

**MPSC 2023 GROUP B SET-1**

Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
1	Who launched the Sagar Parikrama Yatra Phase-V in Maharashtra?	Parshottam Rupala	Narendra Modi	Droupadi Murmu	Ashok Gehlot	Choice 1	The Sagar Parikrama Yatra Phase-V, an ambitious initiative by the Government of India, was recently launched by Union Minister Parshottam Rupala. This phase aims to address the challenges faced by fishermen and other stakeholders
2	Which state became the first state to form separate government department for the divyang?	Uttarakhand	Maharashtra	Uttar Pradesh	Assam	Choice 2	The state government of Maharashtra recently approved the formation of a separate government department for the divyang (differently abled). The announcement of this development came on the occasion of the International Day of Disabled Persons.
3	India's 1st Double-decker Electric Bus Switch EIV 22 was launched in:	Pune	Mumbai	Nagpur	Amravati	Choice 2	Switch Mobility Ltd unveiled and launched India's 1st Double-decker Electric Bus Switch EIV 22 in Mumbai. The Electric Double-decker Bus can ferry almost double the number of seated passengers and will mark the re-birth of anostalgic Public Transport Tool for Mumbaikars.
4	Terrorist group Hamas has launched Operation Al-Aqsa Storm against which country?	Iran	Iraq	India	Israel	Choice 4	Militants from Gaza fired thousands of rockets towards Israeli towns on October 7, before breaking through the heavily fortified border fence with Israel and sending militants deep into Israeli territory. Hamas called the operation "Al-Aqsa Storm" and said that it was a response to what it described as Israeli attacks on women, the desecration of the al-Aqsa mosque in Jerusalem and the ongoing siege of Gaza.
5	India won 100th medal in Asian Games in which sport?	Women's Cricket	Women's Kabbadi	Women's Badminton	Women's Hockey	Choice 2	The women's kabaddi team's win over Chinese Taipei in the final became the breaking news It was the country's first three-figure mark on the medals tally in 72 year history of the games
6	How long is the Hindu Heart Samrat Balasaheb Thackeray Samriddhi Highway?	715 Km	711 Km	701 Km	731 Km	Choice 3	The Samruddhi Mahamarg, officially named Hindu Hrudaysamrat Balasaheb Thackeray Maharashtra Samruddhi Mahamarg, is a 701-km-long expressway providing seamless connectivity between Mumbai and Nagpur. It traverses ten districts of Maharashtra, including Nagpur, Washim, Wardha, Ahmednagar, Buldhana, Aurangabad, Amravati, Jalna, Nashik, and Thane. This particular stretch of the expressway passes through the picturesque Sahyadri mountain range.
7	Under Mahila Samman Yojana how much concession has been declared for women on state-run buses in Maharashtra?	25%	15%	35%	50%	Choice 4	The state government has announced a 50 per cent concession on tickets for women on all types of buses run by the Maharashtra State Road Transport Corporation (MSRTC) from March 17. The benefit will be extended under the 'Mahila Samman Yojana' and the state government will reimburse the concession amount to the Corporation.

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8	Which day is celebrated as Maharashtra Day?	1st May	1st June	1st July	1st April	Choice 1	Maharashtra Day, also known as Maharashtra Diwas, is celebrated annually on May 1 to commemorate the formation of the state in 1960, when it was carved out of the erstwhile Bombay State.
9	Marathi Language Day is celebrated on:	15th April	27th February	30th January	26th March	Choice 2	Marathi Language Day is celebrated on February 27 every year to honour the birth anniversary of renowned Marathi poet Vishnu Vaman Shirwadkar, was born on February 27, 1912 in Maharashtra's Pune.
10	The second spaceport of Indian Space Research Organisation is to be set up in:	Chattisgarh	Assam	Tamil Nadu	Karnataka	Choice 3	The second spaceport of Indian Space Research Organisation (ISRO), which will be dedicated exclusively for Small Satellite Launch Vehicles (SSLVs) developed by the private sector, will come up in about two years at Kulasekarapattinam in Thoothukudi district of Tamil Nadu.
11	Perseverance rover has recently captured 'Dust devil' in which planet?	Jupiter	Mars	Venus	Saturn	Choice 2	NASA's Perseverance rover captured this Martian dust devil moving east to west at a clip of about 12 mph (19 kph) along "Thorofare Ridge" on Aug. 30. The video, which was sped up 20 times, is composed of 21 frames taken four seconds apart. It was enhanced in order to show maximal detail.
12	The Nobel Prize in Economics for 2023 has been awarded to:	Ragnar Frisch	Simon Kuznets	Claudia Goldin	Wassily Leontief	Choice 3	Claudia Goldin has been awarded the 2023 Nobel Prize in Economics for her research advancing our understanding of women's work force participation. Goldin is the third woman, and the first female solo-winner, to be honored with the Prize—officially known as the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel and created in 1969.
13	Arya Samaj founded by whom in Mumbai?	Dayananda Saraswati	Jyoti barao Phule	Rabindranath Tagore	Sarojini Naidu	Choice 1	Arya Samaj was a Hindu reform movement founded by Dayananda Saraswati on 10th April 1875 in Bombay. It promoted values and practices based on the beliefs of the Vedas. People of this community believed in one god and rejected worshipping of idols.
14	On 3rd February an all-India hartal strike was organised by the Anti-Simon Agitation Commission under the slogan "Simon Go Back". It was held in:	Kanpur	Delhi	Mumbai	Varanasi	Choice 3	On 3 February, the day Simon Commission reached Bombay, an all India hartal was organised. Wherever the commission went, it was greeted with hartals and black flag demonstrations under the slogan "Simon Go Back".
15	Which of the following city became an important center for satyagraha in Maharashtra during Civil Disobedience Movement ?	Pune	Nasik	Nagpur	Solapur	Choice 4	Solapur, now located in Maharashtra, became an important site of struggle during the Civil Disobedience Movement, launched by Mahatma Gandhi in 1930. As the Movement began, the satyagrahis of Solapur, led by the nationalist leader Annasaheb Bhopatkar, hoisted the National flag on the Municipal building of the district on April 6, 1930.

