2022 EDITION

Prepared Under the Guidance of Sh. S.N. Prasad
More than 53 years of Experience in Publication

SSC CHSL 10+2
COMBINED HIGHER SECONDARY LEVEL

LDC/JSA I DEO/DEO GRADE 'A' I PA/SA

**LOWER DIVISION CLERK/JUNIOR SECRETARIAT ASSISTANT
DATA ENTRY OPERATOR/DATA ENTRY OPERATOR GRADE 'A'
POSTAL ASSISTANT / SORTING ASSISTANT**

TIER-I ONLINE CBE
50 SETS PRACTICE WORK BOOK

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LDC/JSA, DEO/DEO GRADE 'A', PA/SA

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TIER-I ONLINE CBE PRACTICE WORK BOOK

55 SETS

- 40 Model Practice Sets
- 15 Solved Papers (2019-20 & 21)
- CURRENT AFFAIRS

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Model Practice Sets

Solved Papers

IMPORTANT INFORMATION

SSC Combined Higher Secondary Level (10+2) Examination, 2022

■ **Date of Compputer Based Examination (Tier-I) : May 2022**

■ **Date of Tier-II Examination (Descriptive Paper) : To be notified later**

■ **EDUCATIONAL QUALIFICATIONS**

● **For LDC/ JSA, PA/ SA, DEO (except DEOs in C & AG):** The candidates must have passed 12th Standard or equivalent examination from a recognized Board or University.

● **For Data Entry Operator (DEO) in the Office of Comptroller and Auditor General of India (C&AG):** 12th Standard pass in Science stream with Mathematics as a subject from a recognized Board or equivalent.

● As per Ministry of Human Resource Development of India all the degrees/ diplomas /certificates awarded through Open and Distance Learning mode of education by the Universities established by an Act of Parliament or State Legislature, Institutions Deemed to be Universities under Section 3 of the University Grant Commission Act 1956 and Institutions of National Importance declared under an Act of Parliament stand automatically recognized for the purpose of employment to posts and services under the Central Government provided they have been approved by the University Grants Commission.

● Candidates who have not yet acquired but will acquire the educational qualification and produce documentary evidence from the Board/ University in support thereof as on 01-01-2021 will also be eligible.

● All candidates who are declared qualified by the Commission for Document Verification will be required to produce the relevant Certificates such as Mark sheets, Provisional Certificates etc. for completion of Intermediate/ Higher Secondary/ 10+2/ Senior Secondary in original as proof of having acquired the minimum educational qualification on or before **01-01-2022**, failing which the candidature of such candidates will be cancelled by the Commission. The candidates who are able to prove, by documentary evidence, that the result of the qualifying examination was declared on or before the cut-off date and he/ she has been declared passed, will also be considered to meet the educational qualification.

■ **SCHEME OF EXAMINATION :**

● The examination will consist of a Computer Based Examination (Tier-I), Descriptive Paper (Tier-II) and Skill Test/ Typing Test (Tier-III).

● The Commission reserves the right to introduce additional stage of examination which would be notified at suitable time, if considered necessary.

● In the question papers, wherever necessary, the metric systems of weights and measures only will be used.

Tier-I (Computer Based Examination - Objective Type) :

Part	Subject (Not in sequence)	Number of Questions/ Maximum Marks	Time Duration (For all four Parts)
I	English Language (Basic Knowledge)	25/50	60 Minutes (80 Minutes for)
II	General Intelligence	25/50	candidates eligible
III	Quantitative Aptitude (Basic Arithmetic Skill)	25/50	for scribes as per
IV	General Awareness	25/50	para 8.1 and 8.2)

● The Tier-I Examination will consist of Objective Type, Multiple choice questions only. The questions will be set both in English & Hindi for Part-II, III & IV.

● There will be negative marking of 0.50 marks for each wrong answer.

● Answer Keys, in due course after the Computer Based Examination, will be placed on the website of the Commission (https://ssc.nic.in). Any representation regarding answer keys received within the time limit

fixed by the Commission at the time of uploading of the answer keys, will be scrutinized and the decision of the Commission in this regard will be final. No representation regarding Answer keys shall be entertained, afterwards.

● Marks scored by candidates in Tier-I will be normalized by using the formula published by the Commission and such normalized scores will be used to determine final merit and cut-off marks.

Indicative Syllabus for Computer Based Examination (Tier-I):

➤ **ENGLISH LANGUAGE:** Spot the Error, Fill in the Blanks, Synonyms/ Homonyms, Antonyms, Spellings/ Detecting mis-spelt words,

● Idioms & Phrases, One word substitution, Improvement of Sentences, Active/ Passive Voice of Verbs, Conversion into Direct/ Indirect narration, Shuffling of Sentence parts, Shuffling of Sentences in a passage, Cloze Passage, Comprehension Passage.

➤ **GENERAL INTELLIGENCE:** It would include questions of both verbal and non-verbal type. The test will include questions on Semantic Analogy, Symbolic operations, Symbolic/ Number Analogy, Trends, Figural Analogy, Space Orientation, Semantic Classification, Venn Diagrams, Symbolic/ Number Classification, Drawing inferences, Figural Classification, Punched hole/ pattern-folding & unfolding, Semantic Series, Figural Pattern-folding and completion, Number Series, Embedded figures, Figural Series, Critical Thinking, Problem Solving, Emotional Intelligence, Word Building, Social Intelligence, Coding and de-coding, Other sub-topics, if any Numerical operations.

➤ **QUANTITATIVE APTITUDE:**

● **Number Systems:** Computation of Whole Number, Decimal and Fractions, Relationship between numbers.

● **Fundamental arithmetical operations:** Percentages, Ratio and Proportion, Square roots, Averages, Interest (Simple and Compound), Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time and work.

● **Algebra:** Basic algebraic identities of School Algebra and Elementary surds (simple problems) and Graphs of Linear Equations.

● **Geometry:** Familiarity with elementary geometric figures and facts: Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles.

● **Mensuration:** Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square Base.

● **Trigonometry:** Trigonometry, Trigonometric ratios, Complementary angles, Height and distances (simple problems only) Standard Identities like $\sin^2 .. + \cos^2 .. = 1$ etc.,

● **Statistical Charts:** Use of Tables and Graphs: Histogram, Frequency polygon, Bar-diagram, Pie-chart.

➤ **GENERAL AWARENESS:** Questions are designed to test the candidate.s general awareness of the environment around him and its application to society. Questions are also designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighboring countries especially pertaining to History, Culture, Geography, Economic Scene, General policy and scientific research.

● For VH candidates of 40% and above visual disability, there will be no component of Maps/ Graphs/ Diagrams/ Statistical Data in the General Intelligence and Quantitative.

■ TIER-II (DESCRIPTIVE PAPER)

● Tier-II Paper will be a descriptive Paper of 100 Marks in „Pen and Paper. Mode. The duration of the Descriptive Paper would be for one hour (20 minutes compensatory time will also be provided to the candidates eligible for scribes as per Paras 8.1 and 8.2 above). The Paper would comprise writing of an Essay Letter/ Application / Precis etc.

● The minimum qualifying marks in Tier-II would be 33 per cent.

● The performance in Tier II would be included for preparing merit.

■ TIER-III (SKILL TEST / TYPING TEST)

● Skill Test / Typing Test for the qualified candidates will be conducted on computers provided by the Commission or its authorized agency.

● Skill Test/Typing Test will be conducted in the cities where Regional Offices of the Commission are located or as decided by the Commission.

● Skill Test / Typing Test will be of qualifying nature. ❏❏❏

CURRENT AFFAIRS

NOBEL PRIZE : 2020

For outstanding contributions in several categories including chemistry, literature, peace, physics, physiology or medicine and economic sciences

- Nobel prizes for the year 2020 in various fields have been announced by the Nobel Foundation in Stockholm, Sweden
- Between 1901 and 2020, the Nobel Prizes and the Prize in Economic Sciences were awarded 603 times to 962 people and organization
- The word "laureate" refers as a laurel wreath. In ancient Greece, it refers to a sign of honor

■ **PHYSICS :**

- The Royal Swedish Academy of Sciences has decided to award the Nobel Prize in Physics 2020 with one half to Roger Penrose
- It is for the discovery that black hole formation is a robust prediction of the general theory of relativity
- The other half jointly to Reinhard Genzel and Andrea Ghez "for the discovery of a supermassive compact object at the centre of our galaxy"

■ **CHEMISTRY :**

- The 2020 Nobel Prize in Chemistry is awarded to Emmanuelle Charpentier and Jennifer A. Doudna "for the development of a method for genome editing".
- Since Charpentier and Doudna discovered the CRISPR/Cas9 genetic scissors in 2012 their use has exploded
- The genetic scissors have taken the life sciences into a new epoch and, in many ways, are bringing the greatest benefit to humankind

■ **MEDICINE :**

- This year's Medicine Prize is awarded to three scientists who have made a decisive contribution to the fight against blood-borne hepatitis, a major global health problem that causes cirrhosis and liver cancer in people around the world
- The Nobel Laureates' discovery of Hepatitis C virus is a landmark achievement in the ongoing battle against viral diseases
- The 2020 Nobel Prize in Physiology or Medicine is awarded jointly to Harvey J. Alter, Michael Houghton and Charles M. Rice "for the discovery of Hepatitis C virus"
- Thanks to their discovery, highly sensitive blood tests for the virus are now available and these have essentially eliminated post-transfusion hepatitis in many parts of the world, greatly improving global health

■ **Literature :**

- The Nobel Prize in Literature for 2020 is awarded to the American poet Louise Glück "for her unmistakable poetic voice that with austere beauty makes individual existence universal"
- Louise Glück made her debut in 1968 with *Firstborn*, and was soon acclaimed as one of the most prominent poets in American contemporary literature

■ **PEACE :**

Combating the threat of hunger

- The Norwegian Nobel Committee has decided to award the Nobel Peace Prize for 2020 to the World Food Programme (WFP)
- The World Food Programme is the world's largest humanitarian organization addressing hunger and promoting food security
- In 2019, the WFP provided assistance to close to 100 million people in 88 countries who are victims of acute food insecurity and hunger

■ **ECONOMIC :**

The quest for the perfect auction

- This year's Laureates, Paul Milgrom and Robert Wilson, have studied how auctions work
- They have also used their insights to design new auction formats for goods and services that are difficult to sell in a traditional way, such as radio frequencies
- Their discoveries have benefitted sellers, buyers and taxpayers around the world

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ABOUT NOBEL PRIZE

- The Nobel Prize is a set of annual international awards bestowed in several categories by Swedish and Norwegian institutions in recognition of academic, cultural, or scientific advances
- The will of the Swedish chemist, engineer and industrialist Alfred Nobel established the five Nobel prizes in 1895
- Between 1901 and 2020, the Nobel Prizes and the Prize in Economic Sciences were awarded 603 times to 962 people and organizations
- With some receiving the Nobel Prize more than once, this makes a total of 930 individuals and 25 organizations
- A person or organization who is awarded the Nobel Prize is known as Nobel Laureate
- The word "laureate" refers as a laurel wreath. In ancient Greece, it refers to a sign of honor

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TATA POWER BAGS EDISON AWARD
FOR SOCIAL INNOVATION

- Tata Power bags Edison Award for social innovation. The company bags the awards for its 'Club Enerji #Switchoff2SwitchOn' campaign.
- It has brought about 533 participating schools across India, saving over 29.8 million units of power since its inception in 2007.

What is Edison Award?

- The Edison Awards honours the world's best innovations and innovators. It is to honour excellence in new product and service development, marketing, design and innovation.
- The award winners represent products and services, leadership and excellence in innovation around four criteria: Concept, Value, Delivery, and Impact.
- It is established in 1987 in the memory of Thomas Alva Edison (1847-1931).
- CEO of TATA Power: Praveer Sinha.
- TATA Power Headquarters: Mumbai, Maharashtra.

11TH SESSION OF PETERSBERG
CLIMATE DIALOGUE HELD

The 11th session of Petersberg Climate Dialogue was held through video conferencing witnessing India along with 30 countries deliberating over ways and means to tackle COVID-19. The Union Minister for Environment, Forest and Climate Change, Prakash Javadekar attended the Petersberg Climate Dialogue and talked about climate technology that must be available at an affordable cost. The 11th session of Petersberg Climate Dialogue was hosted by Germany, and it was co-hosted by the United Kingdom (UK).

AMARTYA SEN TO BE AWARDED THE 2020
PEACE PRIZE OF THE GERMAN BOOK TRADE

- The German Book Trade has chosen Indian Nobel prize-winning economist and philosopher Amartya Sen for its prestigious 2020 Peace Prize.
- He has been chosen for the prestigious prize for his pioneering work addressing issues of global justice, social inequality in education and healthcare.

INDIAN MUSICIAN SHOBHA SEKHAR RECEIVES
"THE MEDAL OF THE ORDER OF AUSTRALIA"

- Indian Musician & founder of Kalakruthi music organisation in Australia, Shobha Sekhar will be conferred the "Medal of the Order of Australia".
- The Montreal-based artiste and lecturer, University of Melbourne, figures in the Queen's Birthday 2020 Honours List.
- She has been chosen for the Medal of the Order for her service to the community and the country.

MEDAL OF THE ORDER OF AUSTRALIA

- The medal of the order of Australia is awarded to the individuals contributing to their community or to Australia globally or domestically.
- The recipients are nominated and assessed independently as worthy of recognition.

