

MAT Economic & Business Environment Sample Paper - 2

Duration: 24 Minutes

Maximum Marks: 30

Instructions

- This paper contains **30** Multiple Choice Questions from the **Economic & Business Environment** section of MAT.
- Each correct answer carries **+1 mark**. Incorrect answer: **-0.25** marks. Only **one** correct option.
- There is **no** negative marking for unattempted questions.
- Suggested time for this section in the full MAT is approximately **24 minutes**.
- Use of mobile phones, smartwatches, calculators, or any electronic gadgets is strictly prohibited.

Q1. In the Union Budget of India, the total expenditure of the government exceeds its total receipts (excluding borrowings). This difference is formally defined as which of the following?

- (A) Revenue Deficit
- (B) Fiscal Deficit
- (C) Primary Deficit
- (D) Effective Revenue Deficit

Q2. Consider a situation where a central bank sells government securities in the open market. What is the most likely immediate impact of this action on the banking system and the economy?

- (A) Increase in banking system liquidity and decrease in interest rates
- (B) Decrease in banking system liquidity and increase in interest rates
- (C) Increase in the money supply and inflationary pressure
- (D) No change in liquidity, but a direct decrease in public debt



- Q3.** The Competition Commission of India (CCI) recently scrutinized a major global merger under the provisions of the Competition Act, 2002. Under this Act, which of the following practices is the CCI primarily mandated to prevent?
- (A) High corporate taxation by state governments
 - (B) Practices having an appreciable adverse effect on competition
 - (C) Implementation of labor-saving automation in manufacturing
 - (D) Small-scale retail price fluctuations in local markets
- Q4.** Which organ of the United Nations is primarily responsible for maintaining international peace and security, and has the authority to issue binding resolutions to member states?
- (A) United Nations General Assembly
 - (B) United Nations Security Council
 - (C) International Court of Justice
 - (D) United Nations Economic and Social Council
- Q5.** In the context of global corporate identity, the brand "Audi", known for its four interlocking rings logo, operates as a wholly owned subsidiary of which major automotive conglomerate?
- (A) BMW Group
 - (B) Stellantis N.V.
 - (C) Volkswagen Group
 - (D) Mercedes-Benz Group
- Q6.** The "Dadasaheb Phalke Award", India's highest award in cinema, is presented annually at the National Film Awards ceremony by which of the following organizations or ministries?
- (A) Film and Television Institute of India (FTII)
 - (B) Directorate of Film Festivals (under the Ministry of Information and Broadcasting)



- (C) National Film Development Corporation (NFDC)
- (D) Central Board of Film Certification (CBFC)

Q7. In the context of computer networking and security, what does the acronym "VPN" stand for, and what is its primary function?

- (A) Virtual Private Network; to secure and encrypt data transmissions over the internet
- (B) Verified Protocol Node; to speed up physical broadband connections
- (C) Variable Packet Number; to allocate dynamic IP addresses to local servers
- (D) Visual Processing Network; to optimize high-definition video streaming data

Q8. Under the provisions of the Constitution of India, which of the following subjects falls under the Concurrent List (List III of the Seventh Schedule), allowing both the Parliament and State Legislatures to enact laws?

- (A) Defense of India
- (B) Banking and Currency
- (C) Education
- (D) Police and Public Order

Q9. Which of the following best describes the core objective of the "Pradhan Mantri Jan Dhan Yojana" (PMJDY) launched by the Government of India?

- (A) Providing subsidized housing loans to rural households
- (B) Ensuring universal access to banking facilities with at least one basic bank account for every household
- (C) Offering comprehensive crop insurance to small and marginal farmers
- (D) Funding high-tech startups in the defense sector

Q10. A commercial bank falls short of its required Cash Reserve Ratio (CRR) at the end of a reporting fortnight. To bridge this immediate, overnight deficit, the



bank borrows funds from another commercial bank. This specific short-term borrowing market is known as the:

- (A) Commercial Paper Market
- (B) Certificate of Deposit Market
- (C) Call Money Market
- (D) Treasury Bill Market

Q11. The financial term "NPA", which significantly impacts the balance sheets and profitability of Indian commercial banks, stands for:

- (A) Net Profit Asset
- (B) Non-Performing Asset
- (C) Nominal Principal Account
- (D) Non-Profitable Advancement

Q12. The "Bretton Woods Conference" of 1944 directly led to the creation of which pair of major international financial and trade institutions?

- (A) World Bank and International Monetary Fund (IMF)
- (B) World Trade Organization (WTO) and Asian Development Bank (ADB)
- (C) World Economic Forum (WEF) and United Nations Conference on Trade and Development (UNCTAD)
- (D) Bank for International Settlements (BIS) and New Development Bank (NDB)

Q13. In the history of the modern Olympic Games, which city hosted the first-ever Summer Olympic Games of the modern era in the year 1896?

