

**Q.1) With respect to inequality measurement, consider the following statements:**

1. Lorenz Curve: It calculates degree of income inequality
2. Gini Coefficient: It measure distribution of income in an economy

**Which of the above statements is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.1) Solution (d)**

A Lorenz curve is a graphical representation of income inequality or wealth inequality developed by American economist Max Lorenz in 1905. It shows the proportion of income earned by any given percentage of the population.

The Gini Coefficient measures the degree of income equality in a population. It was developed by the Italian statistician and sociologist Corrado Gini.

The distribution of income in an economy is represented by the Lorenz Curve and the degree of income inequality is measured through the Gini Coefficient.

**Q.2) Consider the following statements with reference to Gini Coefficient:**

1. A value of 1 indicates perfect equality and 0 indicates perfect inequality.
2. Gini Index is defined based on the Lorenz Curve.
3. IMF publishes report on Gini index.

**Which of the above statements is/are correct?**

- a) 1 and 2 only
- b) 2 only
- c) 2 and 3 only
- d) 3 only

**Q.2) Solution (b)**

**Gini Coefficient:** A value of 0 indicates perfect equality and 1 indicates perfect inequality. Gini Index is defined based on the Lorenz Curve.

Statement 3 is incorrect because **World Bank** publishes Gini index to report country wise inequality.

**Q.3) Consider the following statements about poverty:**

1. Poverty can be termed as 'cognitive tax' on the poor
2. Poverty brings in wide ranging behavioural changes in a person
3. Poverty keeps the vicious cycle perpetuating forever

**Choose the correct statements using the codes given below**

- a) 1 and 2 only
- b) 2 and 3 only
- c) 3 only
- d) All of the above

**Q.3) Solution (a)**

**Explanation**

Chronic poverty causes health issues, educational failures, mental health challenges, impoverished aspirations etc. Hence poverty lays burden on the young creative minds, thereby reducing their overall efficiency. Poverty causes cognitive depletion, hence it is termed as cognitive tax.

Poverty is one of the key causes for increased crime rates, errant behaviour due to alcoholism etc. Hence Poverty drives changes in one's behaviour both in a positive and in a negative way

Poverty creates a vicious cycle where poor person's son/daughter would be inherently remain poor due to lack of adequate developmental opportunities. However, 'forever' is extreme word and hence appropriate answer is option (a).

**Q.4) Consider the following statements**

1. Headcount ratio is the percentage of population that lives below the poverty line. It gives the exact picture of poverty in India.
2. Poverty Gap is the difference between average income of BPL population and the BPL. It does not provide the exact picture of poverty in India.

**Which of the above statement/s is/are true?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.4) Solution (d)**

**Explanation**

The population whose level of income (or expenditure) is below this aggregate value is Below Poverty Line (BPL). In this measure of poverty, we expressed the number of poor as a proportion of the total population. This measure also is known as the headcount ratio.

The poverty gap is the ratio by which the mean income of the poor falls below the poverty line. The poverty line is defined as half the median household income of the total population. The poverty gap helps refine the poverty rate by providing an indication of the poverty level in a country.

**Q.5) Consider the statements about MDGs and SDGs**

1. MDGs started the campaign to end global poverty and hunger, while SDGs aim to realise it comprehensively.
2. Both MDGs and SDGs emphasised on the 'Data Revolution' i.e., track the performance using Big Data.
3. Peace building as an integral part of ending poverty and hunger was recognised by only SDGs.

**Choose the correct statements using the codes given below**

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) All of the above

**Q.5) Solution (c)**

**Explanation**

It was the MDGs that started the campaign to end global poverty and hunger, while SDGs aim to realise it comprehensively by way of setting goals.

It is the SDGs that emphasise the importance of data. Big Data analytics has been extensively

used in the SDGs goal setting as well as goal tracking process. It was not seen in the case of MDGs.

Peace building as an integral part of ending poverty and hunger was recognised by only SDGs.

**Q.6) Which of the following are the disadvantages of the Universal Basic Income?**

1. Freedom of choice
2. Poverty reduction
3. Wasteful expenditure
4. Moral Hazard

**Choose the correct answer using the codes given below**

- a) 1, 2 and 3 only
- b) 2 and 3 only
- c) 3 and 4 only
- d) 1, 3 and 4 only

**Q.6) Solution (c)**

**Explanation**

**Advantages of UBI**

- Workers could afford to wait for a better job or better wages.
- People would have the freedom to return to school or stay home to care for a relative.
- The "poverty trap" would be removed from traditional welfare programs.
- Citizens could have simple, straightforward financial assistance that minimizes bureaucracy.
- The government would spend less to administer the program than with traditional welfare.
- Payments would help young couples start families in countries with low birth rates.
- The payments could help stabilize the economy during recessionary periods.