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16	Bilashi Forest Satyagraha took place in Maharashtra in the year:	1930	1949	1922	1915	Choice 1	A satyagraha camp was started at Bilashi in July 1930. It was organised under the leadership of local Congress leaders
17	The Poona Pact of 1932 was signed by:	Dr BR Ambedkar	Bhagat Singh	Jawaharlal Nehru	Rajendra Prasad	Choice 1	In 1932, B.R. Ambedkar negotiated the Poona Pact with Mahatma Gandhi. The background to the Poona Pact was the Communal Award of August 1932 which provided a separate electorate for depressed classes.
18	Flag Satyagraha was held in which of the following city?	Kanpur	Nagpur	Gorakhpur	Bardoli	Choice 2	The flag satyagraha of Nagpur and Jabalpur occurred in 1923 spread over several months . It was triggered by the arrest of nationalist protestors demanding the right to hoist the flag. The arrests caused an outcry across India.
19	The Bombay Chronicle newspaper was started by:	Sardar Ajit Sinh	Annie Besant	Pherozeshah Mehta	Aurobindo Ghose	Choice 3	Bombay Chronicle was an english newspaper founded by Pherozeshah Mehta. Pherozeshah Mehta
20	Who established the Abhinava Bharata in Nashik?	Vinayak Damodar Savarkar	Pramath Nath Mitra	Ajit Singh	Bhagat Singh	Choice 1	A renowned secret society for Indian independence was the Abhinav Bharat Society. The Abhinav Bharat Society was established by activist, politician, lawyer, and writer Vinayak Damodar Savarkar.
21	Who started an underground radio in Bombay?	Usha Mehta	Chittaranjan Das	Mahatma Gandhi	Premkumar Sehgal	Choice 1	The declaration of the Quit India Movement in 1942 – the first time that the Congress asked for an immediate and complete end to the Raj – allowed the twenty-two-year-old her moment in the sun. It led to the creation of the underground Congress Radio, and of Usha Mehta becoming its voice
22	According to Cabinet Mission Plan ,Bombay was included in which section?	Section A	Section B	Section C	Section D	Choice 1	<ul style="list-style-type: none"> <li>• The provinces would be divided into three groups/sections:                             <ul style="list-style-type: none"> <li>• Group A: Madras, Central Provinces, UP, Bihar, Bombay and Orissa</li> <li>• Group B: Punjab, Sindh, NWFP and Baluchistan</li> <li>• Group C: Bengal and Assam</li> </ul> </li> </ul>