- (A) Paris, France
- (B) Athens, Greece
- (C) London, United Kingdom
- (D) Rome, Italy



- Q14.** The term "LiFi" (Light Fidelity), an emerging wireless communication technology, primarily uses which medium for high-speed transmission of data?
- (A) Infrared spectrum waves
 - (B) High-frequency radio waves
 - (C) Visible light communication via LED bulbs
 - (D) Ultra-low frequency acoustic waves
- Q15.** Article 360 of the Constitution of India empowers the President of India to declare which type of emergency, which notably has never been invoked in India to date?
- (A) National Emergency due to war or external aggression
 - (B) State Emergency or President's Rule due to failure of constitutional machinery
 - (C) Financial Emergency
 - (D) Health Emergency due to pandemic outbreaks
- Q16.** Which Indian state has the longest coastline among all the maritime states in the country?
- (A) Maharashtra
 - (B) Tamil Nadu
 - (C) Gujarat
 - (D) Andhra Pradesh
- Q17.** In marketing terminology, when a company uses a successful brand name to launch a completely new product category or a new product in an unrelated market, the strategy is called:
- (A) Line Extension
 - (B) Brand Extension
 - (C) Co-branding



(D) Multi-branding

Q18. The global international trade body, the World Trade Organization (WTO), officially replaced which historical international agreement on January 1, 1995?

(A) General Agreement on Tariffs and Trade (GATT)

(B) International Trade Organization (ITO) Charter

(C) Multi-Fiber Arrangement (MFA)

(D) Washington Consensus Accord

Q19. The "Gini Coefficient" is a standard economic metric used globally by policymakers and researchers to measure which of the following macroeconomic indicators?

(A) Rate of technological adoption in manufacturing

(B) Degree of income inequality or wealth distribution within a population

(C) Percentage variance between projected and actual GDP growth

(D) Relative strength of a domestic currency against a basket of foreign currencies

Q20. When the Reserve Bank of India (RBI) increases the "Repo Rate", what is the primary economic objective behind this policy move?

(A) To inject liquidity into the commercial banking system to spur aggressive lending

(B) To curb inflationary pressures by making borrowing more expensive for commercial banks

(C) To lower the yields on long-term government securities

(D) To incentivize commercial banks to park excess funds with the RBI at higher returns

Q21. The prominent business tagline "The Power of Dreams" is globally associated with which of the following multinational corporations?



- (A) Hyundai Motor Company
- (B) Honda Motor Company
- (C) Sony Corporation
- (D) Panasonic Holdings Corporation

Q22. The prestigious "Booker Prize" is awarded annually to the best sustained work of fiction written in which language and published in the UK or Ireland?

- (A) French
- (B) German
- (C) English
- (D) Spanish

Q23. Which of the following Indian entities or regulatory bodies is responsible for calculating and releasing the official Periodic Labour Force Survey (PLFS) data and retail inflation (CPI) figures in India?

- (A) Reserve Bank of India (RBI)
- (B) NITI Aayog
- (C) National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation
- (D) Department for Promotion of Industry and Internal Trade (DPIIT)

Q24. Which Indian state became the first in the country to fully implement the National Education Policy (NEP) at the higher education level?

- (A) Kerala
- (B) Karnataka
- (C) Maharashtra
- (D) Tamil Nadu

Q25. In the Union Budget of India, "Capital Receipts" include items that either create a liability or reduce financial assets. Which of the following is categorized as a Capital Receipt for the government?



- (A) Income Tax collections from individuals
- (B) Dividends received from Public Sector Undertakings (PSUs)
- (C) Market borrowings through the issuance of dated securities
- (D) Fees and fines collected by various government departments

Q26. India recently signed a Comprehensive Economic Partnership Agreement (CEPA) to significantly boost bilateral trade and lower tariffs with which major West Asian nation?

- (A) Saudi Arabia
- (B) United Arab Emirates (UAE)
- (C) Qatar
- (D) Oman

Q27. The corporate acquisition of the popular e-commerce platform "Flipkart" by the American retail giant "Walmart" represents which type of business integration strategy?

- (A) Horizontal Integration
- (B) Vertical Backward Integration
- (C) Vertical Forward Integration
- (D) Conglomerate Diversification

Q28. In May 2024, which prominent Indian political leader took the oath of office as the Chief Minister of Andhra Pradesh following a decisive assembly election victory?

- (A) Y.S. Jagan Mohan Reddy
- (B) N. Chandrababu Naidu
- (C) Pawan Kalyan
- (D) K. Chandrashekar Rao

Q29. What is the primary function of "Mitochondria" in a typical eukaryotic animal cell?



- (A) Synthesis and packaging of ribosomal RNA
- (B) Cellular respiration and generation of adenosine triphosphate (ATP)
- (C) Breakdown and recycling of metabolic cellular waste
- (D) Regulation of transport of materials across the plasma membrane

Q30. Who is the current Chairperson of the Securities and Exchange Board of India (SEBI)?

- (A) Madhabi Puri Buch
- (B) Soma Mondal
- (C) Alka Mittal
- (D) Arundhati Bhattacharya



Detailed Solutions**Q1.****Solution**

Concept: The government budget balance involves analyzing the relationship between total revenue receipts and total expenditures. When structural imbalances occur, the margin by which total expenditure surpasses the aggregate of non-debt-creating receipts is classified as a specific type of national deficit.

Solution:

1: Identify the components given in the problem statement. We are looking at the condition where total expenditure exceeds total receipts excluding borrowings. This means total receipts are narrowed down strictly to revenue receipts and non-debt capital receipts (such as recovery of loans and disinvestment proceeds).

2: Define Fiscal Deficit mathematically. The standard macroeconomic formula for calculating the Fiscal Deficit of a nation is:

$$\text{Fiscal Deficit} = \text{Total Expenditure} - (\text{Revenue Receipts} + \text{Non-Debt Capital Receipts})$$

This can be rewritten simply as Total Expenditure minus Total Receipts excluding borrowings.