**Disadvantages of UBI**

- Inflation could be triggered because of the increase in demand for goods and services.
- There won't be an increased standard of living in the long run because of inflated prices.
- A reduced program with smaller payments won't make a real difference to poverty-stricken families.

- Free income may disincentivize people to get jobs, and make work seem optional.
- Free income could perpetuate the falling labor force participation rate.
- It would be difficult especially in the US to get legislation passed because of stiff opposition to handouts for the unemployed.

**Q.7) The Socio-Economic Caste Census could be efficiently used to improve**

1. Reservation policy of India
2. Selecting scholarship beneficiaries
3. National Food Security Scheme
4. Promoting private sector investment

**Choose the correct answer using the codes given below**

- a) 1, 2 and 4 only
- b) 1, 2 and 3 only
- c) 2, 3 and 4 only
- d) 2 and 3 only

**Q.7) Solution (b)**

**Explanation**

- Statement 4 is incorrect because SECC is in no way related to private sector investment.
- All other statements use SECC in order to improve their efficiency

The Ministry of Rural Development Government of India, commenced the Socio Economic and Caste Census (SECC) 2011, in June 2011 through a comprehensive door to door enumeration across the country. This is the first time such a comprehensive exercise has been carried out for both rural and urban India. It is also expected to generate information on a large number of social and economic indicators relating to households across the country.

**The SECC, 2011 has the following three objectives:**

- To enable households to be ranked based on their Socio- Economic status. State Governments can then prepare a list of families living below the poverty line
- To make available authentic information that will enable caste-wise population enumeration of the country
- To make available authentic information regarding the socio economic condition, and education status of various castes and sections of the population
- The rural development ministry has taken a decision to use the SECC data in all its



programmes such as MGNREGA, National Food Security Act, and the Deen Dayal Upadhyaya Grameen Kaushalya Yojana.

**Q.8) Select the correct statement about the term 'unemployment trap'**

- a) A situation in the economy when the rate of employment growth is less than the rate of increase in the unemployed population
- b) A situation when unemployed population of an economy does not feel encouraged to become employed
- c) A situation of frictional unemployment when there is a heavy rush of labour force from the primary to the secondary activities
- d) A situation when existing job loss is higher than the new jobs created

**Q.8) Solution (b)**

**Explanation**

Unemployment trap is a situation when unemployment benefits discourage the unemployed to go to work. People find the opportunity cost of going to work too high when one can simply enjoy the benefits by doing nothing.

While the purpose of social security and welfare systems is to provide relief to the unemployed, they end up providing them with an incentive not to return to work. An unemployment trap arises when opportunity cost of going to work is higher than the income received, discouraging people from returning to work and being productive.

**Q.9) Consider the following parameters:**

- 1. GDP per capita
- 2. Employment
- 3. Productivity
- 4. Life expectancy

**'Inclusive development Index' (IDI) takes into account which of the above?**

- a) 1 and 2 only
- b) 1, 2 and 3 only
- c) 1, 2 and 4 only
- d) All of the above

**Q.9) Solution (d)**

**Basic Information:**

IDI is an annual economic index introduced by the World Economic Forum. India was ranked 62nd among 74 emerging economies. (as per latest report which was released in 2018)