INDIAN-AMERICAN SCIENTIST RATTAN
LAL WINS 2020 WORLD FOOD PRIZE

- Indian American soil scientist Dr Rattan Lal has won the World Food Prize for mainstreaming and developing soil centric approach in order to increase food production.
- He has been awarded for developing and mainstreaming a soil-centric approach to increasing food production that conserves natural resources and mitigates climate change.
- He will receive USD 250,000 as prize money.
- Lal serves as Distinguished University Professor of Soil Science and founding Director of the Carbon Management and Sequestration Center at The Ohio State University (OSU).

DDS WINS MONACO FOUNDATION AWARD

- The Deccan Development Society (DDS), a non-governmental organisation working with women farmers, has won the Prince Albert II of Monaco Foundation Award.
- The honour was declared by the Prince Albert II of Monaco Foundation Vice President and CEO, Olivier Wenden.
- The honour of 40,000 Euros (roughly Rs 35 lakhs) has been given to the general public.
- This is in acknowledgement of "the people who devote their activities and associations for their profound duty to saving our planet.

HILLEL FURSTENBERG AND GREGORY MARGULIS WIN ABEL PRIZE 2020

Two mathematicians Hillel Furstenberg (Israel) and Gregory Margulis (Russian-American) will share the 2020 Abel Prize - one of the field's most prestigious awards. The two winners will share 7.5 million Norwegian kroner, or about US$ 625,000. These mathematicians used randomness to cast new light on the certainties of mathematics . According to the Norwegian Academy of Science and Letters announced on 18 March, they will be awarded "for pioneering the use of methods from probability and dynamics in group theory, number theory and combinatorics".

- The Abel Prize is named after Norwegian mathematician Niels Henrik Abel (1802-29) and was established in 2003.
- It is noteworthy that no Nobel Prize is awarded in mathematics.
- The most prestigious mathematics award is the 'Field Medal' which is awarded to mathematicians up to 40 years of age every four years.
- Maryam Mirzakhani is the only woman to be awarded the Field Medal.
- The Abel Prize is named after Norway mathematician Niels Heinrich Abell.
- This award has been instituted on the lines of Nobel and it is given annually.

INDIA DROPS 2 PLACES TO RANK 142ND ON GLOBAL PRESS FREEDOM INDEX

World Press Freedom Index 2020 murders of journalists in India in 2019, as against six in the year 2018 and the security situation for the country's media might seem on the face.

India

- The World Press Freedom Index says that with no murder of journalists in India in 2019 as compared to 2018, the security situation in the country has improved.
- According to the index, there were 6 murders of journalists in the country in 2018.
- According to the index, in India, there have been violations in press freedom, reprisals that were instigated by corrupt local officials and ambushes by political activists.

Norway Highest Place

- Norway remains at the top position in the Press Freedom Index 2020 for the fourth consecutive year. Finland ranks second.

North korea bottom

- North Korea ranks 180th out of 180 countries in the world.
- China at 177 and Iran at 173.
- The low ranking of China and Iran has been attributed to hiding information related to the Kovid-19 epidemic.

World Press Freedom Index

- The Index is compiled and published by Reporters without borders, a Paris based non-profit organisation. Around 180 countries were ranked in the index. According to the index, South Asia performed the least as compared to all the other regions.

NATURE INDEX TABLE 2020

- In the recently-released Nature Index table 2020, India is placed twelfth globally in science research output.
- The top five positions have gone to the United States of America, China, Germany, United Kingdom and Japan.
- The Nature Index is a database of author affiliation information collated from research articles published in an independently selected group of 82 high-quality science journals.
- The database is compiled by Nature Research, a division of the international scientific publishing company Springer Nature that publishes academic journals. Nature Research's flagship publication is Nature, a weekly multidisciplinary journal first published in 1869.
- The Nature Index provides a close to real-time proxy of high-quality research output and collaboration at the institutional, national and regional level.

FINLAND IS WORLD'S HAPPIEST COUNTRY, INDIA RANKS 144

Finland was once again adjudged as the world's happiest country, extending its lead over Denmark and Switzerland, according to a United Nations-affiliated research network. For the third year in a row, Finland has been named the world's happiest country. Finland came top by some margin, followed by Denmark, Switzerland, Iceland and Norway.

Highlights

- Following Finland, Denmark and Switzerland ranked second and third positions respectively.

- Finland ranked topmost for the third consecutive time. Afghanistan ranked the least.
- The United States moves by one place and was at 18th position.
- The United Kingdom was at 13th position.
- India was ranked among the least happy nations.

India

- According to the index, the urban-rural difference in India was high. Also, the report noticed that in India, the peri-urban population was happier than urban population.

Theme

- This year's theme is environments for happiness, with special attention to the social environment, happiness in cities and rural areas, and the natural environment, including links between happiness and sustainable development.

About the report

- The World Happiness Report is a publication of the Sustainable Development Solutions Network.
- This is the eighth World Happiness Report. The first seven reports were produced by the founding trio of co-editors assembled in Thimphu in July 2011 pursuant to the Bhutanese Resolution passed by the UN General Assembly in June 2011 that invited national governments to "give more importance to happiness and well-being in determining how to achieve and measure social and economic development."

GLOBAL NUTRITION REPORT 2020

Global Nutrition Report 2020 has been published recently. With India facing a major malnutrition crisis, it calls for concerted actions to address the gaps and concerns.

Key nutrition indicators used in the report:

- Stunting, or low height for age, is caused by long-term insufficient nutrient intake and frequent infections.
- Wasting, or low weight for height, is a strong predictor of mortality among children under five, which usually the result of acute significant food shortage and disease.
- Overweight: It is the condition of having more body fat than is healthy.
- o It also identified the country as one with the highest rates of domestic

   inequalities in malnutrition.
- o In 2012, the World Health Assembly identified six nutrition targets for maternal, infant, and young child nutrition to be met by 2025.

'World Nutrition Report -2020' and India:

- According to the World Nutrition Report, India will not be able to achieve any of the four standards for which data are available at present.
- These four standards are cases of anemia in children under 5 years of age, cases of anemia in women of reproductive age, obesity in children, and exclusive breastfeeding.
- According to this report, India is one of the countries with the highest local inequality in terms of malnutrition.
- However, in the past, India had succeeded in reducing the rate of underweight cases in children and adolescents.

BENJAMIN NETANYAHU APPOINTED
AS ISRAEL PM FOR THE 5TH TIME

- Benjamin Netanyahu has been appointed as the Prime Minister of Israel for the 5th time after signing of power-sharing deal with rival-turned-partner Benny Gantz of Blue and White Party.
- This ended more than 18 months of political deadlock that had 3 stormy elections and multiple rounds of coalition negotiations.
- Benny Gantz will serve as the alternate prime minister as well as defence minister.

7TH LCU SHIP 'INLCU L57'
COMMISSIONED INTO INDIAN NAVY

- INLCU L57 was commissioned into the Indian Navy at Port Blair. INLCU L57 is the seventh Landing Craft Utility (LCU) MK-IV class to be inducted into the Indian Navy.
- The ship has been indigenously designed and built by Garden Reach Shipbuilders and Engineers (GRSE), Kolkata.
- The commissioning of INLCU L57 is yet another manifestation of the country's indigenous design and ship building capability.
- The LCU MK-IV ship, is an amphibious vessel with a designated primary role of transporting and deploying Main Battle Tanks, Armoured Vehicles, troops and equipment from ship to shore.
- Based at the Andaman and Nicobar Command, these ships can be deployed for multirole activities like beaching operations, search and rescue, disaster relief operations, supply and replenishment and evacuation from distant islands.

- The ship, displacing 830 tonnes, is capable of transporting various kinds of combat equipment such as Main Battle Tanks Arjun, T72 and other vehicles.

- The ship is fitted with state-of-art equipment and advanced systems, like Integrated Bridge System (IBS) and Integrated Platform Management System (IPMS).

- The last ship of the same class is at an advanced stage of construction at M/S GRSE, Kolkata, and is scheduled to be inducted by this year end. It is anticipated that induction of these ships will contribute to the nation's maritime security needs, in consonance with the Hon'ble Prime Minister's drive for 'Make in India'.

WORLD INVESTMENT REPORT

According to the latest 'World Investment Report' by UNCTAD, the Foreign direct investment (FDI) into India may shrink sharply in 2020 because of coronavirus and the consequent lockdown, supply chain disruptions and economic slowdown after jumping over 20% to $51 billion in 2019.

Highlights of the report

Worldwide scenario

- According to the report, global FDI flows are forecast to decrease by up to 40% in 2020 from their 2019 value of $1.54 trillion.

- This would bring FDI below $1 trillion for the first time since 2005.

- In addition, FDI is projected to decrease by a further 5% to 10% in 2021 before initiating a recovery in 2022.

- Global FDI flows rose modestly in 2019, following sizable declines in 2017 and 2018.

India and report

- India has jumped from 12th position in 2018 to 9th in 2019 on the list of the world's top FDI recipients.

- According to the report, foreign direct investment (FDI) into India may shrink sharply in 2020 because of COVID-19 and the consequent lockdown, supply chain disruptions, and economic slowdown after jumping over 20% to $51 billion in 2019.

- The number of Greenfield investment announcements in India declined by 4% in the first quarter, and M&As (mergers and acquisitions) contracted by 58%.

- The report noted that India's most sought-after industries, including professional services and the digital sector, could see a faster rebound as global venture capital firms and technology companies continue to show interest in India's market through acquisitions.

KUBATBEK BORONOV APPOINTED

AS KYRGYZSTAN'S PRIME MINISTER

- Kubatbek Boronov(55) was appointed as Kyrgyzstan's Prime Minister. Kyrgyzstan's President Sooronbai Jeenbekov signed an order to appoint him.

- He succeeded Mukhammedkalyi Abylgaziyev who resigned on June 15 following accusations of corruption.

- Kyrgyzstan's parliament approved the candidacy of Kubatbek Boronov with 105 votes out of 116.

- Kubatbek Boronov has served as the first deputy prime minister(since April 2018) in the previous cabinet and also was the former Emergency Minister(from 2011 to 2018).

ADHIR RANJAN CHOWDHURY REAPPOINTED

AS THE PAC CHAIRPERSON

- Congress leader in Lok Sabha Adhir Ranjan Chowdhury has been reappointed as chairperson of the Parliament's public accounts committee (PAC) by Lok Sabha Speaker Om Birla.

Public accounts committee

- The Public Accounts Committee is a parliamentary committee that audits the expenses of the Indian government.

- It was established in 1921 by the Government of India Act 1919. It consists of 22 members of which 15 are from Lok Sabha and 7 from Rajya Sabha.

- The Speaker is nominated by the Speaker of the Lok Sabha.

- Till 1967 it was headed by the ruling party while from 1967 it was headed by the opposition. Union ministers cannot become its members.

SANJAY KOTHARI APPOINTED

CENTRAL VIGILANCE COMMISSIONER

- Retired bureaucrat Sanjay Kothari was sworn in as the next Central Vigilance Commissioner by President Ram Nath Kovind at an official oath-taking ceremony.

- Mr Kothari acted as the secretary to the President of India. He was replaced by Mr Kapil Dev Tripathi on April 20, 2020.

- Mr Tripathi is a 1980 batch IAS officer. He was appointed as CVC in February, 2020.

- Mr Sanjay Kothari was recommended by a high-level selection panel. The panel was headed by Prime Minister.

- The CVC is appointed by President based on the recommendation of the committee.

- The committee consists of Leader of Opposition, Minister of Home Affairs.

  Role of CVC

- The Central Vigilance Commissioner carries out corruption investigations against government officials.

- However, such investigations can be carried out only after permission of the Government.

- The CVC cannot direct the CBI officials to initiate inquiries.

- The CVC does not have powers to register criminal cases, rather can deal only with vigilance and disciplinary cases.

FORMER CJI RANJAN GOGOI
DEFENDS RAJYA SABHA NOMINATION

Former Supreme Court Chief Justice Ranjan Gogoi on Tuesday justified his nomination to the Rajya Sabha but declined to elaborate the reasons that made him weigh and accept the offer.His nomination to the upper house was made against the vacancy created due to the retirement of senior lawyer KTS Tulsi. There are 11 other nominated members in the Rajya Sabha.

Ranjan Gogoi

- Ranjan?Gogoi was retired on 17 November 2019. He is the first person from the northeast region to reach the top of the judiciary.

- He served as the Judge of Gauhati High Court from 28 February 2001 to 8 September 2010.

- In September 2010, he was appointed as the Judge of Punjab and Haryana High Court.

- He then served as the Chief Justice of Punjab and Haryana High Court on 12 February 2011.

- In 2012, he served as the Judge of the Supreme Court of India. On 3 October 2018, he replaced Justice Dipak Misra as CJI.

- He was appointed as CJI by the President of India Ram Nath Kovind.

BJP'S SHIVRAJ SINGH CHOUHAN
SWORN IN AS MADHYA PRADESH CM

- BJP's Shivraj Singh Chouhan was sworn in as chief minister of Madhya Pradesh by Governor Lalji Tandon at a ceremony at the Raj Bhawan in Bhopal.

- Chouhan was sworn in the chief minister of Madhya Pradesh thrice earlier in 2005 after Uma Bharti stepped down over a riots case and for later two full terms in 2008 and 2013.

- He stepped down after the Congress won a narrow majority in the December 2018 Assembly elections, after which the Kamal Nath government came to power.

  Background

- The Kamal Nath-led Congress government lost its majority in Madhya Pradesh after its senior leader Jyotiraditya Scindia defected from the party and 22 MLAs allegedly loyal to him also sent in their resignations.

  Kamal Nath's resignation

- This case of Madhya Pradesh reached the Supreme Court.

- The Supreme Court ordered the Kamal Nath government to conduct a floor test immediately.

- After the order, the Speaker approved the resignation of all 16 MLAs and Kamal Nath resigned as Chief Minister even before the floor test.