3: Analyze the alternative options given in the question to eliminate wrong choices. Revenue Deficit only measures the gap in the government's day-to-day operational revenue accounts (Revenue Expenditure – Revenue Receipts). Primary Deficit subtracts interest payments from the fiscal deficit. Effective Revenue Deficit subtracts grants given for capital asset creation from the revenue deficit.

4: Conclude that the exact definition provided in the question matches the fiscal deficit calculation, which reflects the total market borrowing requirements of the government to bridge its budgetary gap during a specific financial year.

Final Answer:

Answer: (B)

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Q2.

Solution

Concept: Open Market Operations (OMO) are monetary tools utilized by a central bank to regulate the quantitative volume of money supply and credit liquidity present within the domestic banking infrastructure. The buying and selling of government securities directly impacts the reserve deposits of commercial institutions.

Solution:

1: Trace the transaction process when the central bank sells government securities in the open market. Commercial banks and institutional investors purchase these securities from the central bank.

2: Examine the flow of funds. To pay for these public securities, commercial banks must transfer cash balances or deplete their settlement account deposits maintained with the central bank. This directly results in an immediate contraction of the liquid cash reserves available within the banking channels.

3: Evaluate the impact on credit capacity and interest rates. A lower volume of loanable funds or decreased liquidity causes credit availability to tighten. Due to the basic economic laws of supply and demand for loanable funds, a reduction in the supply of money causes the price of borrowing, which is the interest rate, to rise.

4: Synthesize the outcomes. The immediate macro-environmental consequence consists of a notable reduction in overall banking system liquidity alongside an upward movement in market interest rates.

Final Answer: Decrease in banking system liquidity and increase in interest rates

Answer: (B)

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Q3.

Solution

Concept: Antitrust laws and competition regulatory frameworks are engineered to sustain market freedom and prevent corporate monopolies. The Competition Commission of India (CCI) acts as a statutory watchdog to ensure that market dynamics are not compromised by unfair corporate consolidation or anti-competitive configurations.

Solution:

1: Review the fundamental legal objective of the Competition Act, 2002. This legislation was enacted to replace the older Monopolies and Restrictive Trade Practices (MRTP) Act, shifting the regulatory focus from the mere prohibition of monopolies to promoting fair and robust market competition.

2: Understand the explicit statutory mandate given to the CCI under Section 3 and Section 4 of the Act. The primary duty of the Commission is to eliminate practices that cause, or are highly likely to cause, an appreciable adverse effect on competition (AAEC) within the relevant market inside India.

3: Review the options to eliminate incorrect operational areas. The CCI does not regulate state-level taxation policies, does not control labor automation processes, and does not interfere with localized micro-scale price fluctuations unless they stem from predatory pricing or cartelization.

4: Determine that the investigation of large global corporate mergers falls under the combination regulation mandate of the CCI, specifically designed to ensure such corporate actions do not lead to an appreciable adverse effect on competition.

Final Answer: Practices having an appreciable adverse effect on competition

Answer: (B)

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Q4.

Solution

Concept: The global governance structure of the United Nations distributes distinct geopolitical and administrative functions among its six principal organs. While most organs maintain advisory or recommendatory powers, one specific council is uniquely endowed with binding legislative and enforcement capabilities under international law.

Solution:

1: Analyze the specific criteria outlined in the question. The organ must hold the primary mandate for global peace preservation and must possess the legal authority to issue resolutions that are strictly binding upon member nations.

2: Evaluate the charter powers of the United Nations Security Council (UNSC). Under Chapter VII of the UN Charter, the Security Council can take enforcement measures to maintain or restore international peace and security. Its decisions, known as Security Council resolutions, are legally binding on all UN member states under Article 25 of the Charter.

3: Distinguish from other principal organs. The United Nations General Assembly (UNGA) generally passes resolutions that serve as non-binding recommendations. The International Court of Justice (ICJ) handles legal disputes between states but lacks direct enforcement machinery, and the Economic and Social Council handles development and social mandates.

4: Confirm that the United Nations Security Council is the sole organ matching all structural and enforcement criteria specified.

Final Answer:

Answer:

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Q5.

Solution

Concept: The global automotive landscape is highly consolidated, consisting of complex parent-subsidary structures where iconic, historical brand names operate underneath massive multinational umbrella corporations that manage shared engineering platforms, supply chains, and corporate governance.

Solution:

1: Identify the target brand entity. The brand in question is "Audi", the premium German automobile manufacturer famous for its historical corporate symbol featuring four distinct interlocking rings, representing the original merger of four independent motor vehicle manufacturers.

2: Analyze the ownership structure of the brand within the global business environment. While Audi maintains its distinct premium brand equity and separate operational design headquarters, it is not an independent corporate conglomerate.

3: Correlate the brand with its actual parent corporation. Audi was progressively acquired and is now managed as a primary, wholly owned luxury subsidiary within the vast portfolio of the Volkswagen Group (Volkswagen AG), alongside other famous global brands such as Porsche, Bentley, Lamborghini, and Skoda.

4: Differentiate from other automotive giants. The BMW Group owns Mini and Rolls-Royce; Stellantis owns brands like Fiat, Jeep, and Peugeot; Mercedes-Benz operates independently as its own primary corporate entity. Thus, Volkswagen Group is the correct parent entity.

Final Answer: Volkswagen Group

Answer: (C)

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Q6.

Solution

Concept: The administration of national cultural honors involves specific structural divisions within state machinery. Higher recognitions in cultural domains, such as cinema, are curated and executed by specialized directorates established under the relevant union ministries.

Solution:

1: Identify the nature of the Dadasaheb Phalke Award. It is India's highest award in the field of cinema, presented annually for outstanding contributions to the growth and development of Indian motion pictures.