IDI takes into account growth, as measured using –

- GDP per capita
- employment,
- Productivity, and
- Life expectancy

IDI has three pillars –

**1. Growth and development**

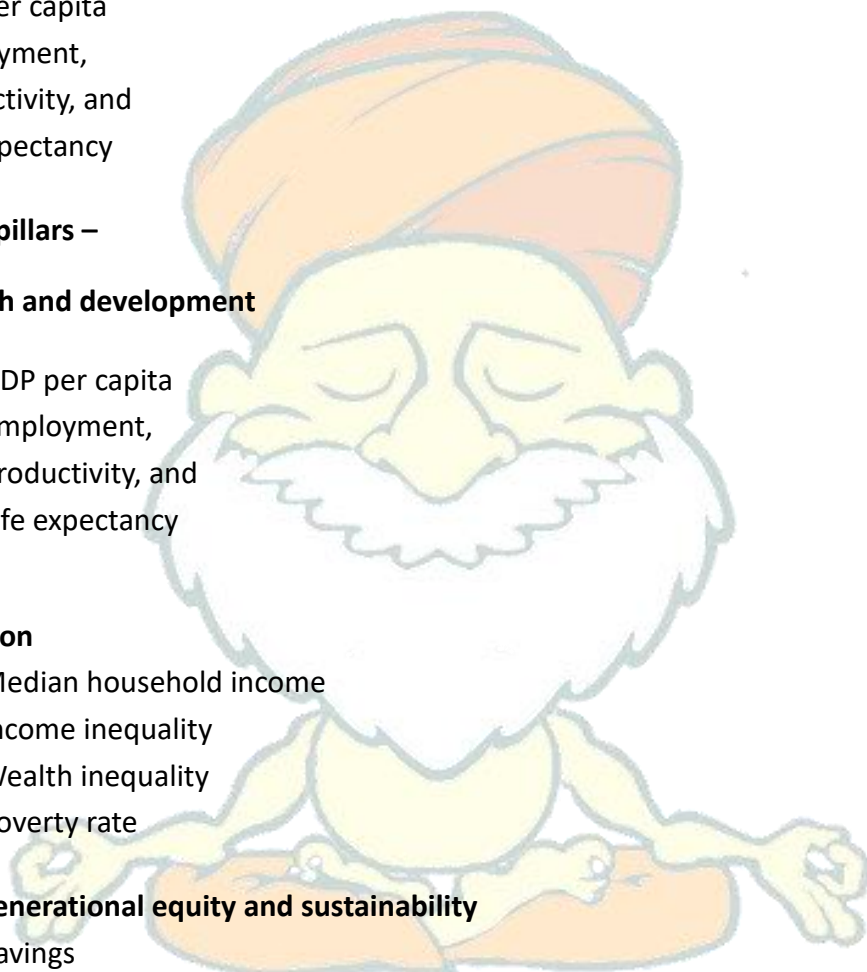
- GDP per capita
- employment,
- Productivity, and
- Life expectancy

**2. Inclusion**

- Median household income
- Income inequality
- Wealth inequality
- Poverty rate

**3. Intergenerational equity and sustainability**

- Savings
- Public debt
- Carbon intensity
- Dependency ratio



**Q.10) Which of the following best describe the term 'Learning Poverty'?**

- a) Unwillingness of come out of poverty.
- b) Unwillingness to engage in more productive work.
- c) The state of being unable to read and understand a simple text by age 10.
- d) Transfer of poverty from generation to generation.

**Q.10) Solution (c)**

**Basic Information:**

Learning poverty is defined as being unable to read and understand a simple text by age 10.

The new data show that 53% of all children in low- and middle-income countries suffer from learning poverty.

This high rate of learning poverty and slow progress is an early warning sign that all of the targets outlined in SDG4 are at risk – including the target to increase the number of youth and adults who have relevant skills for employment, decent jobs, and entrepreneurship.

**Do you know?**

- The **World Bank has adopted a Learning Poverty Target** that aims to cut the global rate of learning poverty by at least 50% by 2030.

**Q.11) Which of the following correctly explains the inadequate nature of calorie-based norm to identify the poor?**

1. It groups all the poor together and does not differentiate between the very poor and the other poor.
2. It takes into account expenditure on food and a few select items as proxy for income which proves difficult to identify who among the poor need help the most.

**Choose the correct code**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) None of the above

**Q.11) Solution (c)**



There are many ways of measuring poverty. One way is to determine it **by the monetary value of the minimum calorie intake** that was estimated value (per capita expenditure) of the minimum calorie intake that was estimated **at 2,400 calories for a rural person and 2,100 for a person in the urban area.**

Based on this, in 2011-12, the poverty line was defined for rural areas as consumption worth **Rs 816 per person a month and for urban areas it was Rs 1,000.** Though the government uses **Monthly Per Capita Expenditure (MPCE) as proxy for income of households** to identify the poor, Economists state that a major problem with this mechanism is that it groups all the poor together and **does not differentiate between the very poor and the other poor** Also this mechanism takes into account expenditure on food and a few select items as proxy for income, economists question its basis.

This mechanism is helpful in identifying the poor as a group to be taken care of by the government, but it would be **difficult to identify who among the poor need help the most.**

**Do you know?**

The aim of poverty alleviation schemes should be to improve human lives by expanding the range of things that a person could be and could do, such as to be healthy and well-nourished, to be knowledgeable and participate in the life of a community.

From this point of view, development is about removing the obstacles to the things that a person can do in life, such as illiteracy, ill health, lack of access to resources, or lack of civil and political freedoms.

**Q.12) Consider the following statements with reference to different type of Economic curve and their definitions:**

1. Engel curve: It displays how household expenditure on a particular good or service varies with change in household income.
2. Beveridge curve: It shows relationship between unemployment and job vacancy rate.
3. Phillips curve: It shows relation between inflation and unemployment has a stable and inverse relationship.

**Which of the above statement is/are correct?**

- a) 1 only
- b) 1 and 2 only
- c) 2 and 3 only

d) 1, 2 and 3

**Q.12) Solution (d)**

**Engel curve** describes how household expenditure on a particular good or service varies with household income.

**A Beveridge curve**, or UV curve, is a graphical representation of the relationship between unemployment and the job vacancy rate, the number of unfilled jobs expressed as a proportion of the labour force

The **Phillips curve** is an economic concept developed by A. W. Phillips stating that inflation and unemployment have a stable and inverse relationship.

