PSC Miscellaneous Main Exam – Practice Set

Paper – III (General Studies & Arithmetic) Answers with Explanation

Group-A (General Studies)
Part-I

1. How Important the Role of a Housewife to India's Economic Growth? অ্যাচিভার্স

This question has to be answered in the point of a sense being institutional socially. This is because the primary social institution is a family. In that sense, although the head of the family goes to the men community, the female alone manages the financial crisis. Women being very conscious in spending money allot their money utilities in productive uses. Though everyone blames women on buying goods like jewellery, furniture, etc., it can be seen like the RBI maintains the SLR and free market operations because once the cash is with the hands, it will become a non-profitable liquid asset. So upon analyzing the time value of money whether or not, every housewife plays an important role to India's economic growth.

Looking at the NPAs at the banking sector, microfinance has only the minimal amount of NPAs and is even declining now because the microfinance sector concentrates mostly women and their credit worthiness is better than the meek banking sector. So naturally the Government of India is helping the women community to get rid of overall economic breakdown in the country. Women are loyal payers to the debts and recovery of money is also easy. In India, the NABARD along with its SHG-bank linkage model from 1992 helps women SHGs to promote their financial position and performance as a whole. অ্যাচিভার্স

Not only the GoI but also the private players like HUL with its Project Shakti promote their products and increase their sales volume on concentrating rural areas. Now the housewives are being involved in increasing the GDP by making themselves in assigning the roles of in-house sellers, freelance traders, telecommuters, etc. Thus eventually the country's GDP increases. Many schemes by the government promote women (mainly housewives) in becoming entrepreneurs selling FMCGs and other utility goods. অ্যাচিভার্স

Housewives don't differ by marriage alone. They are also differed in their tasks, lifestyle and all other traditional outlooks after getting married. In a normal nuclear household, the housewives are devoid of work after sending their spouse and children to work and school. To utilize their free time profitably, they are indulging in many business like selling jewelry items, sarees, etc. They can also become the members of some SHGs and seek some benefits on forming processing units for an example. অ্যাচিভার্স

Not only promoting economic growth, housewives are also involved in raising the economic development by the modes of self-improvement, empowerment, standard of living and sustainability. So on looking into the economic growth seriously, housewives play an important role in contributing to both the economic growth and economic development of the country at its ultimatum.

2. Poverty Anywhere is a Threat to Prosperity Everywhere. অ্যাচিভার্স

What is poverty? Poverty can be defined as a state of life, in which a person has a higher propensity to spend more than his earnings, so that all his basic needs remain only partially satisfied. At the same time, we need to ponder which is the greatest form of poverty? The simple answer to this question is that, "the greatest form of poverty in this world is that which compels us to incline towards the don'ts of life instead of do's". Thus, poverty leads us to a path which is anarchic and troublesome. In the long run, poverty has the capacity to cripple those faculties of mind which may lead our life in the right direction.

"Our enemy is poverty", Poverty is a slow poison that slowly eats away the foundations of a society. An enemy that does not participate in riots, arsons or any crime imaginable. An enemy that is absent from every list of every security organization in the world. An enemy who is the cause of every single crime possible. It is capable of driving normal people to insanities. It steals nutrition from infants, children from couples, education from students, independence from youth and stability from life. It tortures people with hunger and humiliation. It breeds imbalances and perpetuates social disorder. Science pushes the boundary of our understanding every-day. Still, we find ourselves handicapped when dealing with the issue of poverty. Poverty, indeed, is our greatest enemy.

If prosperity in life leads to a state of being, of self-contentment in life, at the same time, poverty in one's life leads to a certain feeling of voidness in his/her life. In this way, the state of being of a person in poverty is just the reverse of that person who is in a state of prosperity. The voidness created in one's life due to poverty stings that particular person to take the path of anti-social activities in his/her life. Sometimes this anarchic and anti-social activities of a poor person which are activities done to appease his thirst and hunger of that particular person creates due to his such activities anarchy on the society. The greatest fallout of such anti-social activities is the creation of a diabolic society, a diabolic society which engulfs one and all of our society irrespective of rich or poor of the society. অ্যাচিভার্স