'ONE NATION, ONE RATION CARD'
SCHEME: 5 MORE STATES JOIN THE INITIATIVE

- The Minister of Consumer Affairs, Food and Public Distribution Shri Ram Vilas Paswan approved the integration of 5 States and Union Territories, - Uttar Pradesh, Bihar, Punjab, Himachal Pradesh and Dadra & Nagar Haveli and Daman & Diu - with the National Cluster under the "One Nation One Ration Card" plan.

- Twelve States are already onboard the National Cluster, namely - Andhra Pradesh, Goa, Gujarat, Haryana, Jharkhand, Kerala, Karnataka Madhya Pradesh, Maharashtra, Rajasthan, Telangana and Tripura.

- With this, the facility of national/inter-State portability will be available for nearly 60 Crore NFSA beneficiaries of 17 States/UT and they may lift their entitled quota of foodgrains from any Fair Price Shop (FPS) of their choice, anywhere in these 17 States/UT by using their same/existing ration card under 'One Nation One Ration Card' plan.

MUSTAFA AL KADHIMI APPOINTED

AS THE PRIME MINISTER OF IRAQ

- Mustafa Al Kadhimi has been chosen as Iraq's new Prime Minister.In November 2019, Adel Abdul Mahdi resigned due to massive anti-governmental protests.
- Since then, it is Mustafa who has become the proper Iraq Prime Minister.

Al Kadhimi

- Al Kadhimi does not belong to any political party. He was a former intelligence chief and was nominated for the post of PM in April.
- He was nominated by the President of Iraq Barham Salih.
- He was a vocal opponent of Saddam Hussein.
- He left Iraq in 1985, settled in UK living in exile for several years.
- Kadhimi was an editor and columnist of the Iraq Pulse for Al-Monitor.
- Al Kadhimi has been appointed the PM based on the Constitution that was framed in 2005.

NITI AAYOG LAUNCHES 'SURAKSHIT

DADA-DADI & NANA-NANI ABHIYAN'

- NITI Aayog has virtually launched a campaign titled "Surakshit Dada-Dadi & Nana-Nani Abhiyan" in association with Piramal Foundation to protect senior citizens during COVID-19.
- The campaign targets to reach 2.9 million senior citizens that are spread in 25 Aspirational Districts. The districts are spread in Jharkhand, Bihar, Assam, Madhya Pradesh, Rajasthan, Uttar Pradesh.
- The scheme is aimed to create awareness about several aspects of senior citizens including their lifestyle and health. The main objective of the scheme is to protect the senior citizens.

ASPIRATIONAL DISTRICTS

- The Aspirational District Programme was launched by PM Modi.
- Aspirational Districts are those districts in the country that are affected by poor socio-economic factors.
- Around 115 districts were identified from 28 states under the programme.

- The main principles of the programme is convergence, collaboration and competition.
- The programme focuses on five main themes namely Education, Health and Nutrition, Financial Inclusion, Agriculture and Water Resources and Skill Development.
- Vice Chairman of NITI Aayog: Rajiv Kumar.
- Chief Executive Officer of NITI Aayog: Amitabh Kant.

CHHATTISGARH LAUNCHES RAJIV

GANDHI KISAN NYAY SCHEME

- The Chhattisgarh government launched the Rajiv Gandhi Kisan Nyay Yojna, by transferring Rs 1,500 crore into the accounts of more than 18,000 farmers.
- This was the first installment of a Rs 5,750-crore scheme, meant to benefit farmers sowing 14 types of crops.
- Under the Rajiv Gandhi Kisan Nyay Yojana, based on registered area and area under cultivation during Kharif crop season 2019, Rs 10,000 per acre will be deposited in the bank accounts of farmers as agriculture assistance grant for sowing crops such as paddy, maize and sugarcane
- The scheme was inaugurated through video conferencing on the death anniversary of former Prime Minister Rajiv Gandhi.
- The scheme aims to ensure minimum income availability to farmers growing one rabi and 13 kharif season crops in the state.

NIRMALA SITHARAMAN

ANNOUNCEMENT HIGHLIGHTS

First part of the Rs 20 lakh crore economic stimulus unveiled

Finance Minister Nirmala Sitharaman shared the first instalment of the mega Rs 20 lakh crore package with the focus being on the relief to the MSME sector.According to Finance Minister Nirmala Sitharaman, a package has been prepared after talking to several sections of the society. Growth has to be increased through the package. India has to be self-sufficient. Therefore, it is being called the Self-Reliant India Campaign. Finance Minister announced to increase the dead-

line for filing income tax returns for the financial year 2019-2020 from 31 July and October to 30 November.

Highlights

- For businesses, including MSMEs, Rs.3 lakh crore emergency Working Capital Facility has been allocated

- Rs.20,000 crore Subordinate Debt for stressed MSMEs

- Rs.50,000 crore equity has been planned to be infused through MSME Fund of Funds

- New Definition of MSME and other Measures for MSME

- No Global tenders for Government tenders of up to Rs.200 crore

- Extending the Employees Provident Fund Support for business and organized workers for another 3 months for salary months of June, July and August 2020

- EPF Contribution to be reduced for Employers and Employees for 3 months to 10% from 12% for all establishments covered by EPFO for the next 3 months

- Rs.30,000 crore Special Liquidity Scheme for NBFC/HFC/MFIs

- Rs.45,000 crore Partial credit guarantee Scheme 2.0 for Liabilities of Non-Banking Financial Company (NBFCs)/Micro Finance Institutions (MFIs).

- Rs.90,000 crore Liquidity Injection for power distribution companies (discoms).

- Relief to Contractors given by extension of up to 6 months for completion of contractual obligations, including in respect of EPC and concession agreements

- Relief to Real Estate Projects the registration and completion date for all registered projects will be extended up to six months.

- Tax relief to business as pending income tax refunds to charitable trusts and non-corporate businesses and professions to be issued immediately

- Reduction in Rates of 'Tax Deduction at Source' and 'Tax Collected at Source' by 25% for the remaining period of FY 20-21

- Due Dates for various tax-related compliances have been extended.

RISHI KAPOOR, VETERAN HINDI ACTOR, PASSES AWAY

- National Film Award winning Bollywood actor Rishi Kapoor has passed away. He had a remarkable acting career spanning over 4 decades.

- He made his screen debut in 1970 with film "Mera Naam Joker" as a child artist and also received National Film Award for the role.

- His first lead role as an adult came in 1973 with the film Bobby for which he was awarded with Filmfare Best Actor Award.

- Rishi Kapoor was also honoured with the Filmfare Lifetime Achievement Award in 2008.

- He was also a part of several hit films such as Amar Akbar Anthony, Rafoo Chakkar, Sargam, Karz, Laila Majnu, Bol Radha Bol, Bobby, Chandani and various others.

Awards and honours

1970 - Bengal Film Journalists' Association Awards: Special Award, and National Film Award for Mera Naam Joker

1974 - Filmfare Award for Best Actor for Bobby

2008 - Filmfare Lifetime Achievement Award

2009 - Honoured by Russian Government for contribution to cinema[26]

2010 - Apsara Film & Television Producers Guild Awards: Best Actor in a Supporting Role for Love Aaj Kal

2011 - Zee Cine Awards: Best Lifetime Jodi along with Neetu Singh[28]

2011 - Filmfare Critics Award for Best Actor for Do Dooni Chaar

2013 - The Times of India Film Awards (TOIFA), Best Actor in a Negative Role for Agneepath

2016 - Screen Lifetime Achievement Award

2017 - Screen Award for Best Supporting Actor for Kapoor & Sons

2017 - Filmfare Award for Best Supporting Actor for Kapoor & Sons

2017 - Zee Cine Award for Best Actor in a Supporting Role - Male for Kapoor & Sons

2017 - Zee Cine Award for Best Actor in a Comic Role for Kapoor & Sons

PADMA AWARDS 2020 ANNOUNCED

The government on 25 January 2020 announced 141 Padma Awards for this year on the occasion of 71st Republic Day. The list comprises of 7 Padma Vibhushan, 16 Padma Bhusan and 118 Padma Shri awards. 34 awardees are women and 18 foreigners. 12 persons are awarded posthumously. Former Union Ministers George Fernandes, Sushma Swaraj and Arun Jaitley will be awarded Padma Vibhushan posthumously. Pejavara math seer late Vishveshateertha Swamiji will be awarded Padma Vibhushan posthumously.

PADMA VIBHUSHAN

S.N.	Name	Field	Sate/Country
1.	Shri George Fernandes (Posthumous)	Public Affairs	Bihar
2.	Shri Arun Jaitley (Posthumous)	Public Affairs	Delhi
3.	Sir Anerood Jugnauth GCSK	Public Affairs	Maurritius
4.	Smt. M.C. Mary Kom	Sports	Manipur
5.	Shri Chhanumlal Mishra	Art	Uttar Pradesh
6.	Smt. Sushma Swaraj (Posthumous)	Public Affairs	Delhi
7.	Sri Vishveshateerth Swamiji Sri Pejavara Adhokhaja Matha Udupi (Posthumous)	Others-Spiritualism	Karnataka

PADMA BHUSHAN

S.N.	Name	Field	State/Country
8.	Shri M. Mumtaz Ali (Sri M)	Others-Spiritualism	Kerala
9.	Shri Syed Muazzem Ali (Posthumous)	Public Affairs	Bangladesh
10.	Shri Muzaffar Hussain Baig	Public Affairs	Jammu and Kashmir
11.	Shri Ajoy Chakravorty	Art	West Bengal
12.	Shri Manoj Das	Literature and Education	Puducherry
13.	Shri Balkrishna Doshi	Others-Architecture	Gujarat
14.	Ms. Krishnammal Jagannathan	Social work	Tamil Nadu
15.	Shri S.C. Jamir	Public Affairs	Nagaland
16.	Shri Anil Prakash Joshi	Social work	Uttarakhand
17.	Dr. Tsering Landol	Medicine	Ladakh
18.	Shri Anand Mahindra	Trade and Industry	Maharashtra
19.	Shri Neelakanta Ramakrishna Madhava Menon (Posthumous)	Public Affairs	Kerala
20.	Shri Manohar Gopalkrishna Prabhu Parrikar (Posthumous)	Public Affairs	Goa
21.	Prof. Jagdish Sheth	Literatrue and Education	USA
22.	Ms. P.V. Sindhu	Sports	Telangana
23.	Shri Venu Srinivasan	Trade and Industry	Tamil Nadu

THE 65TH FILMFARE AWARD

THE 65TH FILMFARE AWARDS : 65th Filmfame awards ceremony, presented by The Times Group, honoured the best Indian Hindi-language films of 2019. The ceremony was held on February 15, 2020 in Guwahati. This is the first time in six decades that a Filmfare Award ceremony was held outside Mumbai. Karan Johar and Vicky Kaushal were hosts of the award ceremony.

Alia Bhatt and Ranveer Singh-starrer Gully Boy won big at the awards. While Ranveer took home the Best Actor's trophy for his performance in the film, Alia won the Best Actor in a Leading Role (Female) for the same film.

The films nominated for the Best Film award this year were, Chhichhore, Gully Boy, Mission Mangal, Uri: The Surgical Strike and War. Gully Boy emerged as the winner.

Awards at a Glance

- **Best Film :** Gully Boy
- **Best Director :** Zoya Akhtar for Gully Boy
- **Best Film (Critics) :** Article 15 (Anubhav Sinha) and Sonchiriya (Abhishek Chaubey)
- **Best Actor In A Leading Role (Male) :** Ranveer Singh for Gully Boy
- **Best Actor (Critics) :** Ayushmann Khurrana for Article 15
- **Best Actor in a Leading Role (Female) :** Alia Bhatt for Gully Boy
- **Best Actress (Critics) :** Bhumi Pednekar and Taapsee Pannu for Saand Ki Aankh
- **Best Actor in a Supporting Role (Female) :** Amruta Subhash for Gully Boy
- **Best Actor in a Supporting Role (Male) :** Siddhant Chaturvedi for Gully Boy
- **Best Music Album :** Zoya Akhtar-Ankur Tewari for Gully Boy, Mithoon, Amaal Mallik, Vishal Mishra, SachetParampara and Akhil Sachdeva for Kabir Singh
- **Best Lyrics :** Divine and Ankur Tewari for Apna Time Aayega (Gully Boy)
- **Best Playback Singer (Male) :** Arijit Singh for Kalank Nahi (Kalank)
- **Best Playback Singer (Female) :** Shilpa Rao for Ghungroo (War)
- **Best Debut Director :** Aditya Dhar for Uri: The Surgical Strike
- **Best Debut Actor :** Abhimanyu Dassani for Mard Ko Dard Nahi Hota
- **Best Debut Actress :** Ananya Pandey for Student Of The Year 2, Pati Patni Aur Woh
- **Best Original Story :** Anubhav Sinha and Gaurav Solanki for Article 15
- **Best Screenplay :** Reema Kagti and Zoya Akhtar for Gully Boy
- **Best Dialogue :** Vijay Maurya for Gully Boy
- **Lifetime Achievement Award :** Ramesh Sippy
- **Excellence In Cinema :** Govinda
- **RD Burman Award For Upcoming Music Talent :** Sashwat Sachdev-UR

ACADEMY AWARDS (OSCARS)

South Korean filmmaker Bong Joon-ho's *Parasite* became the first non-English feature film to win the Best Film Oscar at the 92nd Academy Awards on February 9, 2020.

Parasite is also a rare film to have won both International Feature and Best Picture awards. It is the first South Korean film to get nominated and to have won the International Film Oscar.

Parasite is also the first Asian film to have grabbed the Best Screenplay award, shared by Mr. Bong with Han Jin-won.