**Q.13) Consider the following statements with reference to Voluntary Unemployment:**

1. It refers to the situation when the worker deliberately chooses not to work because of a low wage scale
2. Most frictional unemployment is considered voluntary unemployment.

**Which of the above statement is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.13) Solution (c)**

The number of persons in an economy without jobs because they choose to be unemployed. An example of a voluntarily unemployed person is one who rejects a position while looking for one with better pay or benefits. Most frictional unemployment (unemployment when one is between jobs) is considered voluntary because one is looking for work rather than taking any job one finds.

**Q.14) Which of the following statements is NOT correct?**

- The major reason for cyclical unemployment is lack of demand in the economy and slowdown of economic activity.
- Structural unemployment usually occurs due to the mismatch of skills.
- Disguised unemployment is when too many people are employed than what is required to produce efficiently.
- The minimum amount of unemployment that prevails in an economy due to workers quitting their previous jobs and are searching for the new jobs is called Involuntary Unemployment.

**Q.14) Solution (d)**

**Statement Analysis:**

Statement 1	Statement 2	Statement 3	Statement 4
Correct	Correct	Correct	Incorrect
Cyclical unemployment is due to deficiency or fall in effective demand from consumers which leads to fall in production and low demand for labour.	Structural unemployment refers to a situation which arises due to change in the structure of the economy. Example: An economy transforms itself from a Labour intensive economy to a Capital intensive economy.	Disguised unemployment is when too many people are employed than what is required to produce efficiently.	<b>Involuntary unemployment</b> refers to a situation where workers are seeking work and are willing to work but are unable to get work.

**Basic Information:**

- The minimum amount of unemployment that prevails in an economy due to workers quitting their previous jobs and are searching for the new jobs is called **Frictional Unemployment**.
- Voluntary unemployment** refers to a situation where workers are either not seeking for work or are in transition from one job to another (quitting one job in search of another better job).
- Seasonal unemployment** occurs during certain seasons of the year. In some industries and occupations like agriculture, holiday resorts etc., production activities take place only in some seasons.

**Q.15) Which of the following factors can be attributed to growth of unemployment in India?**

1. Slow growth in agricultural and industrial productivity.
2. Slow expansion of manufacturing sector.
3. Concentration of investment in capital goods industry.

**Select the correct answer from below:**

- a) 1 and 2 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

**Q.15) Solution (d)**

All the three statements are easy to comprehend. You should not get confused with the third statement. Investment in capital goods industry will not create employment opportunity because of more mechanization.

**Basic Information:**

Unemployment in India is caused by a range of factors:

1. Slow growth in agricultural and industrial productivity.
2. Slow expansion of manufacturing sector
3. Concentration of investment in capital goods industry.

One of the most important objectives of economic planning in India was to create employment opportunities for the rising labour force. To meet this goal several initiatives were undertaken - expansion of heavy industries, cottage and small industries, agriculture and related activities etc.

**Capital Goods** refer to products that are used in the production of other products but are not incorporated into the new product. These include machine tools, industrial machinery, process plant equipment, construction & mining equipment, electrical equipment, textile machinery, printing & packaging machinery etc.

**Q.16) Which among the following correctly defines the term 'Dependency Ratio'?**

- a) It is the ratio of population dependent on the agricultural sector.

- b) It is the ratio of children below the age of 15 and older persons above 65 years to the working age population.
- c) It is the ratio of the population below the poverty line.
- d) It is the number of persons unemployed per thousand persons.

**Q.16) Solution (b)**

**Basic Information:**

In economics, geography, demography and sociology, the dependency ratio is an age population ratio of those typically not in the labor force (the dependent part ages 0 to 14 and 65+) and those typically in the labor force (the productive part ages 15 to 64). It is used to measure the pressure on the productive population.

Consideration of the dependency ratio is essential for governments, economists, bankers, business, industry, universities and all other major economic segments which can benefit from understanding the impacts of changes in population structure. A low dependency ratio means that there sufficient people working who can support the dependent population. A lower ratio could allow for better pensions and better health care for citizens. A higher ratio indicates more financial stress on working people. While the strategies of increasing fertility and of allowing immigration especially of younger working age people have been formulas for lowering dependency ratios, future job reductions through automation may impact the effectiveness of those strategies.

**Q.17) Which of the following 'Sustainable Development Goals' (SDGs) is correct?**

- a) Goal 4 is End poverty in all its forms everywhere.
- b) Goal 2 is Ensure healthy lives and promote wellbeing for all ages.
- c) Goal 5 is Ensure availability and sustainable management of water and sanitation for all.
- d) Goal 11 is Make cities and human settlements inclusive, safe, resilient and sustainable.