Thus, the state of poverty can certainly be considered by one and all of a society as a threat towards the path of creating an egalitarian society. If promoting egalitarianism in the society of ours is our goal, then the pathway of achieving this goal is only by wiping off poverty lock, stock and barrel for we the world being. As stated above, poverty is a serpent and the greatest trait of poverty is that it like a parasite which destroys the tree, in the same way, poverty of a few destroys the plenty and prosperity of the many. As state of poverty is marked by the trait of being dependent on others due to meagre or little income of the poverty-stricken person, so, the voidness created by poverty even if to a little extent cannot be engulfed by the plenty and prosperity of the society as a whole. In a nutshell, poverty itself is a threat for the whole society in general, mainly due to two reasons. Firstly, it is due to the effect that poverty creates on the psyche of the poor person and secondly, this diabolic psyche has a wholesome effect on the all-round development of that particular society.

3. **Importance of reservation of seats for women in Parliament** অ্যাচিভার্স

This is an era of equality of men and women in all possible areas including the area of reservation of seats for women in parliament. Reservation of seats for women in parliament empowers the women in society and encourages women to participate in political and parliament issues. Women have equal rights to enter parliament as men and a sense of equality is maintained by creating such reservations for women. This type of equality sense creates a big impact on Indias respect for women in global level.

Most of the injustices and offences are in association with women. Most of the cases have old women as victims. Hence if women enter in these matters they can be managed easily. Reservation of seats for women can change the social structure of our country. Womens role plays an important role consciously. Hence it must be encouraged. When women come into establishment in parliament then problems of women can be viewed easily and measures can be taken for betterment of women in our country. It not only helps women to view out of household but also the whole community can be profiled in a collective manner. Women in parliament will be inspirations to women outside thus encouraging them in believing that they are also powerful. Reservations are seen as community justice for women in a large scale from earlier days thus reducing the economic women deprivation from the same. Hence these reservations indirectly host these earlier thinking and can encourage them. However for the ultimate development, growth and progress of our country these types of reservations for women can benefit a lot and can create a big difference and sense of equality in gender in the society. Women in parliament can raise the economic performance in our country. They are more effective at work when it comes to managing projects as well as financial matters and are equally good at contribution towards economic growth.

Part-II অ্যাচিভার্স

4. Write down The full form of the following abbreviations:
   (a) AFSPA – Armed Forces Special Power Act
   (b) DDT – Dichloro Diphenyle Tri-chloroethane
   (c) DRDO – Defence Research and Development Organisation
   (d) GATT – General Agreement on Tariff and Trade
   (e) ICMR – Indian Council of Medical Research

5. Answer the following questions:
   (a) Arundhati Roy (born 24 November, 1961) is an Indian author and political activist who was best known for the 1998 Man Booker Prize for Fiction winning novel The God of Small Things (1997) and for her involvement in environmental and human rights causes. অ্যাচিভার্স
   (b) "Business @ the Speed of Thought" is a book written by Bill Gates and Collins Hemingway in 1999. It discusses how business

and technology are integrated, and shows how digital infrastructures and information networks can help getting an edge on the competition. অ্যাচিভার্স

(c) Khushwant Singh is an Indian novelist and journalist. Singh's weekly column, "With Malicen towards One and All", carried by several Indian newspapers, is among the most widely-read columns in the country.

(d) Nelson Mandela is the author of the book- "Long Walk to Freedom" He is one of the great moral and political leaders of our time: an international hero whose lifelong dedication to the fight against racial oppression in South Africa won him the Nobel Peace Prize and the presidency of his country. অ্যাচিভার্স

(e) Vikram Seth is an Indian author and poet. Two Lives, is a non-fiction family memoir written at the suggestion of his mother, and published in October 2005.

6. Mention the year in which the following schemes/ programmes was launched: অ্যাচিভার্স

(a) As the first man to escape Earth's gravitation field and achieve orbit, Yuri Gagarin holds the title of first human being in space. On 12 April, 1961 in his craft Vostok 1, Gagarin completed a single orbit of the Earth. Performed at an altitude of 187 3/4 miles (302 kilometers), the orbital rotation took 108 minutes at 18,000 miles an hour. For this he was nominated a Hero of the Soviet Union.