Giving Mr. Bong company in making history was the New Zealand filmmaker Taika Waititi, who became the first Maori to enter the privileged Oscar club with Adapted Screenplay award for his Nazi satire *Jojo Rabbit*. Joaquin Phoenix won Best Actor for *Joker*.

Renee Zellweger was named Best Actress for her performance as an ageing Judy Garland in the musical biopic *Judy*.

Mr. Tarantino's sentimental, ode to Tinseltown, *Once Upon a Time in Hollywood*, brought the first acting Oscar for Brad Pitt, who played a supporting role as a laid-back stunt man.

Laura Dern took the Supporting Actress Oscar, her first Academy Award, for playing a ruthless divorce lawyer in *Marriage Story*.

First World War film *1917*, from Universal Pictures, had been seen as the film to beat but won just three of its 10 nominations. They came for its stunning "one-shot" feel Cinematography, for Visual Effects and for Sound Mixing.

Toy Story 4 took home the Oscar for best animated film — the third golden statuette for the innovative Pixar franchise about a collection of toys, the value of friendship and accepting change.

Hildur Guonadottir won the *Best Original Score* for Joker.

American Factory, a documentary produced by Barack and Michelle Obama for Netflix about a manufacturing plant in the United States Midwest reopened by a Chinese billionaire, won the Oscar for best documentary

Film Editing ● Michael McCusker and Andrew Buckland ● (Ford v Ferrari)

Best Visual Effects ● Guillaume Rocheron, Greg Butler and Dominic Tuohy (1917)

BAFTA AWARDS

The British Academy of Film and Television Arts or BAFTA Film Awards were presented on February 2, 2020 in London.

Gut-wrenching World War I epic *1917* was the big winner, securing seven prizes including best picture and best director. Joaquin Phoenix was named best actor for superhero story *Joker*, which charts the origins of Batman's ginning nemesis. Renee Zellweger won the best actress prize for the Judy Garland biopic *Judy*.

1917 also won best British film and cinematography prizes—Roger Deakins' fifth win in that category. It also took trophies for production design, sound and visual effects.

NITI AAYOG

NITI Aayog (National Institution for Transforming India Aayog) is a policy think-tank of Government of India that replaces Planning Commission and aims to involve the states in economic policy-making in India. It will be providing strategic and technical advice to the central and the state governments i.e by adopting bottom-up approach rather than traditional top-down approach as in planning commission. The Prime Minister heads the Aayog as its chairperson.

Union Government of India had announced formation of NITI Aayog on 1 January 2015.

NITI Aayog would therefore mean:

- A group of people with authority entrusted by the government to formulate/regulate policies concerning transforming India.
- It is a commission to help government in social and economic issues.
- Also it's an Institute of think tank with experts in it.

ORIGIN AND FORMATION

- 1950 : Planning commission was established
- May 29, 2014 : The first IEO (Independent Evaluation Office) assessment report was submitted to Prime Minister Modi on May 29, three days after he was sworn in. According to Ajay Chibber, who heads the IEO, views in the report are based on the views of stakeholders and some Planning Commission members themselves. Planning Commission to be replaced by "control commission"
- August 13, 2014 : Cabinet of Modi govt. scrapped the Planning Commission
- Aug. 15 2014 : Modi mentioned to replace Planning Commission by National Development and Reform Commission(NDRC) on the line of China

MEMBERS THE NITI AAYOG COMPRISES THE FOLLOWING:

1. Prime Minister of India as the Chairperson
2. Governing Council comprising the Chief Ministers of all the States and union territories with legislature and lieutenant governors of other Union Territories
3. Regional Councils will be formed to address specific issues and contingencies impacting more than one state or a region. These will be formed for a specified tenure. The Regional Councils will be convened by the Prime Minister and will be consist of the Chief Ministers of States and Lt. Governors of Union Territories in the region. These will be chaired by the Chairperson of the NITI Aayog or his nominee
4. Experts, specialists and practitioners with relevant domain knowledge as special invitees nominated by the Prime Minister
5. Full-time organizational framework (in addition to Prime Minister as the Chairperson) comprising

Vice-Chairperson, Members, Part-time members, Ex Officio members, Chief Executive Officer, Secretariat as deemed necessary

PRESENT MEMBERS

The various members of NITI Aayog are:

1. **Chairperson :** Prime Minister Narendra Modi
2. **CEO :** Amibath Kant
3. **Vice Chairperson :** Dr. Rajeev Kumar
4. **Ex-Officio Members :** Amit Shah, Rajnath Singh, Nirmala Sitharaman and Narendra Singh Tomar
5. **Special Invitees :** Nitin Gadkari, Thawar Chand Gehlot, Piyush Goyal and Rao Inderjit SIngh
6. **Full-time Members :** Saraswat, Prof Ramesh Chand, Dr. V.K. Paul
7. **Governing Council :** All Chief Ministers and Lieutenant Governors of Union Territories Difference between NITI Aayog and Planning Commission

FINANCIAL CLOUT : NITI Aayog - To be an advisory body, or a think-tank. The powers to allocate funds might be vested in the finance ministry.

Planning Commission - Enjoyed the powers to allocate funds to ministries and state governments

FULL-TIME MEMBERS : NITI Aayog - The number of full-time members could be fewer than Planning Commission

Planning Commission - The last Commission had eight full-time members.

STATES' ROLE : NITI Aayog - State governments are expected to play a more significant role than they did in the Planning Commission.

Planning Commission - States' role was limited to the National Development Council and annual interaction during Plan meetings.

MEMBER SECRETARY : NITI Aayog - To be known at the CEO and to be appointed by the Prime Minister.

Planning Commission - Secretaries or member secretaries were appointment through the usual process.

PART-TIME MEMBERS : NITI Aayog - To have a number of part-time members, depending on the need from time to time.

Planning Commission - Full Planning Commission had no provision for part-time members.

CONSTITUTION : Niti Aayog - Governing Council has state chief ministers and lieutenant governors.

Planning Commission- The commission reported to National Development Council that had state chief ministers and lieutenant governors.

ORGANIZATION : Niti Aayog - New posts of CEO, of secretary rank, and Vice-Chairperson. Will also have five full-time members and two part-time members. Four cabinet ministers will serve as ex-officio members.

Planning Commission - Had deputy chairperson, a member secretary and full-time members.

PARTICIPATION : Niti Aayog- Consulting states while making policy and deciding on funds allocation. Final policy would be a result of that.

Planning Commission- Policy was formed by the commission and states were then consulted about allocation of funds.

ALLOCATION : Niti Aayog- No power to allocate funds

Planning Commission- Had power to decide allocation of government funds for various programmes at national and state levels.

NATURE : Niti Aayog- NITI is a think-tank and does not have the power to impose policies.

Planning Commission- Imposed policies on states and tied allocation of funds with projects it approved.

The NITI Aayog will aim to accomplish the following objectives and opportunities:

- An administration paradigm in which the Government is an "enabler" rather than a "provider of first and last resort."
- Progress from "food security" to focus on a mix of agricultural production, as well as actual returns that farmers get from their produce.
- Ensure that India is an active player in the debates and deliberations on the global commons.
- Ensure that the economically vibrant middle-class remains engaged, and its potential is fully realized.
- Leverage India's pool of entrepreneurial, scientific and intellectual human capital.
- Incorporate the significant geo-economic and geo-political strength of the Non-Resident Indian Community.
- Use urbanization as an opportunity to create a wholesome and secure habitat through the use of modern technology.
- Use technology to reduce opacity and potential for misadventures in governance.

The NITI Aayog aims to enable India to better face complex challenges, through the following:

- Leveraging of India's demographic dividend, and realization of the potential of youth, men and women, through education, skill development, elimination of gender bias, and employment
- Elimination of poverty, and the chance for every Indian to live a life of dignity and self-respect
- Reddressal of inequalities based on gender bias, caste and economic disparities
- Integrate villages institutionally into the development process
- Policy support to more than 50 million small businesses, which are a major source of employment creation
- Safeguarding of our environmental and ecological assets.

- **NITI Aayog, January 2015**

    Full : National Institution for Transforming India

    Purpose : Replaced the Planning Commission

- **UDAY, November 2015**

    Full : Ujwal DISCOM Assurance Yojana.

    Purpose : Scheme to provide a financial turnaround plan for power distribution companies of states

- **Amrut, June 2015**

    Full : Atal Mission for Rejuvenation and Urban Transformation

    Purpose: Planning urban renewal

- **Hriday, January 2015**

    Full : Heritage City Development and Augmentation Yojana

    Purpose: Development of heritage cities

- **JAM, March, 2015**

    Full : Jan-DhanYojana, Aadhaar and Mobile Numbers

    Purpose: Welfare schemes

- **PAHAL, November 2014**

    Full: Pratyaksha Hastaantarit Laabh.

    Purpose: Direct benefit transfer of LPG subsidy

- **PRAGATI, March 2015**

    Full : Pro-Active Governance and Timely Implementation

    Purpose: A platform for the Prime Minister to interact with secretaries of Union Government and Chief Secretaries of States

- **USTTAD, May 2015**

    Full: Upgrading the Skills and Training in Traditional Arts/Crafts for Development

    Purpose : Skill development

- **PRASAD, April 2015**

    Full : Pilgrimage Rejuvenation and Spirituality Augmentation Drive

    Purpose : Development of 12 pilgrim centres

- **Setu, February 2015**

    Full: Self Employment and Talent Utilisation

    Purpose: Providing support to start-ups

- **Mudra Bank, April 2015**

    Full: Micro Units Development and Refinance Agency Bank

    Purpose: Giving micro credit to small businesses

- **AIM, February 2016**

    Full: Atal Innovation Mission

    Purpose : Promoting innovation

- **NAPS, AUGUST 2016**

  Full : **National Apprenticeship Promotion Scheme**

  Purpose : To provide apprenticeship training to over 50 lakh youngsters by 2020 in order to create more jobs. It has budgetary outlay of Rs 10000 crore.

- **PM-YUVA YOJANA, 2016**

  Full : **Pradhan Mantri Yuva Udyamita Vikas Abhiyan**

  Purpose : To create an enabling ecosystem for Entrepreneurship Development through entrepreneurship education and training across the country in select Institutes of Higher Learning Industrial Training Centers (ITIs) and Entrepreneurship Development Centers (EDCs) for over a period of five years.

- **TIES, MARCH 2016**

  Full : **Trade Infrastructure for Export Scheme**

  Purpose : To enhance export competitiveness. Various state governments have been requesting for the support of the Central Government to create export infrastructure

- **ATUFS, 2016**

  Full : **Amended Technology Upgradation Fund Scheme**

  Purpose : There Is a provision of one-time capital subsidy for eligible benchmarked machinery at the rate of 15% for garmenting and technical textiles segments with a cap of Rs. 30 crore and at the rate of 10% for weaving, processing, jute, silk and handloom segments with a cap of Rs. 20 crore.

- **AIM-SETU, 2016**

  Full : **Atal Innovation Mission (AIM) including Self-Employment and Talent Utilization (SETU)**

  Purpose : To promote a culture of innovation and entrepreneurship. Its objective is to serve as a platform for promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses and other self-employment activities, particularly in technology driven areas

- **PM-MVY, January 2017**

  Full : **Pradhan Mantri Matru Vandana Yojana**

  Purpose : To provide cash incentive of Rs. 5000 to pregnant women for first living child

- **SAUBHAGYA, September, 2017**

  Full : **PM Sahaj Bijli Har Ghar Yojana**

  Purpose : To provide free electricity connections to all households (both APL and poor families) in rural areas and poor families

- **INSPIRE, January 2017**

  Full : **Innovation in Science Pursuit for Inspired Research**

  Purpose : To communicate to the youth population of the country the excitements of creative pursuit of science and attract talent to the study of science at an early stage and build the required critical human resource pool for strengthening and expanding the Science & Technology system and R&D base.

- **SPARSH, November 2017**

  Full : **Scholarship for Promotion of Aptitude & Research in Stamps as a Hobby.**

  Purpose : It is a pan India scholarship program for school children to increase the reach of Philately

- **UDAN, April 2017**

  Full : **Ude Desh ka Aam Naagrik**

  Purpose : Making air travel affordable and widespread, to boost inclusive national economic development, job growth and air transport infrastructure development of all regions and states of India.

- **ISDSI, 2017**

  Full : **Silk Samagra" Integrated Scheme for Development of Silk Industry**

  Purpose : To sustain and strengthen the Sericulture activities in the country

- **SAMEEP, November 2017**

  Full : **Students and MEA Engagement Program**

  Purpose : To take Indian foreign policy and its global engagements to students across country and also to look at diplomacy as a career option.

- **PM- Kisan SAMPADA, 2017**

  Full : **Scheme For Agro-Marine Processing And Development Of Agro-Processing Clusters**

  Purpose : To supplement agriculture, modernize processing and decrease agri-waste

  To give a renewed thrust to the food processing sector in the country

- **POSHAN Abhiyan, March 2018**
  - Full : **PM's Overarching Scheme for Holistic Nourishment - National Nutrition Mission**
  - Purpose : To ensure attainment of malnutrition free India by 2022
    - To reduce stunting
    - To ensure holistic development and adequate nutrition for pregnant women, mothers and children.

- **PM-AASHA, September 2018**
  - Full : **Pradhan Mantri Annadata Aay Sanrakshan Abhiyan**
  - Purpose : Ensuring remunerative prices to the farmers for their produce

- **IMPRESS, August 2018**
  - Full : **Impactful Policy Research in Social Science**
  - Purpose : To encourage social science research in policy relevant areas so as to provide vital inputs in policy-formulation, implementation and evaluation

- **SPARC, August 2018**
  - Full : **Scheme for Promotion of Academic and Research Collaboration**
  - Purpose : Improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian Institutions and the best institutions in the world

- **LEAP, November 2018**
  - Full : **Leadership for Academicians Program**
  - Purpose : It is a three weeks Flagship leadership development training programme
    2 weeks domestic and one week foreign training) for second level academic functionaries in public funded higher education institutions.