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23	Harappa was first discovered by:	Amlanand Ghose	NG Majumdar	RD Banerjee	Daya Ram Sahni	Choice 4	<table border="1"> <thead> <tr> <th>Archaeological Sites of Indus Valley Civilization</th> <th>Description/Discovery /Findings</th> </tr> </thead> <tbody> <tr> <td>Harappa</td> <td> <ol style="list-style-type: none"> <li>Excavated by <b>Daya Ram Sahni</b> in 1921-1923.</li> <li>Situated on the bank of <b>river Ravi</b> in Montgomery district of Punjab (Pakistan).</li> <li><b>Stone dancing Natraja</b> and <b>Cemetry-37</b> have been excavated here.</li> </ol> </td> </tr> </tbody> </table>	Archaeological Sites of Indus Valley Civilization	Description/Discovery /Findings	Harappa	<ol style="list-style-type: none"> <li>Excavated by <b>Daya Ram Sahni</b> in 1921-1923.</li> <li>Situated on the bank of <b>river Ravi</b> in Montgomery district of Punjab (Pakistan).</li> <li><b>Stone dancing Natraja</b> and <b>Cemetry-37</b> have been excavated here.</li> </ol>														
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24	The study of inscriptions is called:	Palaeography	Epigraphy	Numismatics	Inscription	Choice 2	Epigraphy is the study of inscriptions or epigraphs that have been engraved into durable materials, such as stone, or cast in metal.																		
25	How many districts are there in Maharashtra?	23	36	32	42	Choice 2	There are 36 districts in Maharashtra, divided into 6 administrative divisions. These districts are further divided into sub-districts for better administrative control over the regions.																		
26	How many Parliamentary Constituencies are there in Maharashtra?	33	57	48	12	Choice 3	Maharashtra has 48 Lok Sabha constituencies																		
27	Napur City is also known as:	Mango City of India	Orange City of India	Banana City of India	Apple City of India	Choice 2	The city of Nagpur in the Indian state of Maharashtra is also referred to as "Orange City" . The Nagpur district is home to several hectares of orange farms and plantations.																		
28	Area wise which of the following is the largest district of Maharashtra ?	Pune	Ahmadnagar	Nashik	Solapur	Choice 2	<p><b>Largest Cities of Maharashtra in Land Aread</b></p> <p>There are various cities in Maharashtra, but as per the area we collected a few very largest cities, as this data of Maharashtra also requires for all of us.</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>City name</th> <th>Area (km<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Ahmednagar</td> <td>17048</td> </tr> <tr> <td>2</td> <td>Pune</td> <td>15643</td> </tr> <tr> <td>3</td> <td>Nashik</td> <td>15539</td> </tr> <tr> <td>4</td> <td>Solapur</td> <td>14895</td> </tr> <tr> <td>5</td> <td>Gadchiroli</td> <td>14412</td> </tr> </tbody> </table>	S. No.	City name	Area (km <sup>3</sup> )	1	Ahmednagar	17048	2	Pune	15643	3	Nashik	15539	4	Solapur	14895	5	Gadchiroli	14412
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29	The river Koyna joins the river Krishna at which place?	Satara	Kolhapur	Karad	Mahabaleshwar	Choice 3	<p>There are four rivers that join the Krishna at a confluence known as Preeti Sangam, or "Lover's Meeting Point" in the Satara District.</p> <ul style="list-style-type: none"> <li>• Venna river is the first river joining Krishna river at Sangam Mahuli, Satara.</li> <li>• Urmodi River (उरमोडी नदी) is second river joining Krishna river at Kashil (काशील), Satara.</li> <li>• Tarli River (तारळी नदी) is third river joining Krishna river at at Umbraj (उंब्रज) Satara.</li> <li>• And then Koyna river joining Krishna river at Karad (कराड) Satara.</li> </ul>
30	Which of the following is the longest tributary of Godavari river?	Banganaga	Kadva	Kadam	Pranahita (G-9)	Choice 4	Pranahita is the largest tributary of the Godavari covering about 34% of its drainage basin. It is an inter-State sub-basin among the States of Madhya Pradesh, Chhattisgarh, Maharashtra and Telangana
31	Lonar Lake of Maharashtra was created by which of the following?	Glacier	Meteorite	Volacno	Earthquake	Choice 2	The one very interesting spot in the humble Buldhana district of Maharashtra is the 50000-year-old Lonar Crater Lake. This blue lagoon was created due to a meteorite and craters that are created by the meteoric impact are among the appealing geological structures available on the planet.
32	In which of the following districts Karla Buddha Caves is located?	Jalgaon	Solapur	Nagur	Pune	Choice 4	Karla Caves are located near Lonavala in Maharashtra. Lonavla or Lonavala is a town and a hill station Municipal Council in Pune district
33	One of the largest Chalcolithic settlements in Maharashtra is :	Inamgaon	Mahabaleshwar	Lonavla	Alibag	Choice 1	Following the Indus age, the Vedic or the Chalcolithic age set in. This period and its people were not as advanced as the Indus people. The tools, occupations, houses, etc. were all relatively inferior. A town named Inamgaon belonged to this period.
34	Which state of India is leading in Solar Energy generation?	Assam	Gujarat	Rajasthan	Kerela	Choice 3	Rajasthan has the highest solar power generation potential of any state in the country. The state recently surpassed Karnataka as the leading state in solar installations. <a href="https://www.saurenergy.com/solar-energy-blog/which-states-have-the-highest-solar-energy-potential-in-india">https://www.saurenergy.com/solar-energy-blog/which-states-have-the-highest-solar-energy-potential-in-india</a>
35	Which of the following national parks is situated near Chamoli?	Dudhwa National Park	Manas National Park	Jim Corbett National Park	Nanda Devi National Park	Choice 4	Spread over an area of 87 sq km in the Chamoli district, the Valley of Flowers National Park/ Nanda Devi National Park is a UNESCO World Heritage Site and forms one of the two core zones
36	India is the largest producer of :	Cotton	Jute	Rice	Tea	Choice 2	India is the largest jute producing country in the world, with annual production estimated at more 1.968 million tonnes.