2: Examine the administrative setup of the National Film Awards. These awards are not organized by private film associations or independent educational academies like the Film and Television Institute of India (FTII).

3: Pinpoint the official statutory body responsible for the ceremony. The Directorate of Film Festivals, operating under the structural control of the Ministry of Information and Broadcasting, Government of India, is directly charged with organizing, processing, and presenting these honors.

4: Differentiate from other bodies. The National Film Development Corporation (NFDC) handles film financing and production, while the Central Board of Film Certification (CBFC) handles censorship and rating assignments. Therefore, the specialized Directorate is the correct executing authority.

Final Answer: Directorate of Film Festivals (under the Ministry of Information and Broadcasting)

Answer: (B)

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Q7.

Solution

Concept: Network security frameworks utilize tunneling protocols to shield information exchanges over public networks. The operational purpose of a private network overlay on public networks is to isolate traffic streams via advanced cryptographic techniques.

Solution:

1: Analyze the standard technical terminology for network isolation mechanisms over wide-area infrastructure. When corporate or individual configurations require private channels across public backbones, a specific encryption system is deployed.

2: Deconstruct the abbreviation VPN. The technical term expands exactly to Virtual Private Network. It is called "Virtual" because it establishes logical, point-to-point connections without dedicated physical lines, and "Private" because it seals data from unauthorized entities.

3: Examine the core mechanics. A VPN works by establishing a secure, encrypted tunnel between the user's local terminal node and a remote destination server, making the transmission secure against external interception or local snooping.

4: Eliminate alternate network configurations. It does not alter hardware broadband frequencies or physical packet numbering structures, keeping its core focus on end-to-end data transmission security and masking digital traces.

Final Answer: Virtual Private Network; to secure and encrypt data transmissions over the internet

Answer: (A)

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Q8.

Solution

Concept: The legislative power distribution under the constitutional framework of India uses a three-tier system defined within the Seventh Schedule. The operational dynamics of federalism allow overlapping legislative authority on specific societal subjects listed under a mutual registry.

Solution:

1: Understand the structure of the Seventh Schedule of the Constitution of India, which splits subjects into three distinct lists: List I (Union List), List II (State List), and List III (Concurrent List).

2: Evaluate the nature of the Concurrent List. This list contains items where both the central Parliament and the state legislatures can concurrently enact valid statutes, provided there is no direct operational conflict between the laws.

3: Analyze the options using systemic elimination. Defense of India along with Banking and Currency are highly centralized matters, meaning they belong entirely to the Union List. Police and Public Order fall under the jurisdiction of state governance, placing them squarely in the State List.

4: Examine the historical status of Education. Following the constitutional amendment in 1976, Education was transferred from the State List to the Concurrent List to enable joint policy planning and statutory control between central and state governments.

Final Answer: Education

Answer: (C)

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Q9.

Solution

Concept: National development programs often prioritize financial inclusion to integrate marginalized populations into the formal economic framework. Universal access to institutional banking infrastructure reduces reliance on informal, predatory credit markets.

Solution:

1: Review the operational framework of the Pradhan Mantri Jan Dhan Yojana (PMJDY), which is a key pillar of India's national financial inclusion strategy.

2: Identify the primary bottleneck in rural and lower-income demographics. A large portion of the population traditionally lacked basic savings accounts, which prevented direct transfers of government subsidies and access to formal financial services.

3: Focus on the core mechanism of PMJDY. The primary objective is to guarantee that every unbanked household in the country is provided with at least one basic savings bank deposit account, featuring zero-minimum balance requirements and simplified identification rules.

4: Distinguish from alternate sector-specific policies. PMJDY does not focus on providing housing finance, agrarian crop insurance distributions, or defense technological research funding, making universal banking accessibility its defining policy target.

Final Answer: Ensuring universal access to banking facilities with at least one basic bank account for every household

Answer: (B)

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Q10.

Solution

Concept: The interbank money market provides liquidity mechanisms for commercial institutions to manage temporary shortfalls in mandatory central bank reserves. These short-term financial instruments operate with varied maturities to handle balance-sheet fluctuations.

Solution:

1: Analyze the bank's specific financial problem. The commercial bank is facing a sudden shortfall in its required Cash Reserve Ratio (CRR) at the end of a reporting cycle, necessitating immediate, short-term liquidity to meet regulatory mandates.

2: Look at the transaction maturity duration required. Because the bank needs to cover an immediate gap over a single business day or overnight, it enters a highly liquid, ultra-short-term money market segment.

3: Classify the specific money market instruments. Borrowing and lending transactions that take place strictly on an overnight basis between scheduled commercial banking institutions are conducted within the Call Money Market.

4: Separate from alternate financial instruments. Commercial Papers are issued by corporate enterprises for longer periods; Certificates of Deposit are mid-term institutional instruments; and Treasury Bills are short-term government debt tools. This confirms that the Call Money Market is the correct venue for overnight interbank adjustments.

Final Answer:

Answer: (C)

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Q11.

Solution

Concept: The balance sheet stability of commercial financial institutions depends on the asset quality of their loan portfolios. Financial instruments that cease to generate regular interest or principal inflows for a sustained duration undergo classification adjustments under regulatory accounting standards.

Solution:

1: Analyze the acronym NPA in the context of commercial banking operations. When a borrower defaults on scheduled interest payments or principal installments, the asset's economic status changes from productive to unproductive.