- **ARPIT, November 2018**
  - Full : **Annual Refresher Programme In Teaching**
  - Purpose : It is a major and unique initiative of online professional development of 15 lakh higher education faculty using the MOOCs platform SWAYAM.

- **SAATHI, April 2018**
  - Full : **Sustainable and Accelerated Adoption of efficient Textile technologies to Help small Industries**

- Purpose : Ministry of Textiles and Ministry of Power jointly launched this initiative in order to sustain and accelerate the adoption of energy efficient textile technologies in the powerloom sector and cost savings due to use of such technology.

- **PRAAPTI, May 2018**
  - Full : **Payment Ratification And Analysis in Power procurement for bringing Transparency in Invoicing of generators**
  - Purpose : To bring transparency in power purchase transactions between Generators and Discoms.

- **SATAT Initiative, October, 2018**
  - Full : **Sustainable Alternative Towards Affordable Transportation**
  - Purpose : The initiative is aimed at providing a Sustainable Alternative Towards Affordable Transportation (SATAT) as a developmental effort that would benefit both vehicle-users as well as farmers and entrepreneurs.

- **SFOORTI, January 2018**
  - Full : **Smart Freight Operation Optimisation & Real Time Information**
  - Purpose : To help plan traffic flows and optimize freight operations
    To help Freight Managers to monitor and manage freight business using Geographic Information System (GIS) views and dashboard.

- **DISHA, October 2018**
  - Full : **Digital Interaction to Seek Help Anytime (DISHA)- Chatbot**
  - Purpose : To help domestic as well as foreign travellers by providing prompt assistance for queries that they may have.

- **TARE, March 2018**
  - Full : **Teacher Associateship for Research Excellence (TARE) scheme**
  - Purpose : To connect the educators to leading public funded institutions like Indian Institute of Technology (IIT), Indian Institute of Science (IISC) or national institutions like CSIR (Council of Scientific and Industrial Research) to pursue research.

- **PM-KUSUM, February 2019**
  - Full : **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan**
  - Purpose : To setting up of 25,750-MW solar capacity by 2022 with the total central financial support of Rs 34,422 crore.

- **PM-SYMS, March 2019**

  Full : Pradhan Mantri Shram Yogi Mandhan Scheme

  Purpose : To provide a monthly pension of Rs 3,000 to the unorganized sector workers

- **PM-KMDY, August 2019**

  FULL : Pradhan Mantri Kisan Maan Dhan Yojana

  Purpose : Providing a minimum pension of Rs 3000 per month, to those who attain 60 years of age.

- **PM-KISAN, February 2019**

  FULL : Pradhan Mantri Kisan Samman Nidhi

  Purpose : 120 million small and marginal farmers who have less than 2 hectares of landholding will get up to Rs. 6,000 per year as minimum income support.

- **SANKALP, Approved in 2019**

  Full : Skills Acquisition and Knowledge Awareness for Livelihood

  Purpose : To create convergence among all skill training activities,

  To improving quality of skill development programs.

- **STRIVE, Approved in 2019**

  Full : Skills Strengthening for Industrial Value Enhancement

  Purpose : Improving the relevance and efficiency of skills training provided through Industrial Training Institutes (ITIs) and apprenticeships.

- **SHREYAS, April 2019**

  Full : Scheme for Higher Education Youth in Apprenticeship and Skills

  Purpose : SHREYAS is a programme basket comprising the initiatives of three Central Ministries, namely the Ministry of Human Resource Development, Ministry of Skill Development & Entrepreneurship and the Ministry of Labour& Employment viz the National Apprenticeship Promotion Scheme (NAPS), the National Career Service (NCS)and introduction of BA/BSc/BCom (Professional) courses in the higher educational institutions.

- **NISHTHA, August 2019**

  Full : National Initiative for School Heads and Teachers Holistic Advancement

  Purpose : To build the capacities of around 42 lakh participants including all faculty members, teachers and Heads of Schools at the elementary level in all Government schools, District Institutes of Education and Training (DIETs) and Block Resource Coordinators.

- **NEAT, September 2019**

  Full : National Educational Alliance for Technology

  Purpose : To bring all the startups providing one-stop access to these technological solutions on a single platform and use their expertise to help disadvantaged communities.

- **STRIDE, July 2019**

  Full : Scheme to strengthen research projects in Colleges and Universities

  Purpose : To provide support to research projects that are socially relevant, locally need-based, nationally important and globally significant.

- **PM-Ji-Van , February 2019**

  Full : Pradhan Mantri Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran

  Purpose : aims at providing financial support to Integrated Bioethanol Projects using lignocellulosic biomass and other renewable feedstock.

- **DEEP, April 2019**

  Full : Discovery of Efficient Electricity Price

  Purpose : It is portal for medium term (1-5 years) purchase of power.

- **NIRVIK, September 2019**

  Full : Export Credit Insurance Scheme (ECIS) called NIRVIK.

  Purpose : To ease the lending process and enhance loan availability for exporters.

- **UMMID , September 2019**

  Full : Unique Methods of Management and treatment of Inherited Disorders

  Purpose : To help people who cannot afford expensive care for genetic disorders

TENNIS GRAND SLAMS : 2019-20

AUSTRALIAN OPEN–2020

- **Men's Singles :** Novak Djokovic (Serbia) beat Dominic Thiem (Austria)

- **Women's Singles :** Sofia Kenin (USA) beat Garbine Muguruza (Spain)

- **Men's Doubles :** Rajeev Ram (USA) and Joe Salisbury (Britain) beat Max Purcell and Luke Saville (Australia)

- **Women's Doubles :** Timea Babos (Hungary) and Kristina Mladenovic (France) beat Hsieh Su Wei (Taiwan) and Barbora Strycova (Czech Republic)

- **Mixed Doubles :** Barbora Krejcikova (Czech Republic) and Nikola Mektic (Croatia) beat Bethanie Mattek (USA) and Jamie Murray (Britain)

FRENCH OPEN–2020

- **Men's Singles :** Rafael Nadal (Spain) beat Novak Djokovic (Serbia)

- **Women's Singles :** Iga Swiatek (Poland) beat Sofia Kenin (America)

- **Men's Doubles :** Kevin Krawietz (Germany) Andreas Mies (Germany) beat Mate Pavic (Croatia) and Bruno Soares (Brazil)

- **Women's Doubles :** Timea Babos (Hungary) and Kristina Mladenovic (French) beat Desirae Krawwczyk (America) and Alexa Guarachi (Chile)

WIMBLEDON–2019

- **Men's Singles :** Novak Djokovic (Serbia) beat Roger Federer (Switzerland)

- **Women's Singles :** Simona Halep (Romania) beat Serena Williams (America)

- **Men's Doubles :** Juan Sebastian Cabal (Colombia) and Nicolas Mahut (France) beat Robert Farah (Colombia) and Edouard Roger Vasselin (France)

- **Women's Doubles :** Hsieh Suwei (Chinese Taipai) and Barbora Strycova (Czech Republic) beat Dabrowski (Canada) Xu Yifan (China)

- **Mixed Doubles :** Ivan Dodig (Croatia) and Latisha Chan (Chinese Taipei) beat Robert Lindstedt (Sweden) and Jelena Ostapenko (Latvia)

US OPEN: 2020

- **Men's Singles :** Dominic Thiem (Austria) beat Alexander Zverev (Germany)

- **Women's Singles :** Naomi Osaka (Japan) beat Victoria Azarenka (Belarus)

- **Men's Doubles :** Mate Pavic (Croatia) and Bruno Soares (Brazil) beat Nikola Mektic (Croatia) and Wesley Koolhof (Netherlands)

- **Women's Doubles :** Laura Siegemund (Germany) and Vera Zvonareva (Russia) beat Xu Yifan (China) and Nicole Melichar (USA)

CURRENT AFFAIRS POINTERS

International

- The "Go for Zero" policy, which was recently seen in the news, is related to which country? **–Australia**
- Which country has rolled out the first Covid-19 vaccine in the world? **–United Kingdom**
- Nepal has declared the revised height of which famous peak 8888.86 meters? **–Mount Everest**
- Which woman has got the first position in the 100 Powerful Women List released by Forbes? **–Angela Merkel**
- Recently which country successfully operated its "artificial sun" nuclear fusion reactor for the first time? **–China**
- Which country has passed a new property law in view of Corona virus epidemic under which a special tax will be imposed on the capitalists of the country? **–Argentina**
- CLMV countries are group of countries belonging to which regional organization? **–ASEAN**
- In which country are the Bashan four islands, seen in the news? **–Bangladesh**
- Recently the health ministry of which country has announced to give free corona vaccine to all the citizens of its country? **–Finland**
- Recently the scientists of which country claimed to make light-based, world's first quantum computer? **–China**
- Petrodav Dacian Fortress is a famous archaeological site located in which country? **–Romania**
- On which day is the World Divyang Day celebrated? **–3 December**
- Which country's former Prime Minister Mir Zafarullah Khan Jamali passed away on 02 December 2020 at the age of 76? **–Pakistan**
- Sea Guardian drones, which were recently seen in the news, were acquired from which country? **–United States**
- Every year on 29 November, UN celebrates 'International Day of Solidarity' related to which country? **–Palestine**
- Which word has been chosen as 'Word of the Year 2020' as the most searched word in the Cambridge dictionary? **–Quarantine**
- On what date will the spacecraft of Japan return to Earth with an asteroid soil sample? **–06 December, 2020**
- What is the name of the vaccine for the Covid-19 vaccine that Serum Institute of India has partnered with Oxford University and the global pharma giant AstraZeneca? **–Sankovidshield**
- Which country is going to implement a new competition system next year to curb the dominance of Google and Facebook? **–United Kingdom**
- Change A-5 Probe which was recently seen in the news, this lunar mission has been launched by which country? **–China**
- For how many years has India and the United States extended the MoU for cooperation on nuclear energy? **–10 years**
- SITMEX is a trilateral naval exercise between India, Thailand and which country? **–Singapore**
- Which actor has won the International Emmy Award 2020 as Best Actor?- Billy barrett
- Who represented India in Afghanistan 2020 conference? **–S.k. Jaishankar**
- What is the theme of the 15th G20 Summit of the year 2020? **–Realizing the Opportunities of the 21st Century for All**
- Which country has formally removed itself from the 'Free Sky Surveillance Treaty'? **–America**
- Which country is planning to send an unmanned spacecraft to the moon by the end of November 2020 to bring samples of lunar rocks from 'Moon'? **–China**
- Who has been appointed by the US elected President Joe Biden for the responsibility of climate change? **–John Carrey**
- Which international organization has released 100 million dollars to seven countries at risk of famine? **–United Nations**
- What is the name of Twitter's disappearing tweets?- Fleets
- Which country has been chaired the meeting of G-20 countries to be held in 2023? **–North India**
- The second edition of the "Sitamex-20" military exercise between India, Singapore and which country has been started in Arabian Sea? **–Thailand**
- Which of the following Indian-origin women has been appointed by US elected President Joe Biden for his wife Jill Biden? **–Mala Adiga**
- Union Minister Piyush Goyal recently said that the Indian government is importing 30 thousand tons of potatoes from which country **–Bhutan**
- The Central Government has approved the signing of an MoU between India and which country for cooperation in the field of health and medicine **–Cambodia**
- On which day is the World Nagar Day celebrated **–31 October**
- Which day is World Vegetarian Day celebrated **–1 November**

- Recently the former Prime Minister of which country Mesut Yilmaz has passed away **–Turkey**
- The first Sovereign Wealth Fund-SWF, which was notified by the Ministry of Finance, belongs to which country **–United Arab Emirates**
- Who has held the record for the highest number of votes in the history of American elections **–Joe Biden**
- How many proposals submitted by India on nuclear disarmament have been accepted by the First Committee of the United Nations General Assembly **–Two**
- According to a report by the World Wildlife Fund (WWF), how many cities in India will have water crisis by the year 2050 **–30**
- Which country recently approved the sale of US $ 600 million armed drone to which country **–Taiwan**
- Which country's Election Commission has organized the International Virtual Election Visitor Program **–India**
- World Radiography Day is celebrated on which day **–8 November**
- In which country, a 500-meter-high coral reef has been discovered for the first time in 120 years **–Australia**
- How many countries are associated with the Nordic-Baltic Cooperation Framework **–Eight**
- Which country has successfully launched 13 satellites with a single rocket **–China**
- Recently India has welcomed the removal of which country from the list of state sponsored terrorism **–Sudan**
- Recently which country reported the first case of human infected with H1N2 Virus which is a rare symptom of swine flu **–Canada**
- Recently which country has been affected by a storm named 'Eta' **–Guatemala**
- 13. Recently the explorers of which country have discovered the 500 meter long coral reef in the 'Great Barrier Reef' **–Australia**
- Which former US President recently released the book 'A Promised Land' **–Barack Obama**
- FIFA has postponed the Under-17 Women's World Cup to be held in which country due to Covid-19 **–India**
- In which country is the International Court of Justice located **–Netherlands**
- Which two countries signed a historic defense deal on 17 November to curb China's growing influence in the South China Sea **–Japan, Australia**
- How many Indian cities have also been included in the list of 36 global cities that have prepared the best roadmap released by the World Economic Forum (WEF) **–Four**