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37	The institution of Lokayukta was first created in Maharashtra in the year:	1960	1999	1971	1947	Choice 3	Maharashtra was the first state to introduce the institution of Lokayukta under the Lokayukta and Upa Lokayukta Act in 1971
38	When was President's Rule imposed on Maharashtra for the first time?	1974	1980	1995	1989	Choice 2	The first President rule was imposed in February 1980 when Indira Gandhi government dismissed the Progressice Democratic Front (PDF) government by Sharad Pawar.
39	How many non permanent members does UN Security Council have?	8	7	10	12	Choice 3	The Security Council's presidency rotates o----n a monthly basis, ensuring some agenda-setting influence for its ten nonpermanent members, which are elected by a two-thirds vote of the UN General Assembly.
40	Who was the first woman Chief Justice of Bombay High Court?	Revati Mohite Dere	PD Naik	SV Kotwal	SujataVasant Manohar	Choice 4	Honourable Smt. Justice SujataVasant Manohar was the first lady to be elevated as a Judge on the bench of Bombay High Court. Her Ladyship was also the first woman Chief Justice of the Bombay High Court and took oath to Office of Chief Justice on 15th January 1994.
41	Who is the current Director General of Police in Maharashtra?	Rajnish Seth	Sanjay Pandey	Satish Mathur	Hemant Nagarle	Choice 1	 <p>The screenshot shows the Maharashtra Police website with the following information:  <b>महाराष्ट्र राज्य पोलीस</b>  <b>ऑफिशियल संकेतस्थळ</b>  <b>गृहमंत्रालय</b>  <b>डी. जयशिव सेठ</b>  <b>From: १८ फेब्रुवारी २०२२</b>  <b>To: Present</b>  <b>डी. संजय पान्डे</b>  <b>From: १० एप्रिल २०२१</b>  <b>To: १८ फेब्रुवारी २०२२</b>  <b>डी. जयशिव सेठ</b>  <b>डी. हेमंत</b></p>
42	What is the qualification for teacher memebers in the Maharashtra Vidhan Parishad?	Must reside in Maharashtra for 7 years.	Age must be 45 or above	Must be a citizen of India, enrolled voter and mentally stable	Must have served in Indian Army for 5 years	Choice 3	<p align="center"><b>Qualifications</b></p> <p>As per Article 84 of the constitution</p> <ul style="list-style-type: none"> <li>• Ought to be a citizen of India</li> <li>• Ought to be of 30years older</li> <li>• Ought to have such alternative qualifications as mandated in this behalf underneath any Law enacted by Parliament</li> </ul>

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43	How many Zilla Parishad are there in Maharashtra?	32	35	34	36	Choice 3	At present, the State of Maharashtra has 36 districts but only 34 Zilla Parishads.
44	Which article gives information about the Chairman of the State Legislative Council?	Article 155	Article 182	Article 130	Article 100	Choice 2	<div style="border: 1px solid black; padding: 10px; background-color: #e0f2f1;"> <p align="center"><b>ARTICLE</b> <b>182</b></p> <p align="center"><b>The Chairman and Deputy Chairman of the Legislative Council</b></p> <hr/> <p>The Legislative Council of every State having such Council shall, as soon as may be, choose two members of the Council to be respectively Chairman and Deputy Chairman thereof and, so often as the office of Chairman or Deputy Chairman becomes vacant, the Council shall choose another member to be Chairman or Deputy Chairman, as the case may be.</p> </div>
45	Which article includes provisions for the Inter-State Council?	Article 240	Article 280	Article 255	Article 263	Choice 4	Article 263 of the Indian Constitution deals with provisions with respect to an inter-State Council.
46	Article 275 provides information on:	Grants from the Union to States	Inter State Council	Governor	Prime Minister	Choice 1	Article 275 of the Indian Constitution has provisions related to grants from the union to certain states
47	Appointment of District Judge is done by:	Governor	Speaker	Chairman	Chief Minister	Choice 1	<div style="border: 1px solid black; padding: 10px; background-color: #e0f2f1;"> <p align="center"><b>ARTICLE</b> <b>233</b></p> <p align="center"><b>Appointment of district judges</b></p> <hr/> <p>(1) Appointments of persons to be, and the posting and promotion of, district judges in any State shall be made by the Governor of the State in consultation with the High Court exercising jurisdiction in relation to such State.</p> </div>
48	Legal Services Authority Act was passed in the year:	1989	1967	1987	1947	Choice 3	The Legal Services Authorities Act, 1987, was enacted by the Central Government of India pursuant to Article 39-A of the Constitution of India and the recommendations of its committees.
49	The rate at which the central bank of a country borrows money from commercial banks within the country is called:	Repo Rate	Reverse Repo Rate	GDP	Fiscal Deficit	Choice 2	Reverse repo rate is the rate at which the central bank of a country (Reserve Bank of India in case of India) borrows money from commercial banks within the country.