2: Review the regulatory timeline guidelines. According to standard banking norms, a loan account is flagged when payments remain overdue for a continuous period exceeding 90 days.

3: Identify the correct full form. The term expands to Non-Performing Asset. It represents an asset that is no longer "performing" its primary financial function of generating consistent yield or revenue for the lender bank.

4: Distinguish from incorrect terminology options. Options containing words like "Profit", "Nominal", or "Advancement" are inaccurate, as they do not align with standard accounting terminology used by central banks to quantify bad loans.

Final Answer:

Answer: (B)

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Q12.

Solution

Concept: The modern global economic architecture was shaped by international agreements toward the end of the Second World War. Financial delegates gathered to design structural frameworks that could stabilize international exchange rates, prevent competitive currency devaluations, and facilitate reconstruction.

Solution:

1: Trace the historical context of the Bretton Woods Conference, officially known as the United Nations Monetary and Financial Conference, held in July 1944 in New Hampshire, USA.

2: Identify the primary institutional outcomes. The conference aimed to establish a regulated international monetary system. To achieve this, delegates designed two complementary multilateral financial institutions, often referred to as the "Bretton Woods twins".

3: Define the functions of these twins. The first institution was the International Bank for Reconstruction and Development (IBRD), which is now the core component of the World Bank Group. Its purpose was to fund postwar reconstruction. The second was the International Monetary Fund (IMF), tasked with overseeing global exchange rates and offering balance-of-payments support.

4: Differentiate from alternative options. The World Trade Organization (WTO) was created much later in 1995 to replace GATT. Similarly, institutions like the Asian Development Bank (ADB) and the New Development Bank (NDB) were founded through independent regional agreements decades later.

Final Answer: World Bank and International Monetary Fund (IMF)

Answer: (A)

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Q13.

Solution

Concept: The institutional revival of historical sports events required a transition into a formalized global framework. The inaugural modern multi-sport event was deliberately assigned to a location that held symbolic historical connections to the ancient games.

Solution:

1: Review the historical background of the Olympic Games. The ancient Olympic Games originated in Olympia, Greece. When the International Olympic Committee (IOC) was formed under Pierre de Coubertin in 1894, the committee planned the first modern international celebration.

2: Identify the choice of location for the inaugural 1896 games. To honor the historical roots of the athletic traditions, the city of Athens, Greece, was chosen to host the event.

3: Analyze the alternative choices. While major European capitals like Paris and London hosted subsequent editions (Paris in 1900, London in 1908) and played major roles in expanding the movement, they did not host the first modern event in 1896.

4: Conclude that Athens, Greece, is the correct historical venue for the 1896 Summer Olympic Games.

Final Answer: Athens, Greece

Answer: (B)

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Q14.

Solution

Concept: Wireless network engineering utilizes different segments of the electromagnetic spectrum to modulate and transmit digital data packets. While standard wireless setups rely on radio frequencies, alternative high-speed optical networking technologies leverage shorter wavelengths within the visible spectrum.

Solution:

1: Examine the foundational technology behind LiFi, which stands for Light Fidelity. This technology is a visible light communication (VLC) system designed for high-speed wireless networking.

2: Identify the transmission medium. Unlike traditional WiFi systems that use radio frequency signals, LiFi modulates the intensity of light emitted by solid-state light sources, specifically light-emitting diode (LED) bulbs.

3: Understand the data transmission process. The light from the LED bulb is modulated at ultra-high speeds that are imperceptible to the human eye. Photodetector receivers then pick up these subtle fluctuations and decode them back into digital data streams.

4: Eliminate alternative spectrum options. Infrared waves are typically used in short-range remote controls, radio waves are the foundation of standard WiFi and cellular networks, and acoustic waves use sound through physical media rather than light. This confirms that visible light via LEDs is the correct medium.

Final Answer: Visible light communication via LED bulbs

Answer: (C)

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Q15.

Solution

Concept: The constitutional framework of India includes emergency provisions designed to preserve national stability during severe political, security, or economic crises. Part XVIII of the Constitution contains specific articles that grant the executive branch specialized powers when predefined thresholds are met.

Solution:

1: Analyze the specific constitutional article mentioned in the question. Article 360 deals with situations where the financial stability or credit of India, or any part of its territory, is under serious threat.

2: Define the authority granted under Article 360. This article empowers the President of India to issue a declaration of a Financial Emergency. During this period, the central executive can direct states to observe specific canons of financial propriety and reduce the salaries of public officials.

3: Evaluate historical usage. Reviewing the constitutional history of independent India reveals that while National Emergencies (Article 352) and President's Rule (Article 356) have been invoked multiple times, a Financial Emergency under Article 360 has never been declared, even during the balance of payments crisis in 1991.

4: Eliminate alternative options. Article 352 governs national emergencies caused by war, while Article 356 covers the failure of constitutional machinery in states. Health emergencies do not have a dedicated, separate article under this section. Thus, Article 360 corresponds directly to a Financial Emergency.

Final Answer:

Answer: (C)

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Q16.

Solution

Concept: The physical geography and maritime boundaries of a sub-continental landmass feature diverse configurations across different coastal territories. Calculating the total length of a state's coastline requires measuring its continuous maritime baseline, including all geographic indentations, gulfs, and regular coastlines.

Solution:

1: Analyze the geopolitical geography of peninsular India. India possesses a total coastline stretching across more than 7,500 kilometers, distributed among nine maritime states and various union territories.