- The United Arab Emirates (UAE) has temporarily banned the issuance of visas for visitors from which of the following countries **–12**
- Which economic measurement of India has registered a growth of 0.2% after a contraction of 6 months **–Industrial Production Index**
- Which country has announced a contribution of US $ 1 million to the COVID-19 ASEAN Response Fund **–India**
- Indian Reserve Bank (RBI) has recently imposed a penalty of how many crores on Punjab National Bank **–One crore rupees**
- India's Prime Minister Narendra Modi has announced the contribution of how many million US Dollars to the Covid-19 ASEAN Response Fund **–One Million US Dollars**
- Which country has been given the right to host the FIFA U-17 Women's World Cup 2022 **–India**
- England's cricket team is going to visit which country in 2021 for the first time after 16 years **–Pakistan**

National

- Which state topped the Urban Governance Index (UGI) -2020? **–Odisha**
- Who is the first Indian Army Chief to visit United Arab Emirates (UAE) and Saudi Arabia? **–MM Naravane**
- Which Indian topped the Forbes World's 100 Most Powerful Women rankings in India? **–Nirmala Sitharaman**
- Which Union Ministry is the organizer of India Mobile Congress? **–Ministry of Communications**
- The National Green Tribunal has directed which state to prepare an action plan for 14 proposed elephant corridors? **–Odisha**
- Hampi Rath is a UNESCO World Heritage Site, located in which state? **–Karnataka**
- According to the latest IUCN report on World Heritage, the situation in which region of India is very worrying? **–North-Western Ghats**
- The Union Ministry of Education has issued a new bag policy in which the weight of the bag will not exceed how many kilograms? **–5 Kg**
- Which journalist writer has been awarded the third Rabindranath Tagore Sahitya Puraskar for his novel 'The City and the Sea'? **–Rajkamal Jha**
- Who is Microsoft's knowledge partner for the India edition of Imagine Cup 2021? **–National Skill Development Corporation**
- Recently, what kind of things has been upheld by the Supreme Court? **–Lottery**
- In which state of India will the country's first tire park be established? **–West Bengal**
- On which day is the International Civil Aviation Day celebrated? **–7 December**

- Which state's former Chief Secretary DB Gupta has been appointed as the new Chief Information Commissioner? **–Rajasthan**
- According to a recent WHO statement, which country recorded the largest decrease in malaria cases in South-East Asia? **–North India**
- 'Gurupurab' is the celebration of the birth anniversary of which Sikh Guru? **–Guru Nanak**
- Which state has started an outreach program called 'Duare Sarkar'? **–West Bengal**
- Recently which state government has announced to give free tablets to students from 8th to 12th for online studies? **–Haryana**
- On which day is the World Computer Literacy Day celebrated? **–02 December**
- Which country's government has announced that it will provide 3 crore doses of COVID-19 vaccine to the people for free? **–Bangladesh**
- The Giant Meter-Wave Radio Telescope, which was recently in the news, is located in which state of India? **–Maharashtra**
- The central government has decided to waive interest on the basis of Covid-19, on the eight categories of loans? **–2 crores**
- Which method of COVID-19 testing developed by CSIR-CCMB has been approved by ICMR? **–Dry Swab RT-PCR**
- DRDO has recently increased ICU beds for Covid-19 patients in which hospital in Delhi Cantt?
  –Sansardar Vallabhbhai Patel Covid Hospital, Delhi
- Which pharmaceutical company in India will manufacture more than 100 million doses of Russia's Sputnik V Covid-19 vaccine every year? **–Sanatoro**
- Which new definition was included in the Motor Vehicles Amendment Act, 2019? **–Aggregators**
- Chandrabhaga beach, which is the venue of the International Sand Art Festival 2020, is located in which state? **–Odisha**
- 'Delhi Chalo' is the name of protest by which category of people in India? **–Farmer**
- Which state removed Lalduhoma, a member of its Legislative Assembly and retired IPS officer, from its state assembly? **–Mizoram**
- What is the name of the heavy weight torpedo which was recently delivered to the Indian Navy? **–Varunastra**
- Which Union Ministry has launched a portal for transgender persons to apply for a gender identity certificate?
  –Ministry of Social Justice and Empowerment
- Which film of India is the official entry of India for the Academy Awards? **–Jallikattu**

- What is the name of the training module introduced by the National Cooperative Development Corporation for Primary Cooperative Societies? **– Co-operation intelligence**
- Which state has passed an ordinance banning unlawful religious conversion for marriage? **–Uttar Pradesh**
- In which state / union territory has the tenth edition of National Science Film Festival been inaugurated? **–Tripura**
- Recently the land-attack version of which missile was tested in Andaman and Nicobar? **–BrahMos**
- Union IT Minister has launched an international version of which government application? **–UMANG**
- The martyrdom day of which Sikh Guru is celebrated as 'Martyr's Day' in the month of November? **–Guru Tegh Bahadur**
- ATAL Faculty Development Programmes, which were launched by the Minister of Education, are organized by which institution? **–AICTE**
- Where is the headquarters of the Airports Authority of India located? **–New Delhi**
- Which first chief executive of Tata Consultancy Services (TCS) has passed away at the age of 96? **–Fakir Chand Kohli**
- Which state government has imposed ESMA ban on strike for next six months? **–Uttar Pradesh**
- Which state government has repealed controversial amendments to the Police Act? **–Kerala**
- R.N. Chibber, who died recently, was associated with which field? **–Defense**
- What is the theme of National Pharmacy Week (NPW) 2020? **–Pharmacists: Frontline Health Professionals**
- How many mobile apps have been blocked by the Government of India on 24 November 2020? **–43**
- Which series has won the 'Best Drama Series' award at the 48th International Emmys? **–Delhi crime**
- A severe cyclonic storm –Prevention can wreak havoc on the banks of which state and union territory on 25 November? **–Tamil Nadu, Puducherry**
- Which state government of India has postponed an ordinance, which carries a jail term for abusive material along with a fine of Rs 10,000? **–Kerala**
- Which organization has approved the Indian Regional Navigation Satellite System (IRNSS) to be used for navigation in the Indian Ocean region? **–International Maritime Organization**
- From 2018, which day related to Ministry of AYUSH is celebrated on 18th November? **–Naturopathy Day**
- Which Union Ministry of India has launched a portal for Land Management System (LMS) for the first time? **–Ministry of Defense**

- What is the name of the festival celebrated in Bihar, Jharkhand and Uttar Pradesh dedicated to Sun God? **–Chhath**
- Which state's former Chief Minister Tarun Gogoi passed away on 23 November 2020? **– Assam**
- In which state the India International Cherry Blossom Festival held annually is canceled due to Covid-19 epidemic? **–Meghalaya**
- The Union Minister of Culture has handed over the bronze sculptures from London to which state? **–Tamil Nadu**
- Which country has announced a ban on the sale of new petrol and diesel cars by 2030? **–United Kingdom**
- Which establishment day is celebrated by the National Cadet Corps (NCC) on 22 November? **–72nd Foundation Day**
- On what day is World Doordarshan Day celebrated?-21 November
- Which Union Ministry has notified the draft rules under the Social Security Code? **–Ministry of Labor and Employment**
- 'Dharni' portal, which was seen in the news, has been launched by which state government? **–Telangana**
- Which Indian company has started the third phase trial of Covid-19 vaccine 'Kovaxin'? **–India Biotech**
- Ministry of Home Affairs constituted teams in private hospitals of which state / union territory to check compliance with COVID-19 guidelines? **–Delhi**
- Antrix Corporation, which was recently seen in the news, is the commercial arm of which organization **–ISRO**
- What is the theme of "Kevadia Tourism Circuit", which has been inaugurated recently **–Integration**
- Recently which state government has banned the sale of firecrackers and fireworks **–Rajasthan**
- Who has been appointed as the Director (Project) by the Public Sector Power Grid Corporation of India (PGCIL) **–Abhay Chaudhary**
- National Unity Day is celebrated on which day **–31 October**
- Which IIT institute has developed a specific bacteria bio-sensor to detect environmental detergent pollutants (SDS) **–IIT Roorkee**
- Which Indian state / union territory has launched a scheme for distribution of fortified rice **–Chhattisgarh**
- Which Indian state has launched the first project for free internet for poor families and public offices **–Kerala**
- Recently which state government has declared the import or sale of sugar crackers a punishable offense **–Haryana**
- Which Indian state/union territory has launched a scheme for distribution of fortified rice **–Chhattisgarh**
- Recently which Indian state / union territory has given 100% vehicle tax exemption on electric vehicles **–Tamil Nadu**
- Who has starred in the famous actress Rani Mukherjee's film 'Mehndi', whose star has died recently **–Faraz Khan**
- Which of the following tiger reserves of Madhya Pradesh has been declared a UNESCO Biosphere Reserve **–Panna Tiger Reserve**
- Which Indian state has issued a warning against hunting of migratory birds, especially Amur hawks **–Tripura**
- In which Indian city will the Virtual Tech Summit be held in November 2020 **–Bengaluru**
- The Food Price Index, which was recently seen in the news, has been released by which organization **–Food and Agriculture Organization**
- India's comics hero Chacha Chaudhary has been chosen as the brand ambassador of the project **–Namami Gange Project**
- National Cancer Awareness Day is observed on which day **–7 November**
- Which state government has topped the 'Best State' category under the National Water Awards 2019 **– Tamil Nadu**
- From which date the Fastag has been made mandatory for all four wheeled vehicles by the Ministry of Road Transport and Highways **–01 January 2021**
- Recently who took oath as Chief Information Commissioner **(CIC– Yashvardhan Kumar Sinha**
- Which social media platform has got approval from National Payments Corporation of India (NPCI) to enter the UPI market **–Whatsapp**
- Recently which state became part of the program "Reading and Writing Campaign" **–Kerala**
- Who has been elected as the treasurer of Delhi and Delhi Cricket Association (DDCA) **–Shashi Khanna**
- On which day is the World Science Day celebrated **–10 November**
- Recently in which state India's longest 'single lane motorable suspension bridge' was inaugurated **–Uttarakhand**
- On which day is the National Legal Services Day celebrated **–9 November**
- Which state has launched an awareness campaign about burning crop residues **–Uttar Pradesh**
- Who are the beneficiaries of the 'One Rank One Pension' (OROP) scheme, which was recently seen in the news **–Northeast soldier**

- The Indian Meteorological Department (IMD) will issue forecasts for which disease outbreak **–Malaria**
- National Education Day is celebrated on which day **–11 November**
- Punjab and which state government has withdrawn the 'General Consent' given to the Central Bureau of Investigation (CBI) to investigate cases in the state **–Jharkhand**
- After WhatsApp, which social media platform introduced the feature of the disappearing message **–Facebook Messenger**
- Tinsukia, where Oil India discovered natural gas, is located in which state **–Assam**
- Which central ministry is implementing PM KUSUM scheme **–Ministry of Renewable Energy**
- Recently which state government has decided to set up a cow cabinet to conserve cows **–Madhya Pradesh**
- Former Deputy Governor of Puducherry and the first woman MP of which state, Chandravati has passed away at the age of 93 **–Haryana**
- Which organization has developed the Quick Reaction Surface-to-Air Missile (QRSAM), which was recently seen in the news **–DRDO**
- Which is the first Indian city to finalize the project under the Affordable Rental Housing Complex (ARHC) scheme for migrant workers **–Surat**
- What is the theme of 'National Ayurveda Day 2020' **–Ayurveda for Covid-19**
- Veteran journalist and writer Ravi Belgere, who died recently, was from which state **–Karnataka**
- Asia's first solar powered textile mill will be set up in which state **–Maharashtra**
- Which former state governor, litterateur and BJP leader Mridula Sinha died on November 18, 2020 **–Goa**
- The United Arab Emirates (UAE) has temporarily banned the issuance of new visas for visitors from Which film actress has recently been awarded the Bharat Ratna Dr. Ambedkar Award 2020 **–Richa Chaddha**

Economic

- The World Economic Forum 2021 annual meeting will be hosted by which country? **–Singapore**
- As per Fitch Ratings in December 2020, what will be India's GDP growth in the current financial year? **–9.4**
- Where is the headquarters of United Nations Sustainable Development Solutions Network? **–New York**
- Which Indian bank has launched a new mobile banking application for customers called 'I Mobile Pay'? **–ICICI Bank**

- What is the annual turnover limit for filing GST under the new quarterly return filing and monthly tax payment (QRMP) scheme? **–Rs 5 crores**
- The Reserve Bank of India (RBI) has recently canceled the license of which bank in Maharashtra? **–Karad Janta Cooperative Bank Limited**
- What is the new repo rate after the December 2020 meeting of the Monetary Policy Committee of RBI? **–4.0 percent**
- Recently which bank has decided to contribute Rs 10 crore to the Armed Forces Flag Day Fund? **–State Bank of India**
- The Asian Development Bank (ADB) will provide a loan of $ 132.8 million to improve power distribution in which state? **–Meghalaya**
- According to the report of Fortune India, which company has reached the first place among the top 500 companies in India? **–Reliance Industries**
- According to the address of Union Minister, Nitin Gadkari during the HORRIS Asia Meeting 2020, the Central Government's plan is to increase MSME exports from 48% to what percentage? **–60%**
- What is the percentage of decline in GDP in the second quarter of FY 2021 by India? **–7.5%**
- 'Har Ghar Nal Yojana' has been implemented in which Indian state / union territory? **–Uttar Pradesh**
- 'RE-INVEST 2020', an investment meeting which was recently seen in the news, is being organized by which Union Ministry? **–Ministry of New and Renewable Energy**
- CEFPPC, a scheme which was seen in the news, belongs to which Union Ministry? **–Ministry of Food Processing Industries**
- RBI's internal working group has proposed to increase the promoters' stake in private sector banks by what percentage? **–26%**
- Micro Irrigation Fund (MIF), which was recently seen in the news, is formed with which organization? **–NABARD**
- Competition Commission of India has approved the acquisition of Future Group by which company? **–Reliance Retail**
- Which financial services company has partnered with USAID to launch 'Project Grocery' for women entrepreneurs in India? **–MasterCard**
- Prime Minister Narendra Modi launched RuPay Card Phase-2 in which neighboring country? **–Bhutan**
- Which state government has started a new rural housing project called 'Maha Awas Yojana'? **–Maharashtra**
- Which bank has become the first bank in the world whose number of followers on the official Twitter handle has crossed 1 million? **–Reserve Bank of India**