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50	Which of the following banks is not included in Systematically Important Banks ?	SBI	HDFC	ICICI	PNB	Choice 4	State Bank of India, ICICI Bank, and HDFC Bank have again been named as Domestic Systemically Important Banks (D-SIBs) by the Reserve Bank of India (RBI) based on data collected as on March 2022.
51	Which district has the highest poverty rate in Maharashtra?	Nandurbar	Mumbai	Nasik	Yavatmal	Choice 1	At the aggregate level, Nandurbar district in the northwest and Gadchiroli district in the east have the highest rates of poverty
52	Which of the following is a lead agency for education for sustainable development?	Brundtland Comission	UNICEF	UNDP	UNESCO	Choice 4	Education for sustainable development (ESD) is UNESCO's education sector response to the urgent and dramatic challenges the planet faces.
53	Which of the following is not a sustainable development goal?	Gender equality	No Poverty	Protection of ozone layer	Life below water	Choice 3	Sustainable Development Goals include- no poverty, zero hunger, good health and well being, quality education, gender equality, clean water and sanitation, life below water
54	Which of the following is not a pillar of sustainability?	Space	Social responsibility	Environment	Economic	Choice 1	Sustainability's three main pillars represent the environment, social responsibility, and the economic
55	Sustainable development goals have to be achieved by:	2030	2040	2050	2045	Choice 1	The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity
56	How many SDGs are set in the 2023 agenda?	16	18	17	20	Choice 3	The 17 Goals were adopted by all UN Member States in 2015, as part of the 2030 Agenda for Sustainable Development which set out a 15-year plan to achieve the Goals
57	Where was the headquarters of the United Nations Development Programme?	Paris	New York	Tokyo	Canada	Choice 2	UNDP has its headquarters in New York City, but works primarily through its offices in about 170 countries and territories.
58	Which was the first company to get RBI's permission to open white label ATM?	Housing Development Finance Corporation(HDFC)	Muthoot Finance	Srei Finance	Tata Communication s Payment Solutions Limited (TCPSL)	Choice 4	Tata Communications Payment Solutions Limited (TCPSL) was the first company to receive a licence from the RBI to open a WLA ATM in India, Mumbai.
59	What is the minimum eligible age for joining the Atal Pension Yojana?	16	25	18	32	Choice 3	The age of the subscriber for Atal Pension Yojana should be between 18 - 40 years.



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60	What is the maximum amount of Mudra loan in SBI?	10 Lakh	5 Lakh	20 Lakh	25 Lakh	Choice 1	 <p><b>Maximum Loan Amount</b></p> <p>Up to ₹10 lakh, in accordance with the loan category:</p> <ul style="list-style-type: none"> <li>• <b>SHISHU</b> - Loans of up to ₹50,000</li> <li>• <b>KISHORE</b> - Loans starting from ₹50,001 to ₹500,000</li> <li>• <b>TARUN</b> - Loans starting from ₹500,001 to ₹10,00,000</li> </ul>
61	Light year is a unit of which of the following physical sign?	Mass	Work	Distance	Time	Choice 3	A light-year is a unit of distance. It is the distance that light can travel in one year.
62	The small hole in the middle of the iris is called?	Pupil	Blood plate	Retina	Frontend	Choice 1	The pupil is the black opening in the middle of the colored part of your eye (iris).
63	The current flowing in one direction is called :	Alternating Current	Induced Current	Direct Current	Ionic Current	Choice 3	Direct current (DC) is an electric current that is uni-directional, so the flow of charge is always in the same direction.[2] As opposed to alternating current, the direction and amperage of direct currents do not change. It is used in many household electronics and in all devices that use batteries
64	Rockets work on the principle of:	Newton's First Law	Newton's Second Law	Newton's Third Law	Archimedes Principle	Choice 3	Newton's third law explains how rocket engines work. When the rocket's fuel is burnt, hot gasses are produced. These gasses rapidly expand and are forced out of the back of the rocket, where this is known as action force. At the same time, the gasses exert an equal and opposite force on the rocket itself, scientifically known as the reaction force, and this force pushes the rocket upward
65	Which of the following is not a noble gas?	Helium	Argon	Hydrogen	Neon	Choice 3	Noble gas, any of the seven chemical elements that make up Group 18 (VIIIa) of the periodic table. The elements are helium (He), neon (Ne), argon (Ar), krypton (Kr), xenon (Xe), radon (Rn), and oganesson (Og).
66	What is the chemical name of baking soda?	Sodium hydroxide	Sodium bicarbonate	Sodium chloride	Calcium sulphate	Choice 2	Sodium bicarbonate, also known as baking soda or bicarbonate of soda, is a chemical compound with the formula NaHCO <sub>3</sub> and the IUPAC designation sodium hydrogencarbonate
67	The number of moles of solute present in 1 kg of a solvent is called its:	Molality	Molarity	Normality	Reduced Mass	Choice 1	Molality is defined as the "total moles of a solute contained in a kilogram of a solvent."