2: Evaluate individual state coastlines based on official geographic data from the Ministry of Earth Sciences. While states like Andhra Pradesh and Tamil Nadu have extensive eastern coastlines along the Bay of Bengal, their total lengths are shorter than the primary western maritime baselines.

3: Examine the coastline of Gujarat on the western coast. This state features unique geographical structures, including the Gulf of Kutch and the Gulf of Khambhat, which create a highly indented baseline. This indentation significantly extends its continuous coastal path.

4: Confirm the measurements. Gujarat features a coastline of approximately 1,600 kilometers, which accounts for nearly 20% of the nation's total mainland coastline. This makes it the state with the longest coastline, followed by Andhra Pradesh.

Final Answer: Gujarat

Answer: (C)

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Q17.

Solution

Concept: Corporate marketing strategies leverage established brand equity to navigate entry barriers into new markets. When a firm seeks to launch a new product, it can either build a new brand identity from scratch or utilize the reputation of an existing, successful brand to lower marketing costs.

Solution:

1: Define the core strategic choice. The question outlines a scenario where an organization takes an established, successful brand name and applies it to a completely new product category or an entirely unrelated market sector.

2: Define and contrast Line Extension. A line extension occurs when a company introduces additional items within the exact same product category under the same brand name, such as adding new flavors, forms, colors, or package sizes. This does not match the scenario of entering an unrelated market.

3: Define Brand Extension. A brand extension involves using an existing brand name to enter an entirely different product class or a new industry. A classic example is a luxury car manufacturer using its brand name to launch a line of premium watches or apparel.

4: Distinguish from alternate options. Co-branding involves pairing two distinct brand names on a single product, while multi-branding involves launching multiple different brands within the same category. Therefore, the strategy of entering an unrelated market with an existing brand name is a brand extension.

Final Answer:

Answer: (B)

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Q18.

Solution

Concept: The evolution of global trade governance transitioned from a loose framework of provisional treaties to a permanent, institutional international organization. This structural upgrade provided the international trade system with enhanced legal status and a formalized mechanism for resolving trade disputes.

Solution:

1: Review the institutional history of global trade regulations following the Second World War. The initial international trade system was governed by a provisional multilateral treaty signed in 1947, designed to reduce tariffs and trade barriers.

2: Identify this foundational treaty framework, which was the General Agreement on Tariffs and Trade (GATT). GATT operated for several decades as a negotiating forum rather than a fully incorporated international institution.

3: Trace the changes during the Uruguay Round of trade negotiations, which spanned from 1986 to 1994. These extensive negotiations concluded with the Marrakesh Agreement, which formally established a permanent global trade watchdog.

4: Connect the timeline. On January 1, 1995, the World Trade Organization (WTO) officially commenced operations, replacing GATT. This change integrated trade in services and intellectual property into the global regulatory framework, alongside traditional merchandise trade.

Final Answer:

Answer: (A)

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Q19.

Solution

Concept: Statistical economics uses specific mathematical metrics to quantify distribution variances within a population. Evaluating economic equity requires a normalized metric that can express the gap between absolute equal distribution and absolute concentration of wealth.

Solution:

1: Analyze the theoretical basis of the Gini Coefficient, developed by Italian statistician Corrado Gini in 1912. This metric is derived directly from the Lorenz curve plotting framework.

2: Understand the mathematical limits of the coefficient. The Gini index is expressed as a value between 0 and 1 (or 0% to 100%). A value of 0 represents perfect equality, where every individual shares an identical amount of income. A value of 1 represents absolute inequality, where a single individual commands the entire income of the economy.

3: Map the coefficient to its specific macroeconomic application. Central banks and international development institutions utilize this tool to monitor trends in income inequality and wealth distribution variations within an economy over time.

4: Eliminate alternative economic indicators. The Gini coefficient does not track manufacturing automation rates, variance in GDP growth projections, or relative foreign exchange currency valuations. This confirms its focus remains on income and wealth distribution inequality.

Final Answer: Degree of income inequality or wealth distribution within a population

Answer: (B)

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Q20.

Solution

Concept: Central banks utilize monetary policy instruments to adjust interest rates and manage macroeconomic stability. Altering the cost of short-term institutional borrowing allows monetary authorities to influence credit expansion, commercial banking liquidity, and inflation trends.

Solution:

1: Define the Repo Rate (Repurchase Rate). It is the benchmark interest rate at which a central bank, such as the Reserve Bank of India (RBI), lends short-term liquid funds to commercial banks against government securities.

2: Trace the economic impact of an increase in the Repo Rate. When the central bank raises this benchmark rate, the cost of borrowing funds increases for commercial banking institutions.

3: Analyze how this change transmits through the financial system. To protect their net interest margins, commercial banks pass these higher costs along to the public by raising lending rates on retail, corporate, and home loans. This increase in interest rates cools consumer demand and slows business capital expenditures.

4: Identify the primary objective behind this policy tightening. By making credit more expensive and reducing the velocity of circulation, the central bank aims to moderate aggregate demand and curb inflationary pressures within the domestic economy.

Final Answer:

To curb inflationary pressures by making borrowing more expensive for commercial banks

Answer: (B)[Go Back to Question 20](#)

Q21.

Solution

Concept: Multinational enterprises use corporate taglines and corporate philosophies to encapsulate their core strategic vision, cross-border marketing identity, and corporate culture across global consumer markets.

Solution:

1: Analyze the phrase provided in the question. The tagline under review is "The Power of Dreams", which emphasizes innovation, engineering ambition, and mobility solutions.