- Which regulator has amended the regulations on transfer of assets by liquidators of stressed firms? **–IBBI**
- Which group has taken charge of Mangaluru Airport on a 50-year lease **–Adani Group**
- What percentage of reservation has been given by the Central Government to OBCs in Sainik Schools **–27 percent**
- How much amount has been released as 2 installments to 16 states and 3 union territories for GST compensation **–6000 crores**
- What is the target set by the Center for Emergency Credit Line Guarantee Scheme (ECLGS) for MSMEs **–3 lakh crores**
- Recently which e-commerce company acquired mobile gaming start-up Make Mocha **–Flipkart**
- What percentage of tax exemption has been given by the Tamil Nadu government on e-vehicles **–100 percent**
- Which bank has launched the country's first comprehensive banking program for youth **–ICICI Bank**
- According to a report released by Haroon India, who is the largest donor in the country, who has donated 7904 crores in the financial year 2019-20 **–Azim Premji**

Sports

- Which sport has officially given the status of Olympic Games in the Games held in Paris in the year 2024? **–Breakdance**
- Sakhir Grand Prix (Bahrain), who became the first Indian driver to win the Formula Two race? **– Jehan Daruwala**
- Recently the Delhi and District Cricket Association (DDCA) has appointed which former cricketer as the chairman of the advisory committee? **–Atul Vasan**
- Which Indian player has become the fastest batsman to score 12 thousand runs? **–Virat Kohli**
- For how many years was the tennis player Enrique Lopez banned for match-fixing in 2017? **–Eight years**
- The Sports Ministry has recently recognized as the National Sports Federation? **–Archery Association of India**
- Which country's legendary footballer Diego Maradona has died at the age of 60? **–Argentina**
- Which Indian player has been nominated for ICC Player of the Decade Award? **–Virat Kohli**

- Which player has not been nominated as ODI's Decade Award Player? **–Steve smith**
- What is the age of the International Cricket Council (ICC) to debut in international cricket? **–15 years**
- Which F1 racing driver won the Turkish Grand Prix 2020 Championship? **–Lewis Hamilton**
- Which cricketer became the first batsman to score 1000 sixes in T20 cricket **–Chris Gayle**
- Which Indian woman wrestler has won the title of Mixed Martial Arts (MMA) Championship for the third consecutive time in Singapore **–Ritu Phogat**
- Indian boxer Amit Panghal and Sanjeet recently won which of the following medals in the Alexis Vestine International boxing tournament played in France **–Gold medal**
- Odisha Government has announced the promotion of which of the following Ferrata runners ahead of time **–Duti Chand**
- Who has been declared the title sponsor of the Women's T20 Challenge by the Board of Control for Cricket in India (BCCI) **–JIO**
- Which cricketer of Chennai Super Kings announced his retirement from all formats of cricket **–Shane Watson**
- Which racing driver has won the Formula One Emilia-Romagna Grand Prix tournament **–Lewis Hamilton**
- Shane Watson, who announced his retirement from all forms of cricket, is from which country **–Australia**
- Recently who has been appointed the new batting coach of the New Zealand cricket team **–Luke Ronkey**
- Who has been elected as the new president of Hockey India **–Gyanendro Ningombam**
- Recently which team won the women's T20 Challenge 2020 title for the first time **–Trailblazers**
- Recently which country's cricket board has appointed a female director for the first time **–Pakistan**
- Recently which team won the IPL (Indian Premier League) 2020 title (fifth time) **–Mumbai Indians**
- Pakistan Cricket Board has announced to hand over the captaincy of all formats before the upcoming tour **–Babur Azam**
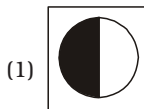
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PART-A
GENERAL INTELLIGENCE

1. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(9, 35, 16)
(1) (16, 50, 64)
(2) (25, 30, 4)
(3) (36, 55, 25)
(4) (81, 65, 36)

2. Which of the following answer figures should come at the place of the question-mark?

(1)

(2)

(3)

(4)

3. Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest.
(1) 126   (2) 189
(3) 254   (4) 217

4. Complete the series.
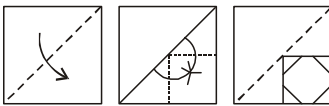SHG, RIF, QJE, PKD, (...)
(1) NMC   (2) OLC
(3) NLB   (4) OLE

5. Arrange the following words in a logical and meaningful order.
1. Buy   2. Dinner
3. Market   4. Vegetables
5. Cook
(1) 1, 4, 5, 3, 2
(2) 3, 5, 4, 1, 2
(3) 4, 5, 3, 1, 2
(4) 3, 4, 1, 5, 2

6. A paper is folded and cut as shown below. How will it appear when unfolded?
Question Figures :

Answer Figures :

(1)   *(2)*   *(3)*   *(4)*

7. Which number will come at the place of question-mark in the given matrix ?

54	7	4	99
62	8	7	120
55	9	6	?

(1) 164   (2) 172
(3) 168   (4) 150

8. If DIG is coded as 25 and CUT is coded as 49, then how will KICK be coded as?
(1) 43   (2) 39
(3) 41   (4) 34

9. Which of the following figures depicts the water image of the given figure ?

(1)

(2)

(3)

(4)
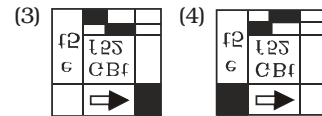
10. Two statements are given followed by three Conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the Conclusions logically follow(s) from the statements.
Statements :
All rulers are machines.
Some machines are costly items.
Conclusions :
I. Some rulers are costly items.
II. Some costly items are machines.
III. All costly items are machines.
(1) Both Conclusions II and III follow
(2) Both Conclusions I and II follow
(3) Only Conclusion II follows
(4) Only Conclusion I follows

11. If in a certain language 'CASUAL' is coded as 'GEWYEP', how is 'PEOPLE' coded in that language?
(1) TISTPI   (2) THSTOI
(3) SHRSOH   (4) SIRTOL

12. Two different positions of the same dice are shown below. Which number is opposite to the face showing '1' ?
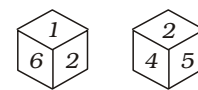
(1) 5   (2) 1
(3) 4   (4) 2

13. Select the related word from the given alternatives.
Baking : Bread : : ? : Curd
(1) Brewing
(2) Coagulation
(3) Fermentation
(4) Boiling

14. A ship starts from the port and sails 43 miles East, then it turns South and sails 17 miles, then it turns West and sails 25 miles, then it turns to its right and sails 17 miles. Where is it with respect to the port from where it started?
    (1) 18 miles West
    (2) 68 miles East
    (3) 18 miles East
    (4) 68 miles West

15. In the following question, select the related number from the given alternatives.
    24 : 39 : : 49 : ?
    (1) 68   (2) 64
    (3) 69   (4) 79

16. If $6^2 \% 2^2 \wedge 3^2 = 41$ and $7^2 \% 5^2 \wedge 2^2 = 28$, then $5^2 \% 3^2 \wedge 1^2 = ?$
    (1) 17   (2) 22
    (3) 13   (4) 26

17. Which of the following terms follows the trend of the given list?
    XIXXXX, IXXXXX, XXXXXI, XXXXIX, _____.
    (1) XXXIXX
    (2) XXXXXI
    (3) XXIXXX
    (4) XIXXXX

18. If + means ×, – means +, × means ÷, ÷ means –, then what is the value of
   50 + 10 – 50 × 10 ÷ 125 ?
    (1) 380   (2) 56
    (3) 180   (4) –125

19. If 34 = 39304, 27 = 19683, then 13 = ?
    (1) 2197   (2) 10648
    (3) 56743   (4) 17576

20. In a family of eight persons, there are two couples, each having two children. B and D are brothers and each has two children. E is the aunt of A, who is the cousin brother of C. C is the sister of H, who is the cousin brother of G. F is the wife of B. How is H related to F?
    (1) Nephew   (2) Son-in-law
    (3) Son
    (4) Brother-in-law

21. Select the option in which the given figure is embedded.

Question Figure :
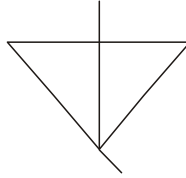
Rotation not allowed
Answer Figures :
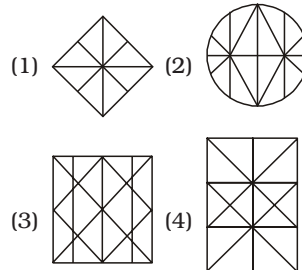
22. Select the related letters from the given alternatives.
    YAC : CEG :: NOQ : ?
    (1) RSU   (2) RUS
    (3) STV   (4) SVT

23. In the following question, a series is given in which one or more alphabet is missing. Choose the correct alternative from the given options.
    ADC, EHG, ILK, ?
    (1) MNO   (2) MPO
    (3) MON   (4) MPQ

24. Three of the following four word-pairs are alike in a certain way while one is different. Select the odd one from the following alternatives :
    (1) Pedology : Soil
    (2) Craniology : Skull
    (3) Cytology : Cells
    (4) Haematology : Blood

25. Select the Venn diagram that best illustrates the relationship among the following classes.
    Uncle, Relatives, Rich
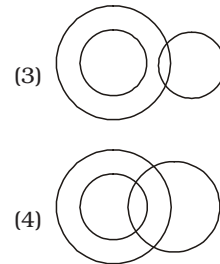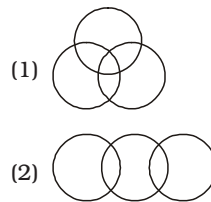
PART-B
GENERAL AWARENESS

26. All bank accounts opened under the _____ were to have an overdraft facility of Rs. 5,000.
    (1) Pradhan Mantri Mudra Yojana
    (2) Swarnabharat Yojana
    (3) Pradhan Mantri Jan Dhan Yojana
    (4) Atal Pension Yojana

27. The monomer caprolactam is polymerised to obtain which polymer?
    (1) Teflon   (2) Nylon 6
    (3) Bakelite   (4) Kevlar

28. The poem, 'Chhaap Tilak Sab Chheeni' by Amir Khusro in which language?
    (1) Bhojpuri
    (2) Khariboli
    (3) Braj Bhasha
    (4) Urdu

29. Who was the first female Director General of Police in Puducherry?
    (1) Aswathy Tonge
    (2) Kanchan Choudhary
    (3) Kiran Bedi
    (4) Sundari Nanda

30. Which of the following elements is a metalloid?
    (1) Tin   (2) Bismuth
    (3) Silicon   (4) Phosphorus

31. If in the east it is Guhar Moti, in north it is Siachen Glacier, then in south it is:
    (1) Kuttanad
    (2) Kanyakumari
    (3) Rameshwaram
    (4) Indira point

32. Name the Indian State with the highest tax revenue.
    (1) Assam
    (2) Sikkim
    (3) Karnataka
    (4) Maharashtra
33. How many bits are equal to one byte?
    (1) 8   (2) 10
    (3) 12   (4) 14
34. Who was the 1st President of South Africa after apartheid?
    (1) Zuma
    (2) Nelson Mandela
    (3) Kofi Annan
    (4) Booker T. Washington
35. Which Article of the Indian Constitution provides free legal aid and equal justice?
    (1) 30   (2) 25
    (3) 39-A   (4) 33-B
36. Methyl propane is an isomer of :
    (1) n–hexane (2) n–butane
    (3) n–propane (4) n–pentane
37. The quintessence of Gandhian thought is:
    (1) Satyagraha
    (2) Metaphysics
    (3) Spiritualism
    (4) Moksha
38. Which of the following is an operating system?
    I. Ubuntu   II. Linux
    III. Unix
    (1) Only I
    (2) Only II and III
    (3) All I, II and III
    (4) No option is correct
39. Which of the following is NOT a logic gate?
    (1) AND
    (2) OR
    (3) NAND
    (4) All are logic gates
40. In a reaction, what is the loss of hydrogen by substance called as?
    (1) Reduction
    (2) Oxidation
    (3) Hydronization
    (4) Both reduction and hydronization
41. Which of the following statement(s) is/are CORRECT?
    I. Metallic oxides are said to be basic oxides.

II. Non-metallic oxides are basic in nature.
III. All acids have similar chemical properties.
    (1) Only I and III
    (2) Only II and III
    (3) Only II
    (4) All statements are correct
42. Which of the following is an example of colloidal solution of liquid in solid?
    (1) Mud   (2) Milk
    (3) Cheese   (4) Rubber
43. What are the imaginary lines encircling the earth horizontally called ?
    (1) Latitudes (2) Longitudes
    (3) Isobars (4) Isotherms
44. Which of these straits separates Asia from Africa?
    (1) Malacca (2) Hormuz
    (3) Bab-al-Mandeb
    (4) Bosphorus
45. The government has granted Geographical Indication (GI)tag to the Alphonso Mango.It belongs to which state?
    (1) Bihar
    (2) Jharkhand
    (3) Maharashtra
    (4) Kerala
46. In which pact, warm relations were established between "Garam dal"and "Naram dal", the two groups of the Indian National Congress?
    (1) Gandhi-Irwin Pact
    (2) Lucknow Pact
    (3) Karachi agreement
    (4) Lahore declaration
47. Which of the following places was ruled by the Wadiyar dynasty?
    (1) Mysore   (2) Guwahati
    (3) Jabalpur (4) Patna
48. The 'Hornbill Festival' is celebrated in which of the following state?
    (1) Nagaland
    (2) West Bengal
    (3) Sikkim
    (4) Bihar
49. All of the following siblings have won the Dadasaheb Phalke Award, EXCEPT ____.