(b) Dr A.P.J. Abdul Kalam is the undisputed father of India's missile program. He has breathed life into ballistic missiles like the Agni and Prithvi, which put China and Pakistan well under India's missile range. It is too exhausting to track Dr Abdul Kalam's achievements to date. In the '60s and '70s he was a trail blazer in the space department. In the '80s he transformed the moribund Defence Research and Development Laboratory in Hyderabad into a highly motivated team. By the '90s Kalam emerged as the czar of Indian science and technology and was awarded the Bharat Ratna.

(c) Himadri Station is India's first Arctic research station located at Spitsbergen, Svalbard, Norway. It is located at the International Arctic Research base,Ny-Ålesund. The station is operated by National Centre for Antarctic and Ocean Research. The station was inaugurated in 2008 by Kapil Sibal, Minister for Science & Technology.

(d) The Vikram Sarabhai Space Centre is a major space research centre of the Indian Space Research Organisation (ISRO), focusing on rocket and space vehicles for India's satellite programme. It is located in Thiruvananthapuram, in the Indian state of Kerala. অ্যাচিভার্স

(e) India's first microwave remote sensing satellite is RISAT-1. RISAT-1 is an indigenously developed radar imaging satellite successfully launched by a PSLVXL Rocket on April 26, 2012 from Satish Dhawan Space Centre, Shriharikota.

7. Answer the following questions:

(a) To strengthen and re-energize the programme and achieve full immunization coverage for all children and pregnant women at a rapid pace, the Government of India launched "Mission indradhanush" in December 2014. The diseases being targeted are diphtheria, whooping cough, tetanus, poliomyelitis, tuberculosis, measles and Hepatitis B. অ্যাচিভার্স

(b) Providing financial support to farmers suffering crop loss/damage arising out of unforeseen events. Stabilizing the income of farmers to ensure their continuance in farming. Encouraging farmers to adopt innovative and modern agricultural practices. Ensuring flow of credit to the agriculture sector.

(c) Government of West Bengal introduced a scheme titled "Sabooj Sathi" for distribution of bi-cycles to the students of all Govt. run/ Govt. aided/Govt. sponsored schools.

(d) Sikkim has announced the One family one job scheme to provide employment to the youth of Sikkim. Sikkim is the first state in the country to launch an exclusive programme which entitles every family in the state with a government job and Sikkim earmarks 70% of its revenues towards salaries for state government employees. অ্যাচিভার্স

(e) With a view to to pay attention to the sufferings of the people, especially the Women, deprived of any toilet facility while on their journey by road, which is the minimum requirement of a civilised society the present Government is constructing "PATHASATHI (consisting of Pay & use toilet, Waiting room, Night shelter and Restaurant under one roof) at every 50 K.m. of National Highway, State Highway and Other important roads throughout the State.

8. Answer the following questions:

(a) Gunpowder was the first chemical explosive and the only one known until the invention of nitrocellulose, nitroglycerin, smokeless powder, and TNT in the second half of the 19th century. Prior to the invention of gunpowder, many incendiary and burning devices had been used, including Greek fire. Roger Bacon invented gunpowder.

(b) In the 1870s, two inventors Elisha Gray and Alexander Graham Bell both independently designed devices that could transmit speech electrically (the telephone). Both men rushed their respective designs to the patent office within hours of each other; Alexander Graham Bell patented his telephone first. Elisha Gray and Alexander Graham Bell entered into a famous legal battle over the invention of the telephone, which Bell won.

(c) A videotape is a recording of images and sounds on to magnetic tape as opposed to film stock used in filmmaking or random access digital media. Videotapes are also used for storing scientific or medical data, such as the data produced by an electrocardiogram. Charles P. Ginsburg invented the videotape. He worked for Ampex, and was inspired by the reel-to-reel machines used for recording sound.

(d Frederick Banting was a Canadian medical scientist, doctor and Nobel laureate noted as one of the main discoverers of insulin. In 1923 Banting and John James Rickard Macleod received the Nobel Prize in Medicine, becoming the youngest recipient of the Nobel Prize in Physiology/Medicine till date.

(e) Gottlieb Daimler invented the prototype of the modern gasoline engine in 1885. This gas engine was made with a vertical cylinder, and gasoline injected through a carburetor (patented in 1887). Daimler first built a two-wheeled vehicle the "Reitwagen" (Riding Carriage) with this engine and a year later built the world's first four-wheeled motor vehicle.