2: Match the motto with the corresponding multinational corporation. This phrase serves as the official global brand slogan for the Honda Motor Company, a major Japanese multinational manufacturer of automobiles, motorcycles, and power equipment.

3: Eliminate alternate corporate brands. Hyundai uses slogans like "New Thinking, New Possibilities"; Sony operates under philosophies such as "Fill the world with emotion, through the power of creativity and technology" and previously used "Make.Believe"; and Panasonic has long used "A Better Life, A Better World".

4: Conclude that "The Power of Dreams" is uniquely and globally trademarked by Honda, reflecting its founder's philosophy regarding mobility design.

Final Answer:

Answer: (B)

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Q22.

Solution

Concept: International literary awards operate under specific eligibility criteria regarding the publication territory and the primary language of composition to maintain structural consistency and cross-border cultural prestige.

Solution:

1: Identify the prize under evaluation. The Booker Prize is a leading literary award conferred annually for a single, full-length novel.

2: Review the structural rule changes of the award. Historically restricted to citizens of the Commonwealth, Zimbabwe, and Ireland, the eligibility criteria were expanded to allow any novel from any nationality, provided the work satisfies specific language requirements.

3: Identify the primary language condition. The work must be originally written and sustained in the English language and formally published in the United Kingdom or Ireland by a registered publisher during the year of consideration.

4: Differentiate from translation-based awards. Works translated from other languages like French, German, or Spanish are eligible for a separate sister award called the International Booker Prize, confirming that the main Booker Prize is reserved exclusively for works written in English.

Final Answer: English

Answer: (C)

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Q23.

Solution

Concept: The administrative framework of national statistical tracking assigns data collection mandates to specialized institutions within the civil service. Monitoring employment indicators and retail price movements requires structured surveys conducted by official statistical authorities.

Solution:

1: Identify the economic datasets mentioned. The question references the Periodic Labour Force Survey (PLFS), which tracks employment metrics, and the Consumer Price Index (CPI), which tracks retail inflation in India.

2: Examine the institutional structure of statistics in India. The Ministry of Statistics and Programme Implementation (MoSPI) serves as the primary wing for data collection and mathematical modeling.

3: Identify the specific entity within MoSPI. The National Statistical Office (NSO), formed by merging the National Sample Survey Office (NSSO) and the Central Statistics Office (CSO), holds the statutory mandate to conduct these large-scale surveys and release CPI data monthly.

4: Rule out alternate bodies. The Reserve Bank of India (RBI) utilizes this data for monetary policy but does not collect it directly; NITI Aayog serves as a policy think tank; and the DPIIT calculates the Wholesale Price Index (WPI), leaving the NSO as the correct agency for CPI and PLFS metrics.

Final Answer:

National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation

Answer: (C)

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Q24.

Solution

Concept: The execution of national policy frameworks involves state governments adapting union guidelines into their local legislative and university networks. Federal provisions require separate state administrative approvals before implementation can begin at the institutional level.

Solution:

1: Review the timeline of the National Education Policy (NEP). Following its formal approval by the Union Cabinet to replace the older national policy on education, states began preparing their universities for structural changes.

2: Identify the first state to implement the policy at the higher education level. The state government of Karnataka issued official orders and administrative guidelines to adopt the NEP model across its state universities and higher education campuses.

3: Analyze the responses of other states. While states like Kerala and Tamil Nadu raised alternative policy proposals, and Maharashtra implemented the policy later, Karnataka was the first to transition its university system to the new credit and degree framework.

Final Answer:

Answer: (B)

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Q25.

Solution

Concept: Public finance accounts are divided into revenue and capital accounts based on how transactions impact the government's assets and liabilities. Transactions that change the sovereign debt obligations or reduce the asset holdings of the state are classified under a specific budgetary category.

Solution:

1: Define Capital Receipts within the Union Budget framework. Capital Receipts are government inflows that either create a direct future financial liability for the state or result in a reduction of the government's financial or physical assets.

2: Analyze and classify the given options. Income Tax collections represent regular, non-refundable inflows that do not create a liability or reduce assets, making them Revenue Receipts. Similarly, dividends from Public Sector Undertakings (PSUs) and administrative fees are regular earnings classified under Non-Tax Revenue Receipts.

3: Examine market borrowings. When the government issues dated securities or treasury bonds in the capital market to raise funds, it takes on a formal obligation to repay the principal along with periodic interest. This transaction creates a direct financial liability for the state.

4: Conclude that because market borrowings through dated securities create a clear future liability, they are classified under the Capital Receipts section of the Union Budget.

Final Answer: Market borrowings through the issuance of dated securities

Answer: (C)

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Q26.

Solution

Concept: Bilateral trade agreements, such as a Comprehensive Economic Partnership Agreement (CEPA), are institutional frameworks designed to reduce trade barriers, eliminate customs duties, and enhance cross-border investment flows between two friendly nations.

Solution:

1: Analyze the geopolitical and trade developments involving India in the West Asian region. The Indian government has actively pursued deep economic integration with key member nations of the Gulf Cooperation Council (GCC).

2: Identify the specific nation with which India signed and operationalized a landmark CEPA. India and the United Arab Emirates (UAE) formally signed this historic trade pact to dramatically expand non-oil trade relations.

3: Evaluate the impact of this specific agreement. The CEPA with the UAE has significantly eliminated or lowered import tariffs on a wide range of products, including gems and jewelry, textiles, engineering goods, and agricultural commodities, while providing institutional protections for services trade.

