hubs. It follows the earlier *Adarsh Station Scheme* but expands the scope from basic amenities to *comprehensive station redevelopment and urban integration*. The initiative aligns with the broader "Viksit Bharat @ 2047" vision of infrastructure modernisation.

By 2025, over 1,300 stations across India were identified for phased upgradation under ABSS. The scheme is funded through the Railways' capital budget, supplemented by Public Private Partnerships (PPP) and local-body participation for station-area development. Unlike the *station redevelopment* programme executed by the Indian Railway Stations Development Corporation (IRSDC), ABSS decentralises planning by empowering zonal railways to prepare *master plans* tailored to local passenger volumes, freight interfaces, and city connectivity.

The scheme emphasises four pillars: (1) Passenger comfort and accessibility (elevators, ramps, signage, improved waiting areas); (2) Inter-modal integration (bus terminals, metro linkages, last-mile connectivity); (3) Sustainability features such as solar rooftops, rainwater harvesting, and wastewater recycling; and (4) Cultural aesthetics and heritage conservation using regional architectural elements and local art. The Railways aim to make stations "urban icons" that serve as both transport and civic spaces.

A flagship example is the redevelopment of the Ayodhya Dham, Rani Kamlapati (Bhopal), and Gandhinagar Capital stations, which demonstrate the model of modern design combined with cultural motifs. The ABSS framework prescribes a modular approach to allow scalability across categories—from suburban junctions to major terminals—while ensuring universal design and digital inclusion through Wi-Fi, e-ticket kiosks, and CCTV-based security.

The scheme carries significant economic multipliers: improved station precincts are expected to attract private investment in commercial facilities, boost tourism, and reduce dwell times through better logistics. Environmental benefits are expected via solar-based lighting and efficient building-management systems.

Nevertheless, challenges remain. Coordination between central ministries, state governments, and urban-local bodies is crucial; delays in land clearances and financing could impede rollout. The absence of a dedicated statutory framework for PPP contracts in station redevelopment also raises investor-confidence issues. Furthermore, balancing heritage conservation with modern construction standards often entails regulatory complexity.

In essence, the Amrit Bharat Station Scheme signifies a shift from *transport nodes* to *integrated mobility-and-civic centres*, marking Indian Railways' ambition to provide 21st-century infrastructure that reflects both efficiency and cultural identity.

21. Which of the following statements are correct regarding the launch and objective of ABSS?

1. The scheme was launched in 2022 by the Ministry of Railways.
2. It seeks to convert railway stations into modern civic-cum-mobility hubs.
3. It was jointly announced by the Ministries of Housing and Urban Affairs and Railways.

A. 1 and 2 only
B. 2 and 3 only
C. 1 and 3 only
D. 1, 2 and 3

22. Before the decentralised approach under ABSS, which agency primarily handled large station redevelopment?
A. Central Public Works Department
B. Indian Railway Stations Development Corporation (IRSDC)
C. NITI Aayog Infrastructure Division
D. RailTel Corporation of India

23. Which of the following correctly lists the funding pattern under ABSS?
A. Exclusively from World Bank and ADB grants
B. Railway capital budget + PPP + local body participation
C. 100 % private equity through foreign investment
D. Corporate Social Responsibility funds only

24. Which of these options does **not** represent a core pillar of ABSS?
A. Passenger comfort and accessibility
B. Sustainability features
C. Exclusive focus on freight corridor expansion
D. Cultural aesthetics and heritage integration

25. Which one of the following stations has been cited as a model example for ABSS-style redevelopment?
A. Rani Kamlapati (Bhopal) Station
B. Howrah Junction
C. Varanasi Cantt.
D. New Delhi Station

26. Which distinctive implementation feature differentiates ABSS from earlier schemes?
A. Centralised design by one corporate agency
B. Decentralised master-planning by zonal railways
C. Execution solely by foreign consultants
D. Delegation only to State Governments

27. With which national policy vision is the ABSS aligned?
A. Viksit Bharat @ 2047
B. National Infrastructure Pipeline 2021-26
C. Gati Shakti Digital Mission 2022
D. PM Gati Shakti Master Plan for Ports only

28. Which sustainability initiatives are mentioned under ABSS?

1. Solar rooftops
2. Rainwater harvesting
3. Wastewater recycling
4. Bio-ethanol use in locomotives

A. 1 and 2 only
B. 1, 2 and 3 only
C. 1, 3 and 4 only
D. All four

29. Which of the following challenges could realistically hinder ABSS implementation?
A. Coordination gaps among central and local bodies
B. Land clearance and financing delays
C. Absence of clear PPP contract frameworks
D. All of the above