Group-B (Arithmetic)

1. Let $x = \sqrt{2\sqrt[3]{4\sqrt{2\sqrt[3]{4....}}}}$

On squaring both sides, we get $x^2 = 2.\sqrt[3]{4x}$ and now cubing both sides, we get

$(x^2)^3 = 8 \times 4x$

$\Rightarrow x^5 = 32$

$\Rightarrow x^5 = 2^5$

$\therefore x = 2$

2. Let at present, there are x men, then number of women = 5x

Before the men had left

number of men = x + 45 and

number of women = 5x

$\therefore x + 45 = 2 \times 5x$

$\Rightarrow 9x = 45$

$\therefore x = \dfrac{45}{9} = 5$

Hence, number of women in the beginning
= 5x + 15 = 5 × 5 + 15
= 25 + 15 = 40

$\therefore$ Double of the women = 40 × 2 = 80

3. Here n = 10, a = 60 and b = 62

Number of runs scored in 11th inning
= n (b − a) + b
= 10 (62 − 60) + 62
= 20 + 62 = 82

4. Let total number of students be 100.

Then, students failed in Mathematics only
= 25 − 5 = 20

and students failed in Economics only
= 20 − 5 = 15

$\therefore$ Total number of failed students
= 20 + 15 + 5 = 40

$\therefore$ Number of passed students in both the subjects = 100 − 40 = 60

$\therefore$ Required percentage = 60%

5. Cost price of one bracelet = ₹160

Profit earned = 15%

$\therefore$ Selling price of one bracelet

= Cost price + Profit earned

$= 160 + 160 \times \dfrac{15}{100}$

$= 160 + \dfrac{16 \times 15}{10} = 160 + \dfrac{240}{10}$

= 160 + 24 = 184 = ₹184

Hence Meera should sale her bracelet ₹184 per piece.

6. $\because$ Marked price of an article = ₹50

$\therefore$ SP of an article

$$= \frac{50 \times (100-20)}{100} = \frac{50 \times 80}{100} = ₹40$$

Hence, cost price of an article

$$= \frac{40 \times 100}{(100+25)}$$ অ্যাচিভার্স

$$= \frac{40 \times 100}{125} = ₹32$$

7. Given, time = 42 months অ্যাচিভার্স

$$\Rightarrow \frac{42}{12} yr = 3\frac{1}{2} yr$$

$$\Rightarrow \frac{7}{2} \times 2 = 7 \text{ half-yr, rate } = \frac{13}{2}\% \text{ half-yearly}$$

$$SI = \frac{20000 \times 13 \times 7}{100 \times 2} = ₹9100$$

∴ Amount (A) = 20000 + 9100 = ₹29100

8. Given, P = ₹1750, R = 8%

$$n = 2 \text{ and } \frac{a}{b} = \frac{1}{2}$$

According to the formula, অ্যাচিভার্স

$$\text{Amount} = P\left(1+\frac{R}{100}\right)^n \times \left(1+\frac{\frac{a}{b} \times R}{100}\right)$$

$$= 1750\left(1+\frac{8}{100}\right)^2 \left(1+\frac{\frac{1}{2} \times 8}{100}\right)$$ অ্যাচিভার্স

$$= 1750\left(\frac{27}{25}\right)^2 \times \frac{26}{25} = 1750 \times \frac{27}{25} \times \frac{27}{25} \times \frac{26}{25}$$

$$= ₹2122.848 = ₹2122.85$$

9. Given that, A = 12750, R = 6%

and T = 4 months $= \frac{4}{12} = \frac{1}{3}$ yr, BD = ?

According to the formula (7)

$$\text{Banker's Discount} = \frac{A \times R \times T}{100} = \frac{12750 \times 6 \times \frac{1}{3}}{100}$$

$$= \frac{12750 \times 2}{100} = ₹255$$

10. The ratio among A, B, C and D অ্যাচিভার্স

$$= \frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{6}$$

On rearranging the ratio

$$\frac{60}{3} : \frac{60}{4} : \frac{60}{5} : \frac{60}{6} = 20 : 15 : 12 : 10$$

So, minimum number of pens can be when the common ratio is 1.

So, minimum number of pen অ্যাচিভার্স
= 20 + 15 + 12 + 10 = 57

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