**Q.17) Solution (d)**

**Basic Information:**





**Q.18) There is a paradoxical effect where increase in human capital may not lead to economic growth. Which of the following best explains this nebulous phenomenon?**

- a) Education measured in terms of years of schooling, teacher-pupil ratio and enrolment rates may not reflect the quality of education.
- b) Health services measured in monetary terms, life expectancy and mortality rates may not reflect the true health status of the people in a country.
- c) Both a and b
- d) None of the above

**Q.18) Solution (c)**

**Explanation:**

Both **education and health, along with many other factors like on-the-job training, job market information and migration**, increase an individual's income generating capacity. This enhanced productivity of human beings or human capital contributes substantially not only towards increasing labour productivity but also stimulates innovations and creates ability to absorb new technologies.

Education provides knowledge to understand changes in society and scientific advancements, thus, facilitate inventions and innovations. Similarly, the availability of educated labour force facilitates adaptation to new technologies.

Empirical evidence to prove that **increase in human capital causes economic growth is rather nebulous**. This may be because of measurement problems.

For example, **education measured in terms of years of schooling, teacher-pupil ratio and enrolment rates may not reflect the quality of education**.

Health services measured in monetary terms, life expectancy and mortality rates **may not reflect the true health status of the people in a country**.

**Do you know?**

Using the indicators mentioned above, an analysis of improvement in education and health sectors and growth in real per capita income in both developing and developed countries shows that **there is convergence in the measures of human capital but no sign of convergence of per capita real income**.

In other words, the human capital growth in developing countries has been faster but the growth of per capita real income has not been that fast.

There are reasons to believe that the causality between human capital and economic growth flows in either directions. That is, **higher income causes building of high level of human capital and vice versa**, that is, high level of human capital causes growth of income.

**Q.19) Consider the following statements with reference to Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 3.0:**

1. PMKVY 3.0 envisages training of eight lakh candidates over the scheme period of 2020-2021.
2. With the advent of PMKVY 3.0, the focus is on bridging the demand-supply gap by promoting skill development in areas of new-age and Industry 4.0 job roles.

**Which of the above statement is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.19) Solution (c)**

PMKVY 3.0 envisages training of eight lakh candidates over the scheme period of 2020-2021. PMKVY 3.0 phase three will focus on new-age and COVID-related skills. With the advent of

PMKVY 3.0, the focus is on **bridging the demand-supply gap** by promoting skill development in areas of new-age and Industry 4.0 job roles.

**Q.20) With reference to Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM), consider the following statements:**

1. It is a centrally sector programme, launched by the Ministry of Rural Development in 2011.
2. To aim to eliminate rural poverty through the promotion of multiple livelihoods and improved access to financial services for the rural poor households across the country

**Which of the above statement is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.20) Solution (b)**

**Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)**

- It is a **centrally sponsored** programme, launched by the Ministry of Rural Development in June 2011.
- To eliminate rural poverty through the promotion of multiple livelihoods and improved access to financial services for the rural poor households across the country.
- To reach out to all rural poor households and impact their livelihoods.

**Q.21) With reference to The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020, consider the following statements:**

1. The Act allows inter-state trade of farmers produce outside the physical premises of APMC market.
2. The Act provides a framework for electronic trading of agricultural produce.
3. The Act empowers State governments to collect market fee, cess or levy for trade outside the APMC markets.

**Which of the statements given above is/are correct?**

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

**Q.21) Solution (a)**

Statement 1	Statement 2	Statement 3
Correct	Correct	Incorrect
The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 allows <b>intra-state and inter-state trade of farmers' produce outside the physical premises of market yards</b> run by market committees formed under the state APMC Acts and other markets notified under the state APMC Acts.	<b>The Act permits the electronic trading of scheduled farmers' produce in the specified trade area.</b> An electronic trading and transaction platform may be set up to facilitate the direct and online buying and selling of such produce through electronic devices and internet.	<b>The Act prohibits state governments from levying any market fee, cess or levy on farmers, traders, and electronic trading platforms for trade of farmers' produce conducted in an 'outside trade area'.</b>

**Q.22) World's largest tropical wetland, Pantanal, borders which of the following countries?**

- a) Brazil, Bolivia and Paraguay
- b) Brazil, Peru and Bolivia
- c) Paraguay, Uruguay and Argentina
- d) Brazil, Bolivia and Uruguay

**Q.22) Solution (a)**

- **Pantanal, Brazil is the world's largest tropical wetland and sprawls over more than 150,000 sq km in Brazil and also extends into Bolivia and Paraguay.**
- It is burning as vegetation compacted under the marshy flood water during the wet season dries out as ponds and lagoons evaporate, leaving flammable deposits underground.