30. Which statement best summarises the *strategic intent* of ABSS?
A. To upgrade stations into integrated mobility-and-civic centres reflecting local culture
B. To privatise the entire railway network
C. To build only high-speed corridors by 2030
D. To reduce railway employment through automation

Passage - II

The NASA–ISRO Synthetic Aperture Radar (NISAR) is a joint Earth-observation satellite mission between India's ISRO and the U.S. National Aeronautics and Space Administration (NASA), designed to make high-resolution, all-weather measurements of the Earth's surface. Scheduled for launch in early 2025 aboard India's GSLV Mk II rocket from Sriharikota, the mission marks one of the most advanced examples of international space collaboration in Earth-system science.

NISAR carries a dual-frequency synthetic aperture radar — operating in L-band (NASA-built) and S-band (ISRO-built) — enabling unprecedented imaging capability through clouds, vegetation, and even night conditions. The satellite's design will allow for repeat-pass interferometry, enabling scientists to detect ground deformations of just a few millimeters.

The mission aims to systematically map Earth's land and ice surfaces every 12 days, observing phenomena such as glacial movements, land subsidence, volcanic activity, agricultural dynamics, and tectonic plate motion. The data will contribute to better monitoring of climate change, natural hazards, and ecosystem disturbances.

The spacecraft will operate in a near-polar, sun-synchronous orbit at about 747 kilometers altitude, providing consistent illumination conditions. The satellite bus is based on ISRO's I-3K platform, while NASA provides the L-band radar, high-rate communication subsystem, and a precision GPS receiver.

India contributes the S-band radar, spacecraft bus, launch vehicle, and data reception and processing systems, while NASA will manage the global science operations and archiving through its Jet Propulsion Laboratory (JPL). Together, both agencies will share data freely for civilian scientific use, reflecting a model of "open science collaboration."

NISAR's total mission cost is estimated at about $1.5 billion, making it the most expensive Earth-observation partnership ever undertaken between the two nations. Beyond scientific returns, the mission also carries strong strategic and diplomatic significance, deepening Indo–U.S. cooperation in high-technology areas and supporting frameworks such as the U.S.–India Initiative on Critical and Emerging Technologies (iCET).

The radar's fine sensitivity can also aid disaster management agencies in assessing post-earthquake land deformation, flood mapping, and agricultural yield estimation. However, challenges include the massive data volume generated daily (up to 85 terabytes), requiring robust cloud-based processing and secure data pipelines.

Ultimately, NISAR positions India and the United States at the forefront of global Earth-observation science, combining cutting-edge radar engineering with planetary-scale environmental monitoring for sustainable development and climate resilience.

31. Which of the following correctly describes the NISAR mission?
A. A joint satellite mission between NASA and ISRO to map Earth's surface using dual-frequency radar.
B. A lunar orbiter to map moon craters in L-band radar.
C. A Mars rover mission jointly developed by NASA and ISRO.
D. An ISRO-only weather forecasting satellite.

32. The two frequency bands used by NISAR are —
A. X-band and Ka-band
B. S-band and L-band
C. Ku-band and C-band
D. C-band and L-band

33. Which of the following agencies is responsible for NISAR's **science operations and data archiving**?
A. USGS (United States Geological Survey)
B. NASA Jet Propulsion Laboratory (JPL)
C. Indian Institute of Remote Sensing (IIRS)
D. National Remote Sensing Centre (NRSC)

34. Which of the following correctly states NISAR's orbit type?
A. Near-polar, sun-synchronous orbit at ~747 km altitude
B. Geostationary orbit at 36,000 km altitude
C. Lagrange Point 1 (L1) halo orbit
D. Molniya orbit with high eccentricity

35. Which of the following *applications* is **not** mentioned or implied in the passage?
A. Earthquake deformation studies
B. Ocean current circulation mapping
C. Agricultural yield monitoring
D. Flood mapping

36. Which of the following statements about NISAR's instrument contribution is correct?
A. NASA provides the L-band radar; ISRO provides the S-band radar.
B. ISRO provides both L-band and S-band radars.
C. NASA provides both radars, ISRO provides data reception only.
D. NASA provides optical sensors, ISRO provides thermal imagers.