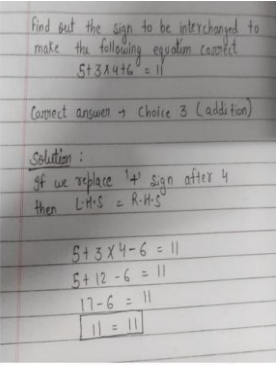
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68	The maximum number of isomers for an alkene with molecular formula C <sub>4</sub> H <sub>8</sub> is:	2	5	4	6	Choice 4	$\begin{array}{cc} \text{CH}_2=\text{CH}-\text{CH}_2\text{CH}_3 & \text{CH}_3-\text{CH}=\text{CH}-\text{CH}_3 \\ \text{1-butene} & \text{2-butene} \end{array}$ $\begin{array}{ccc} \begin{array}{c} \text{CH}_3 \\   \\ \text{CH}_2=\text{C}-\text{CH}_3 \\ \text{isobutylene} \end{array} & \begin{array}{c} \text{CH}_2-\text{CH}_2 \\   \quad   \\ \text{CH}_2-\text{CH}_2 \\ \text{cyclobutane} \end{array} & \begin{array}{c} \text{CH}_2 \\ \diagup \quad \diagdown \\ \text{CH}_2-\text{CH}-\text{CH}_3 \\ \text{methylcyclopropane} \end{array} \end{array}$ <p>For 2- Butene we can further have cis-trans isomerism</p>
69	The inherited traits of an organism are controlled by which of the following?	DNA	RNA	Enzyme	Nucleotide	Choice 1	Deoxyribonucleic acid (abbreviated DNA) is the molecule that carries genetic information for the development and functioning of an organism.
70	Plants receive their nutrients mainly from:	Chlorophyll	Sunlight	Atmosphere	Soil	Choice 4	Plant roots generally absorb nutrients from the soil when they absorb water as the nutrients remain dissolved in it.
71	Ptyalin is an enzyme produced in the:	Pituitary glands	Salivary glands	Thyroid glands	Pancreas	Choice 2	Ptyalin is a starch hydrolyzing enzyme produced by human salivary glands. It is a form of salivary amylase. Ptyalin, which is secreted in
72	Plants developing in dry conditions are:	Xerophytes	Mesophytes	Lithophytes	Hydrophytes	Choice 1	Xerophyte, any plant adapted to life in a dry or physiologically dry habitat (salt marsh, saline soil, or acid bog) by means of mechanisms to prevent water loss or to store available water.
73	Night blindness is caused by the deficiency of:	Vitamin B	Vitamin A	Vitamin K	Vitamin C	Choice 2	Vitamin A deficiency is one of the most common causes of night blindness. An insufficient amount of vitamin A in the body affects the production of rhodopsin, the necessary pigment for night vision
74	At the end of a business conference, the 11 people present all shake hands with each other once. How many handshakes will there be altogether?	55	66	44	52	Choice 1	<p>If there are n people in a group, The first person shakes hands with a total of (n-1) persons, the second with (n-2) persons and so on.</p> <p>So, total no. of handshakes = (n-1) + (n-2) + (n-3) + ... + 2 + 1.</p> $= (n \times (n-1)) \div 2$ <p>Here, n=11.</p> <p>So, the total no. of handshakes = <math>\frac{(11 \times 10)}{2}</math></p> $= 55$ <p>Method 2 (Using Combinations)</p> <p>Total no. of handshakes = no. of ways of selecting 2 people out of n.</p> $= {}^nC_2$ $= {}^{11}C_2$ $= \frac{(11 \times 10)}{1 \times 2}$ $= 55$