4: Distinguish from alternate regional partners. While India maintains excellent strategic relations with Saudi Arabia, Qatar, and Oman, the formal institutional CEPA structure was first executed and made fully operational with the United Arab Emirates.

Final Answer:

Answer: (B)

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Q27.

Solution

Concept: Corporate expansion and restructuring involve different types of business integration models depending on the relationship between the acquiring firm and the target entity. When a firm acquires another business operating in a completely different line of activity or market layer, it follows a specific strategic diversification path.

Solution:

1: Analyze the corporate entities involved in the transaction. The acquiring firm is Walmart, a brick-and-mortar retail giant based in the United States. The target firm is Flipkart, an online e-commerce marketplace platform operating primarily in India.

2: Define and contrast Horizontal Integration. Horizontal integration occurs when a company acquires a direct competitor operating at the exact same stage of the supply chain within the same industry (e.g., a car manufacturer buying another car manufacturer). This does not apply here.

3: Define and contrast Vertical Integration. Vertical integration involves acquiring entities further up or down the supply chain (backward into manufacturing or forward into distribution) within the same core industry line. Walmart and Flipkart operated in different geographic markets and distinct retail formats.

4: Evaluate Conglomerate Diversification. This occurs when a firm expands into an entirely new market or business sector that lacks direct operational links to its existing core infrastructure. Walmart's move into India's digital marketplace via Flipkart represents a major cross-border diversification into a separate technology-driven industry sector.

Final Answer: Conglomerate Diversification

Answer: (D)

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Q28.

Solution

Concept: The political landscape of India involves regular state legislative assembly elections that determine the executive leadership of individual provinces. The leader of the political party or coalition securing a clear majority is formally invited by the Governor to assume the office of Chief Minister.

Solution:

1: Review the political events surrounding the Andhra Pradesh Legislative Assembly elections. The state witnessed a major electoral contest where a multi-party alliance challenged the incumbent government.

2: Identify the winning alliance and its leadership. The alliance comprising the Telugu Desam Party (TDP), Jana Sena Party, and the Bharatiya Janata Party (BJP) won a decisive landslide majority in the state assembly.

3: Pinpoint the leader who took the oath of office. Following the election victory, the leader of the Telugu Desam Party, N. Chandrababu Naidu, officially took the oath of office as the Chief Minister of Andhra Pradesh.

4: Eliminate alternative political candidates. Y.S. Jagan Mohan Reddy was the outgoing Chief Minister who lost the election; Pawan Kalyan took office as the Deputy Chief Minister; and K. Chandrashekar Rao is a political leader from the neighboring state of Telangana. Thus, N. Chandrababu Naidu is the correct executive leader.

Final Answer: N. Chandrababu Naidu

Answer: (B)

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Q29.

Solution

Concept: Cell biology focuses on specialized double-membrane-bound organelles within eukaryotic cells that act as metabolic centers. These internal structures process biochemical nutrients to synthesize high-energy molecules required to power cellular mechanisms.

Solution:

1: Identify the organelle under review. The question focuses on Mitochondria, which are found in the cytoplasm of most eukaryotic animal cells.

2: Trace the biochemical pathways inside this organelle. Mitochondria are the primary site for the advanced stages of aerobic cellular respiration, which includes the citric acid cycle (Krebs cycle) and the electron transport chain.

3: Identify the primary chemical output. Through these metabolic pathways, mitochondria break down chemical nutrients derived from food to generate adenosine triphosphate (ATP). ATP serves as the universal energy currency for the cell, driving various mechanical, chemical, and transport tasks.

4: Distinguish from alternate cellular organelles. Ribosomal RNA packaging is handled by the nucleolus and ribosomes; metabolic waste recycling is performed by lysosomes; and material transport regulation is managed by the plasma membrane. This leaves ATP generation via respiration as the unique function of mitochondria.

Final Answer: Cellular respiration and generation of adenosine triphosphate (ATP)

Answer: (B)

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Q30.

Solution

Concept: The institutional leadership of national financial market regulators involves senior appointments approved by the Appointments Committee of the Cabinet. The head of the capital market regulatory body guides policy oversight for stock exchanges, corporate governance, and investor protection.

Solution:

1: Identify the regulatory institution mentioned. The Securities and Exchange Board of India (SEBI) is the statutory regulatory body charged with overseeing India's capital and commodities markets.

2: Trace the administrative leadership of the board. The chairperson leads the regulatory direction, enforcing listing regulations and monitoring institutional trading compliance.

3: Identify the current chairperson. Madhabi Puri Buch serves as the chairperson of SEBI, distinguishing her career as the first woman to lead this key market regulatory organization.

4: Eliminate alternative corporate leaders. Soma Mondal was the chairperson of SAIL; Alka Mittal served as the head of ONGC; and Arundhati Bhattacharya is a veteran banking executive who previously chaired SBI. This confirms Madhabi Puri Buch is the correct chairperson.

Final Answer:

Answer: (A)

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Answer Key

| Q | Ans | Q | Ans | Q | Ans | Q | Ans | Q | Ans |
|----|-----|----|-----|----|-----|----|-----|----|-----|
| 1 | B | 2 | B | 3 | B | 4 | B | 5 | C |
| 6 | B | 7 | A | 8 | C | 9 | B | 10 | C |
| 11 | B | 12 | A | 13 | B | 14 | C | 15 | C |
| 16 | C | 17 | B | 18 | A | 19 | B | 20 | B |
| 21 | B | 22 | C | 23 | C | 24 | B | 25 | C |
| 26 | B | 27 | D | 28 | B | 29 | B | 30 | A |