37. NISAR data policy reflects which of the following international principles?
A. Open Science and Civil Data Sharing
B. Exclusive Dual-Use Defence Classification
C. Space Militarisation under Artemis Accords
D. Commercial Proprietary Licensing

38. Which of the following *scientific goals* are mentioned in or inferred from the passage?

1. Monitoring tectonic motion and earthquakes
2. Observing polar ice dynamics and glaciers
3. Mapping global urban development patterns

A. 1 and 2 only
B. 1 and 3 only
C. 2 and 3 only
D. 1, 2 and 3

39. What is the estimated total cost of the NISAR mission?
A. About $1.5 billion
B. About ₹150 crore
C. About $15 billion
D. About ₹15,000 crore

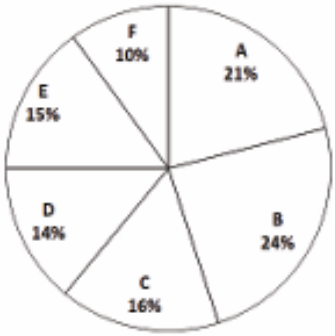
40. Which of the following broader frameworks does the NISAR partnership reinforce?
A. U.S.–India iCET (Critical and Emerging Technologies) initiative
B. QUAD Vaccine Partnership
C. Indo-Pacific Oceans Initiative (IPOI)
D. International Solar Alliance

QUANTITATIVE TECHNIQUE

Passage-I

The following pie chart shows the distribution of the total population of six cities and the table shows the % of adults in these cities and the ratio of males to females among these adult population. Total population of six cities together is 8.5 lakh .

City	% Adult	M:F
A	72	7:5
B	65	8:5
C	75	3:2
D	80	9:7
E	70	4:3
F	60	7:5



41. The number of adults population of city A is how many times the adult population of city D?
(A) 1.35 times (B) 1.4 times (C) 1.5 times (D) 2 times

42. What is the total number of male population of city D and E together ?
(A) 135000 (B) 125400 (C) 104550 (D) NOT

43. What is the ratio of adult population from city F to the minor population of city C?
(A) 2:3 (B) 3:2 (C) 1:5 (D) 5:6

44. What is the average population of city A, B and E?
(A) 1.35 lakh (B) 2.6 lakh (C) 1.7 lakh (D) 1.4 lakh

45. What is difference between total central angle in terms of degrees of A, B and F together and C, E and F together?
(A) 50.4 (B) 62.8 (C) 54.5 (D) 40.8

Passage-II

In a city, there are three coffee shops 'P', 'Q', and 'R' that sell three types of coffee: 'Espresso', 'Cappuccino', and 'Latte'. Number of 'Cappuccino' cups sold by 'R' is 90. The ratio of the number of 'Espresso' cups sold by shop 'P' to 'Q' is 4:7. The number of 'Latte' cups sold by shop 'R' is 20% more than the number of 'Espresso' cups sold by shop 'Q'. The ratio of the number of 'Latte' cups sold by shop 'R' to shop 'Q' is 3:1. The number of 'Latte' cups sold by shop 'P' is 150. The number of 'Espresso' cups sold by shop 'P' is 60% more than the number of 'Latte' cups sold by shop 'P'. The total number of 'Espresso' cups sold by all three shops together is 1100. The total number of 'Cappuccino' cups sold by all three shops together is the average of the total number of 'Espresso' and 'Latte' cups sold by all three shops together. The ratio of the number of 'Espresso' cups sold by shop 'R' to the number of 'Cappuccino' cups sold by 'Q' is 4:7.

46. Number of 'Cappuccino' cups sold by Shop 'Q' is how much more/less than the number of 'Espresso' cups sold by Shop 'P' and 'R' together?
(A) 90 (B) 95 (C) 86 (D) 77

47. Number of 'Latte' cups sold by Shop 'Q' is what percent more than of number of 'Cappuccino' cups sold by Shop 'P'?
(A) 60% (B) 70% (C) 66% (D) 56%

48. How many 'Cappuccino' cup sold by shop P.?
(A) 101 (B) 123 (C) 134 (D) 155

49. Find out the total number of coffee cups (all the three type) sold by shop Q.
(A) 1235 (B) 1345 (C) 1765 (D) 1358

50. Find the ratio of the number of 'Cappuccino' cups sold by shop R to the latte cups sold by shop P.
(A) 3:5 (B) 5:3 (C) 5:9 (D) 1:2