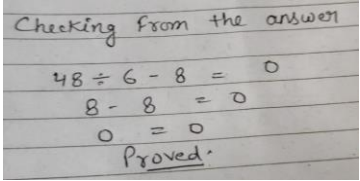

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Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
75	What is the value of x? $3x + 2y = 10$ $4x + 6y = 12$	3.5	4.2	3.6	4.3	Choice 3	<p><b>Solution:</b></p> $\begin{aligned} 3x + 2y &= 10 \\ 4x + 6y &= 12 \end{aligned}$ $\begin{aligned} 3x + 2y &= 10 \\ 4x + 6y &= 12 \end{aligned}$ $\begin{aligned} 3x + 2y &= 10 \\ 4x + 6y &= 12 \end{aligned}$ <p>Pivot: Row 1 <math>\leftrightarrow</math> Row 2</p> $\begin{aligned} 4x + 6y &= 12 \\ 3x + 2y &= 10 \end{aligned}$ $\text{Row 2} - \frac{3}{4} \cdot \text{Row 1} \rightarrow \text{Row 2}$ $\begin{aligned} 4x + 6y &= 12 \\ -2.5y &= 1 \end{aligned}$ $y = \frac{1}{-2.5} = -0.4$ $x = \frac{12 - 6y}{4} = \frac{12 - 6(-0.4)}{4} = 3.6$ $x = \frac{18}{5} = 3.6$ $y = -\frac{2}{5} = -0.4$
76	The total age of five kids in a family is 28 years. What will be the total of their ages after five years?	50	52	54	53	Choice 4	<p><b>For reference:</b></p> <p>1. The total age of three kids in a family is 27 years. What will be the total of their ages after three years?</p> <p><b>Solution:</b></p> <p>Given, Total age of three kids = 27 years</p> <p>After three years, the age of each kid will increase by 3.</p> <p>So, the total age after three years = <math>27 + 3 \times 3</math></p> $= 27 + 9$ $= 36$ <p><b>A</b></p> $28 + 5 \times 5 =$ $53$
77	Simplify: $123 - 19 \times 2 + 12$	97	83	88	94	Choice 1	$(123 - (19 \times 2)) + 12 =$ $97$

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Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
78	The population of the city is 198268. Out of them 45212 are women and 24678 are men. Find the number of children in the city.	128368	128378	129379	129388	Choice 2	Total=198268 ; Men=24678 ; Women=45212 Children= Total - (Men+Women) Calculation: $198\ 268 - (24\ 678 + 45\ 212) =$ $128378$
79	Find out the sign to be interchanged to make the following equation correct. $5+3*4+6 = 11$	subtract	multiply	addition	It is correct, No change	Choice 3	$5 + (3 * 4) - 6 =$ $11$ 
80	The salary of Gauri for five months is Rs. 9950. Find her monthly salary.	1995	1980	1990	1920	Choice 3	$9950 / 5 =$ $1990$
81	Ganesh ran 30 laps every day for 5 days. How many laps did he run in all?	120	130	6	150	Choice 4	$30 * 5 = 150$ 30laps in one day $30 * 5 = 150$ Laps in 5 days

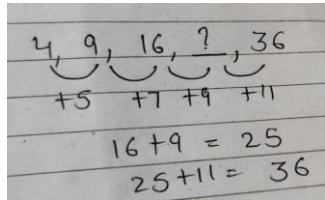
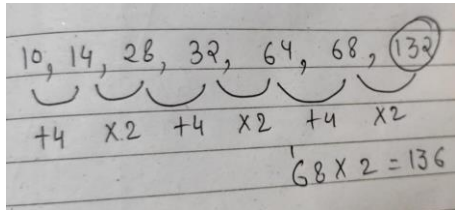
MPSC 2023 GROUP B SET-1

Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
82	55 is what percent of 500?	11	13	12	14	Choice 1	<div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>11%</b></p> <p>55 is 11% of 500</p> </div>
83	If a number is divided by 6, then 8 is subtracted, the result is 0. What is the number?	63	48	12	26	Choice 2	
84	A car travels 320 miles in 4 hours. What is its average speed?	70	60	50	80	Choice 4	<div style="border: 1px solid black; padding: 5px; background-color: #e0ffe0;"> <p><b>Step 1, Given data</b>                      Distance = 320 km                      Time = 4 hrs</p> <p><b>Step 2, Finding the speed</b>                      We know,  <math>speed = \frac{distance}{time}</math>                      Putting all the values  <math>speed = \frac{320}{4} = 80 km h^{-1}</math>                      Hence the average speed is 80 km/h</p> </div>
85	If the area of a rectangle is 120 square units and its length is 12 units, what is its width?	10	12	16	18	Choice 1	<div style="border: 1px solid black; padding: 5px;"> <p>Rectangle Solve for <u>width</u>.</p> <p><math>w = 10</math></p> <p> <math>l</math> Length <input type="text" value="12"/>  <math>A</math> Area <input type="text" value="120"/> </p>  </div>