- It is a UNESCO World Heritage site.



**Q.23) With reference to Conference on Interaction and Confidence-Building Measures in Asia (CICA), consider the following statements:**

1. It is a multi-national forum for enhancing cooperation towards promoting peace, security and stability in Asia.
2. The idea of convening the CICA was first proposed by India at the United Nations General Assembly.

**Which of the statements given above is/are correct?**

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

**Q.23) Solution (a)**

Statement 1	Statement 2
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Correct	Incorrect
<p><b>Conference on Interaction and Confidence-Building Measures in Asia (CICA) is a multi-national forum for enhancing cooperation towards promoting peace, security and stability in Asia.</b> It consists of 27 member nations from Asia including Afghanistan, Bangladesh, Cambodia, China, Egypt, India etc. For becoming a member of CICA, a state must have at least a part of its territory in Asia.</p>	<p><b>The idea of convening the CICA was first proposed by Kazakhstan</b> in October 1992, at the 47th Session of the United Nations General Assembly. Secretariat: Nur-Sultan, Kazakhstan. The CICA Summit is convened in order to conduct consultations, review the progress of, and set priorities for CICA activities. The first CICA summit was held on 4 June 2002 with participation of 16 Member States and Almaty Act, the charter of the CICA, was adopted.</p>

**Q.24) Which of the following statements regarding Brucellosis is *NOT* correct?**

- Brucellosis is a bacterial zoonotic disease.
- Brucellosis mainly infect cattle, swine, goats, sheep and dogs.
- Humans generally acquire the Brucellosis disease through direct contact with infected animals.
- Brucella abortus*S19 delta per vaccine is developed by National Institute of Allergy and Infectious Diseases (NIAID).

**Q.24) Solution (d)**

- Brucellosis is a bacterial zoonotic disease caused by various *Brucella* species.
- It is also known as Malta fever or Mediterranean fever and it mainly infect cattle, swine, goats, sheep and dogs.
- Brucellosis disease causes production losses in livestock. The disease induces abortion at the last stage of pregnancy, infertility and other reproductive problem which causes losses in production of milk and meat.
- Humans generally acquire the disease through direct contact with infected animals, by eating or drinking contaminated animal products, or by inhaling airborne agents.
- ***Brucella abortus*S19 delta per vaccine was developed recently by ICAR-Indian Veterinary Research Institute (ICAR-IVRI)** through a Network project on Brucellosis supported by Department of Biotechnology.

**Q.25) The Global Biodiversity Outlook report is published by which of the following?**

- a) World Wildlife Fund (WWF)
- b) Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)
- c) Convention on Biological Diversity
- d) Conservation International

**Q.25) Solution (c)**

Recently, **Fifth Global Biodiversity Outlook (GBO-5) report** was released. It is a flagship publication of the **Convention on Biological Diversity (CBD)**.

- It is a periodic report that summarizes the latest data on the status and trends of biodiversity and draws conclusions relevant to the further implementation of the CBD.
- GBO-5 provides global summary of progress towards the Aichi Biodiversity Targets and is based on a range of indicators, research studies and assessments as well as the national reports provided by countries on their implementation of the CBD.

**Q.26) With reference to Science and Engineering Research Board (SERB), consider the following statements:**

1. It is a statutory body.
2. Supporting basic research in emerging areas of Science & Engineering is its primary mandate.
3. It offers JC Bose National Fellowship for brilliant scientists and engineers from all over the world to take up scientific research positions in India.

**Which of the statements given above is/are correct?**

- a) 1 and 3 only
- b) 2 and 3 only
- c) 1 and 2 only
- d) 1, 2 and 3

**Q.26) Solution (c)**

Statement 1	Statement 2	Statement 3
Correct	Correct	Incorrect
The Science and Engineering Research Board (SERB) is a <b>statutory body</b> established through an Act of Parliament (The Science and Engineering Research Board Act, 2008).	Promoting basic research in Science and Engineering and to provide financial assistance to persons engaged in such research, academic institutions, research and development laboratories, industrial concerns and other agencies for such research and for matters connected therewith or incidental thereto are the primary and distinctive mandate of the Board.	The Board offers JC Bose National Fellowship to scientists and engineers for their outstanding performance and contributions and <b>RAMANUJAN Fellowship for brilliant scientists and engineers from all over the world to take up scientific research positions in India, especially those scientists who want to return to India from abroad.</b>

- Board also provides financial assistance for presenting research paper in international scientific event (conference/ seminar/ symposium/ workshop etc.) held abroad.
- Board also gives special attention to young scientists below the age of 35 years (relaxable by 5 years in the case of SC/ST/OBC, woman and physically handicapped category) to undertake independent research in newly emerging and frontier areas of science and engineering.
- High priority areas are supported in through the “Intensification of Research in High Priority Area “(IRHPA) Program.
- Scientific And Useful Profound Research Advancement (SUPRA) Scheme of SERB seeks to explore new scientific breakthroughs, with long-term impact on fundamental scientific understanding, and offer disruptive technologies at the cutting edge.

**Q.27) Consider the following statements regarding National Initiative for Developing and Harnessing Innovations (NIDHI) programme:**

1. It is an umbrella program pioneered by the Department of Science & Technology (DST).
2. It supports aspiring entrepreneurs for pursuing a promising technology business idea with a subsistence grant up to Rs 2 lakh per month to each Entrepreneur in Residence.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.27) Solution (a)

Statement 1	Statement 2
Correct	Incorrect
NIDHI (National Initiative for Development and Harnessing Innovations), <b>an umbrella program is pioneered by the Department of Science &amp; Technology (DST)</b> , Government of India, for nurturing ideas and innovations (knowledge-based and technology-driven) into successful startups.	NIDHI supports aspiring entrepreneurs for pursuing a promising technology business idea over a period up to 18 months with a <b>subsistence grant up to Rs 30000 per month</b> with a maximum cap for total support of Rs 3.6 lakh to each EIR over a maximum of 18 months.

NIDHI-EIR Brochure featuring Entrepreneurs in Residence (EIR) was launched recently.

The NIDHI-EIR programme provides tremendous opportunities for innovative entrepreneurs to expand their networks and get critical feedback on their ventures in order to promote their entrepreneurial career goals and aspirations.

Q.28) The 'Partial Credit Guarantee Scheme (PCGS) 2.0' provides greater flexibility to state-owned banks in purchasing bonds of which of the following?

- a) Non-Banking Financial Companies
- b) Co-operative Societies
- c) Small Finance Banks and Payment Banks
- d) Urban Co-operative Banks

Q.28) Solution (a)



- The government has extended the scope of the **Partial Credit Guarantee Scheme (PCGS) 2.0** to provide greater flexibility to state-owned banks in purchasing bonds and Commercial Papers (CPs) of **Non-Banking Financial Companies (NBFCs)**.
- The PCGS was announced in July 2019, allowing public sector banks to purchase high-rated (BBB+ or above) pooled assets from financially sound NBFCs and Housing Finance Companies (HFCs).
- As a part of the Aatmanirbhar initiative, the scheme was extended in May 2020 (PCGS 2.0) to cover primary market issuance of bonds/CPs by NBFCs, HFCs and Micro Finance Institutions (MFIs) with low credit ratings.
- The Centre provided 20% first loss sovereign guarantee to public sector banks for purchase of bonds/CPs, resulting in liquidity infusion of Rs. 45,000 crore into the system.
- The scheme covered papers with ratings of AA and below, including unrated papers, aimed at providing access to fresh liquidity support to non-bank lenders.

**Q.29) The Convention on Road Traffic is commonly known as which of the following?**

- a) Geneva Convention
- b) Brisilia Convention
- c) Singapore Convention
- d) Warsaw Convention

**Q.29) Solution (a)**

- The **Convention on Road Traffic** is commonly known as the **Geneva Convention on Road Traffic**.
- It is an international treaty promoting the development and safety of international road traffic by establishing certain uniform rules among the contracting parties.
- The convention addresses minimum mechanical and safety equipment needed to be on board.
- It defines an identification mark to identify the origin of the vehicle.
- The Convention was prepared and opened for signature by the United Nations Conference on Road and Motor Transport held at Geneva from 23 August to 19 September 1949. It came into force on 26 March 1952.



**Q.30) Recently Renati Chola Era inscription has been unearthed in which of the following state of India?**

- a) Tamil Nadu
- b) Telangana
- c) Andhra Pradesh
- d) Kerala

**Q.30) Solution (c)**

- A rare inscription dating back to the **Renati Chola era** has been unearthed in a remote village of **Kadapa district, Andhra Pradesh** that has kindled interest among the fraternity of archaeology and history.
- The inscription was found engraved on a dolomite slab and shale, which are part of a fragmentary pillar excavated from a farmer's field.
- The inscription was written in archaic Telugu. It was assigned to the 8th Century AD, when the region was under the rule of Chola Maharaja of Renadu.
- The Telugu Cholas of Renadu (also called as Renati Cholas) ruled over Renadu region, the present day Kadapa district.

**Directions for the following 2 (two) items:**

**Read the following passage and answer the items that follow. Your answers to these items should be based in the passage only.**

The Criminal Investigation Department often makes use of fingerprints in identifying culprits. This procedure is based on the accepted truth that the fingerprints of no two individuals are the same. A glance at the five fingers of our own hand convinces us of the differences that exist among them. No two individuals are the same, not even identical twins. Everyone is different from the other in one way or another.