**MPSC 2023 GROUP B SET-1**

Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
86	What is the average of the numbers 28, 25, and 40?	31	35	38	34	Choice 1	<hr/> <p align="center"><b>Average: 31</b></p> $\text{Average} = \frac{\text{Sum}}{\text{Count}}$ $= \frac{93}{3}$ $= 31$ <hr/>
87	If the sum of three consecutive even numbers is 78, what is the largest number?	28	38	26	36	Choice 1	<p>Let the number be x.  Let the first even number be 2x  Second number is = 2x + 2  Third number is = 2x + 4  ∴ according to the question,  ⇒ 2x + 2x + 2 + 2x + 4 = 78  ⇒ 6x = 72  ∴ x = <math>\frac{72}{6} = 12</math>  ∴ First number = 2x = 2 × 12 = 24  Second number = 2x + 2 = 2 × 12 + 2 = 26  Third number = 2x + 4 = 2 × 12 + 4 = 28  Hence, the largest number is 28</p>
88	Which scheme launched by the power ministry to provide LED bulb at cheap prices?	ATAL Jyoti	Gram Ujala	SAUBHAGYA	BHIM Jyoti	Choice 2	UJALA succeeded in bringing down the retail price of LED (Light-Emitting Diode) bulbs from INR 300-350 per bulb to INR 70-80 per bulb
89	What is the maximum age for Sukanya samridhi Yojana for a girl?	10	18	25	22	Choice 1	Sukanya Samridhi Yojana ( सुकन्या समृद्धि योजना ) is a government-backed small savings scheme for the benefit of a girl child. It is a part of the Beti Bachao, Beti Padhao Yojana and can be opened by the parents of a girl child below the age of 10.
90	When was the MGNREGA scheme launched?	02-10-2008	02-10-2005	02-10-2006	02-10-2015	Choice 3	Correct answer: 2nd Feb 2006
91	Which country has never been under a military or dictator's rule?	Chile	Myanmar	Poland	Mexico	Choice 4	Mexico gained independence after a long drawn battle, and took even longer to find stability as a country. While the military was very powerful during the colonial and independence era, the country has never been under the direct rule of the military.

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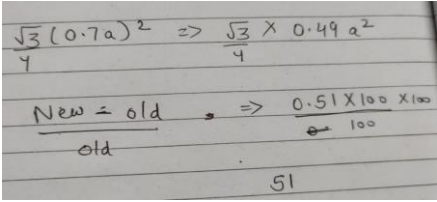
Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
92	What kind of triangle is it if the angles are 30 degrees, 60 degrees, and 90 degrees?	Right-angled	Scalene	Isosceles	Equilateral	Choice 1	<p>special right triangle</p> <p>The 30 60 90 triangle is a special right triangle.</p>
93	Find the missing number in the series: 4, 9, 16, ?, 36.	22	23	24	25	Choice 4	
94	Find out the wrong term in the series: 10, 14, 28, 32, 64, 68, 132	28	32	64	132	Choice 4	

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Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
95	If POND=RSTL HEAR=?	GHIJ	GHIZ	JIGZ	JCLZ	Choice 3	<p>If POND is coded as RSTL, how is HEAR written in that code?</p> <p>A) GHIL</p> <p>B) GHIZ</p> <p>C) JIGZ</p> <p>D) JCLZ</p> <p>E) None of these</p> <p><b>Solution</b></p> <p>The correct option is C. JIGZ.</p> <p>The first, second, third and fourth letters of the word are respectively moved two, four, six and eight letters forward to obtain the code.</p>
96	If 8% of A is same as 4% of B, then 20% of A is same as:	10% of B	16% of B	80% of B	50% of B	Choice 1	<p>If 8% of x is the same as 4% of y, then 20% of x is the same as:</p> <p>A) 80% of y</p> <p>B) 6% of y</p> <p>C) 10% of y</p> <p>D) 50% of y</p> <p>Show Answer</p> <p><b>10% of y</b></p> <p><math>\text{Slatex } \frac{8x}{100} = \frac{4y}{100} \&amp; s=1\\$</math></p> <p><math>\text{Slatex } \Rightarrow y = 2x\\$</math></p> <p>Hence, 20% of x is equals to 10% of y.</p> <p>Hence option [C] is the right answer.</p>



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Question 1.	Question	Choice 1	Choice 2	Choice 3	Choice 4	Correct choice	Explanation
97	If the side of an equilateral triangle is decreased by 30% its area is decreased by:	51%	49%	47%	52%	Choice 1	<p>Reference:</p> <p>Let the side of an equilateral triangle be <math>a</math>.            Area is <math>\frac{\sqrt{3}}{4} * a^2</math>.            Now, the side becomes <math>0.8a</math>,            New Area = <math>\frac{\sqrt{3}}{4}(0.8a)^2 = \frac{\sqrt{3}}{4} * 0.64a^2</math></p> <p>% change = <math>\frac{New-Old}{Old} * 100 = 0.36 * 100 = 36\%</math></p> <p>A is the answer.</p> <p>Solution:</p> 
98	The smallest prime number is:	0	1	2	3	Choice 3	2 is the smallest prime number. It also the only even prime number – all other even numbers can be divided by themselves, 1 and 2 at least, meaning they will have at least 3 factors.
99	Find the error: Innovation plays(1) a key role for introducing(2) novelty to(3) existing products.(4)	1	2	3	4	Choice 2	Innovation plays a key role in introducing novelty to existing product 'For' is replaced by 'in'
100	Select the alternative which is closest to the meaning of the idiom. 'Smell a rat'	To act unfairly	To talk boastfully	To have a reason to suspect	To do something useless	Choice 3	If you smell a rat, you begin to suspect or realize that something is wrong in a particular situation, for example that someone is trying to deceive you or harm you.