Noticeable differences may exist in size, weight, age appearance, colour, voice, smile, etc. There are other differences which are not easily observable. Differences exist in the mental make-up, psychological actions, understanding capacity, attitudes, abilities, interests, etc.

Every individual is a separate entity having his or her own identity. It speaks highly of the

Creator who has not created human beings like the modern machine-made goods. Every individual has been created separately and differently from the rest.

Individual differences exist because of heredity, family background, education, environment, etc. Whatever the causes or reasons, we must accept the fact that there are individual differences both perceptible and non-perceptible. Consequently, two individuals cannot be expected to react to a situation or a problem in the same way. There are as many opinions as there are men. It is bound to be so. One should not be surprised to get different opinions from different people on the same issue.

Individual differences affect the actions, reactions and performances of people. In a family of three children, the eldest may do extremely well at studies, and the parents expect the same kind of performance from the others. It is certainly unjust and unfair as each of them is different in several ways. Very often we wonder why a person reacts the way he or she does. We consider that person to be strange, abnormal or stupid. Yet, that person may be quite normal and intelligent. These differences in reactions can be understood only if individual differences are kept in mind. In fact, this concept helps people understand each other better. It results in respect and appreciation for each other's views.

It is understood that each one is a separate individual with his or her own identity. No one is expected to be a carbon copy of another. We may imitate or hero-worship, but it would be wrong to identify ourselves with someone else. We are different and must remain so in our thoughts, words and actions.

**Q.31) What are the causes for individual differences?**

- a) Every individual has different fingerprints.
- b) Every individual wears different clothes and has different hairstyles and appearance.
- c) Every individual has a different background, educational environment and heredity.
- d) Every individual is the offspring of different parents.

**Q.31) Solution (c)**

Kindly refer to the 1st sentence of the 4th paragraph of the passage in which it is clearly stated that Individual differences exist because of heredity, family background, education, environment, etc.

**Q.32) Find the incorrect statement on the basis of the given passage.**

- a) It is unjust and unfair to think all the children of the same person to be identical.
- b) Two sons of the same parents will react to situation in the same way if they are identical twins.
- c) The procedure of the CID is based on the truth that the fingerprints of no two individuals are the same.
- d) No one is expected to be a carbon copy of another.

**Q.32) Solution (b)**

It is clearly the statement given as option 'b' which is incorrect here as it speaks exactly opposite to what is stated in the passage.

**Q.33) A motorbike leaves point A at 1 pm and moves towards point B at a uniform speed. A car leaves point B at 2 pm and moves towards point A at a uniform speed which is double that of the motorbike. They meet at 3:40 pm at a point which is 168 km away from A. What is the distance, in km, between A and B?**

- a) 364
- b) 378
- c) 380
- d) 415

**Q.33) Solution (b)**

Let the distance travelled by car be X km

Distance travelled by bike = 168 km

Speed of car is double the speed of the bike

$$X/(3:40-2:00) = 2 * X / (3:40-1:00)$$

$$X/100 = 2(168/160)$$

$$X = 210$$

Hence, the distance between A and B is  $X + 168 = 378$  km

**Q.34) 2 cars facing each other are at a distance of 500 m from each other. Each car moves forward by 100 m at a speed of 50 m/s and then moves backwards by 50 m at a speed of 25**

m/s. How long will they take to collide?

- a) 14 sec
- b) 13 sec
- c) 11 sec
- d) 10 sec

**Q.34) Solution (a)**

If we observe the series carefully running from time = 2 sec [time= distance/speed i.e. 100/50] and hence,

Moving forward:

At 2 sec each car will move to a distance of 100 m

Moving backwards:

At 4 sec each car will move to a distance of 50 m

Moving forward:

At 6 sec each car will move to a distance of 150 m

Moving backwards:

At 8 sec each car will move to a distance of 100 m

Moving forward:

At 10 sec each car will move to a distance of 200 m

Moving backwards:

At 12 sec each car will move to a distance of 150 m

Moving forward:

At 14 sec each car will move to a distance of 250 m and in all 500 m that is the point they must collide.

**Q.35) In an examination, a student had to obtain 40% of the maximum marks to pass. He got 130 marks and failed by 30 marks. The maximum marks of the examination were?**

- a) 280
- b) 400
- c) 340
- d) 390

**Q.35) Solution (b)**

Let the maximum marks be M

Then marks required to pass=  $0.4M$

The student failed by 30 Marks

So, the passing marks =  $130+30= 160$

Now  $0.4M=160$

Hence,  $M= 400$