(1) Lata Mangeshkar and Asha Bhosle
(2) B.R. Chopra and Yash Chopra
(3) Raj Kapoor and Shashi Kapoor
(4) Mahesh Bhatt and Vikram Bhatt
50. The ____ are the triangular muscles of the shoulder.
    (1) Masseter
    (2) Achilles tendon
    (3) Deltoids
    (4) Sartorius

PART-C
QUANTITATIVE APTITUDE

51. A man covers the first part of his journey by car-A at 'x' km/h in 'x' minutes, and the remaining distance at 85 km/h in 6 hours by car B. If the total distance covered by him by both cars together was 750 km, what is the total time taken by him to complete the journey?
    (1) 8 hours   (2) 9 hours
    (3) 10 hours (4) 6 hours
52. The time taken by a boat to cover 84 km downstream is 2 hours 48 minutes. The speed of the boat upstream is 24 km/h. What is the total time taken to cover 60 km upstream and the same distance downstream?
    (1) 4 hrs. 20 mins.
    (2) 4 hrs. 30 mins.
    (3) 5 hrs. 50 mins.
    (4) 5 hrs. 30 mins.
53. Two pipes A and B can fill a tank in 20 hours and 24 hours respectively. If the two pipes are opened at 5 in the morning, then at what time the pipe A should be closed to completely fill the tank exactly at 5 in the evening?
    (1) 3 pm   (2) 2 pm
    (3) 1 pm   (4) 11 am
54. After giving two successive discounts, each of x%, on the marked price of an article, total discount is Rs. 259.20. If the marked price of the article is Rs. 720, then the value of x is :

(1) 18   (2) 24

(3) 20   (4) 25

55. A solid cube of volume 13824 cm³ is cut into 8 cubes of equal volumes. The ratio of the surface area of the original cube to the sum of the surface areas of three of the smaller cubes is :

(1) 2 : 3   (2) 4 : 3

(3) 8 : 3   (4) 2 : 1

56. The ratio of the ages of A and B, four years ago, was 4 : 5. Eight years from now, the ratio of the ages of A and B will be 11 : 13. What is the sum of their present ages?

(1) 80 years

(2) 96 years

(3) 72 years

(4) 76 years

Directions : Study the following bar graph showing the percentage of children who can read at first grade level, grouped by their grade level in an Indian state.

For example, in 2008, 82% of the children from Standard 3 could read a text from Standard 1. Now answer the following question based on this graph.
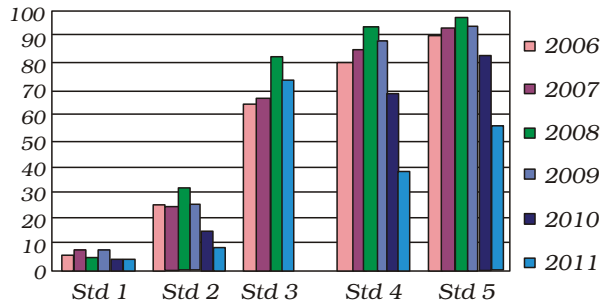
57. In the year 2010, what is the approximate value of average of all Std 1, 2, 3, 4, 5 children who could read the Std 1 text?

(1) 49.2%

(2) 57%

(3) 33%

(4) Data Insufficient

58. If $(x + 4)$ is a factor of $3x^2 + kx + 8$, then what is the value of k ?

(1) 4   (2) –4

(3) –14   (4) 14

59. If $x + y + z = 0$, then what is the value of $\dfrac{xy + yz + zx}{x^2 + y^2 + z^2}$?

(1) 1   (2) –1

(3) $\dfrac{1}{2}$ (4) $-\dfrac{1}{2}$

60. If $(a + 4)^3 = a^3 + 12a^2 + ka + 64$, then what is the value of k ?

(1) 12   (2) 24

(3) 36   (4) 48

61. A cylindrical well of height 40 metres and radius 7 metres is dug in a field 56 metres long and 11 metres wide. The earth taken out is spread evenly on the field. What is the increase in the level of the field?

(1) 12.5 metre

(2) 10.66 metre

(3) 11.5 metre

(4) 13.33 metre

62. What is the value of $\dfrac{(\cot\theta + \operatorname{cosec}\theta - 1)}{(\cot\theta - \operatorname{cosec}\theta + 1)}$?

(1) $\cot\theta + \operatorname{cosec}\theta$

(2) 1

(3) –1   (4) 0

63. If $\dfrac{a}{b} = \dfrac{1}{2}$, find the value of the expression $\dfrac{(2a - 5b)}{(5a + 3b)}$

(1) –32   (2) 11

(3) $\dfrac{-8}{11}$ (4) 17

64. A merchant marks an article 20% above cost price. He then sells it at a discount of 20%. The sale gives him:

(1) No loss or gain

(2) 4% loss   (3) 2% gain

(4) 4% gain

65. Find the value of $\dfrac{(243)^{\frac{n}{5}} \times 3^{2n+1}}{9^n \times 3^{n-1}}$.

(1) 3   (2) 9

(3) 27   (4) 4

66. The ratio of the volume of a cube to that of a sphere which will fit inside the cube is

(1) 4 : π   (2) 4 : 3π

(3) 6 : π   (4) 2 : π

67. A string of length 24 cm is bent first into a square and then into a right–angled triangle by keeping one side of the square fixed as its base. Then the area of triangle equals to :

(1) 24 cm²   (2) 60 cm²

(3) 40 cm²   (4) 28 cm²

68. The compound interest on a sum of Rs. 5000 at 8% per annum for 9 months when interest is compound quarterly is :

(1) Rs. 300   (2) Rs. 300.12

(3) Rs. 306.04 (4) Rs. 308

69. On a rainy day, 60 cm of rain is recorded in a region. What is the volume of water collected in an open and empty rectangular water tank that measures 12 m (length) ×10 m (width) and 50 cm (depth)?

(1) 120 m³   (2) 72 m³

(3) 60 m³   (4) 48 m³

70. If $\tan\left(\dfrac{\theta}{2}\right)\tan\left(\dfrac{2\theta}{5}\right) = 1$, what is the value (in degrees) of θ?

(1) 45°   (2) 90°

(3) 100°   (4) 120°

71. The average of twelve numbers is 42. The average of the last five numbers is 40 and that of the first four numbers is 44. The 6th number is 6 less than the fifth and 5 less than the 7th number. The average of the 5th and the 7th number is :

(1) 44   (2) 44.5

(3) 43   (4) 43.5

72. If $x + y + z = 19$, $x^2 + y^2 + z^2 = 133$ and $xz = y^2$, then the difference between z and x is :
    (1) 5   (2) 3
    (3) 6   (4) 4

73. $\dfrac{2 + tan^2\theta + cot^2\theta}{sec\theta\, cosec\theta}$ is equal to :
    (1) $cot\theta$ (2) $cos\theta\, sin\theta$
    (3) $sec\theta\, cosec\theta$ (4) $tan\theta$

74. If $x^2 + \dfrac{1}{x^2} = \dfrac{7}{4}$ for $x > 0$, then what is the value of $x + \dfrac{1}{x}$?
    (1) 2   (2) $\dfrac{\sqrt{15}}{2}$
    (3) $\sqrt{5}$ (4) $\sqrt{3}$

75. If $sec\,\theta = \dfrac{13}{12}$ and θ is acute, then what is the value of $\left(\sqrt{cot\,\theta + tan\,\theta}\right)$?
    (1) $\dfrac{13}{2\sqrt{15}}$ (2) $\dfrac{12}{2\sqrt{13}}$
    (3) $\dfrac{13}{2\sqrt{5}}$ (4) $\dfrac{2}{13}$

PART-D
ENGLISH LANGUAGE

Directions (76–77) : Select the most appropriate option to substitute the **bold** segment in the given sentence. If no substitution is required, select No improvement.

76. The workers of this textile factory **demand higher wages** for a long time.
    (1) have beens demanding higher wages
    (2) demanded higher wages
    (3) No improvement
    (4) has demanded higher wages

77. If you park your car here, the traffic police **has fined you**.
    (1) will fine you
    (2) No improvement
    (3) fine you
    (4) fined you

78. Select the correct active form of the given sentence.
    Every passing vehicle was being thoroughly checked by the guards.
    (1) The guards were thoroughly checking every passing vehicle.
    (2) The guards have thoroughly checked every passing vehicle.
    (3) Every passing vehicle were thoroughly checking the guards.
    (4) The guards have been thoroughly checking every passing vehicle.

Directions : In the following question, four words are given out of which one word is incorrectly spelt. Select the incorrectly spelt word.

79. (1) manoevre
    (2) commensurate
    (3) harassment
    (4) exaggerate

80. A sentence is given with blanks to be filled in with appropriate words. Four alternatives are suggested. Choose the correct alternative out of the four. The king plans to move the kingdom away from ____ domestic energy consumption, a change that will allow the Saudis to ___ oil exports in the years to come.
    (1) extravagant. decrease
    (2) wasteful. increase
    (3) unnecessary. minimize
    (4) substantial. moderate

81. Out of the four alternatives, choose the one which best expresses the meaning of the given word.
    Arcane
    (1) ancient   (2) new
    (3) simple   (4) mysterious

Directions : In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.

82. **Which can be rooted out**
    (1) eradicable
    (2) internment
    (3) animism
    (4) incorrigible

Direction : In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

83. **Heads will roll**
    (1) unconditionally surrendered
    (2) dismissed or forced to resign
    (3) born in a wealthy family
    (4) resorted to illegitimate practices

84. Select the most appropriate word to fill in the blank.
    Around sixty bands in colourful ____ took part in the Notting Hill Carnival.
    (1) clothings   (2) costumes
    (3) apparels   (4) dressing

85. Out of the four alternatives, choose the one which best expresses the meaning of the given word.
    Bashful
    (1) shy   (2) extrovert
    (3) courageous
    (4) broad-minded

Directions (86–87) : The questions below consist of a set of labelled sentences. Out of the four options given, select the most logical order of the sentences to form a coherent paragraph.

86. P : In other countries which are populated by 'haves', frustration is among them also because they do "haves".
    Q: In some countries, frustration exists because these countries are populated by "have-nots".
    R: Frustration is a global cancer.
    S: It has spared no country.
    (1) RSQP   (2) SQRP
    (3) PSRQ   (4) QRPS

87. P: The real purpose underlying this maxim lies in its utility in the worldly sense.
    Q: He has within him a spirit which is ever exhorting him to cut down his needs and learn to be happy with what he has.
    R: Man is something much greater than an intelligent being using his intellect to make newer inventions from time to time.

S: It tells us to be up and do-ing, not to be passive in our attitude to life.

(1) PRQS (2) QPSR

(3) RQPS (4) SRPQ

Directions (88-89) : In the following questions, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and choose corresponding to the appropriate option. If a sentence is free from error choose corresponding to 'No Error' option.

88. The teachers, who I worked with, were very insensitive to-wards children's needs.

(1) The teachers, who I worked with

(2) were very insensitive

(3) towards children's needs

(4) No Error

89. Bradbury, one of the most ver-satile writer ever lived, was a school dropout.

(1) Bradbury, one of the most

(2) versatile writer ever lived,

(3) was a school dropout

(4) No Error

90. Out of the four alternatives, choose the one which best ex-presses the meaning of the giv-en word.

Belligerent

(1) peaceful (2) noisy

(3) hostile (4) cautious

Directions : In each of the fol-lowing questions, a sentence has been given in Direct/Indirect Speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in In-direct/Direct speech.

91. The High Court said to the Delhi Police, "How can they be so insensitive and inefficient to take action during the ri-ots?"

(1) The High Court asked the Delhi Police that how they could be so insensitive and inefficient to take action during the riots.

(2) The High Court asked the Delhi Police that they can-not be so insensitive and inefficient to take action during the riots.

(3) The High Court asked the Delhi Police how they could be so insensitive and inefficient to take action during the riots.

(4) The High Court told the Delhi Police how they could be so insensitive and inefficient to take action during the riots.

92. A sentence is given with blanks to be filled in with an appro-priate word. Four alternatives are suggested. Choose the cor-rect alternative out of the four. A BBC reporter was ____ for what North Korea deemed a disrespectful portrayal of the country and its leader.

(1) welcomed

(2) recognized

(3) celebrated

(4) expelled

93. Four words are given, out of which only one word is cor-rectly spelt. Find the correctly spelt word.

(1) rambunktious

(2) rumbanctious

(3) rambuncsious

(4) rambunctious

94. Choose the word opposite in meaning to the given word.

Impeccable

(1) perfect

(2) rude

(3) inexact

(4) predict

Directions (95–99) : In each of the following passages, some of the words have been left out. Read the passage carefully and select the cor-rect answer for the given blank (numbered) out of the four alterna-tives.

One of the most brutal fea-tures of gender inequality takes the form of physical violence against women. The **(95)** of such violence is remarkably high, not only in poorer and less developed economies but also in wealthy and modern so-cieties. Indeed the **(96)** of battering women even in the richest and most developed economies is **(97)** high. Turning to India, it must be **(98)** first that the frequency of assaults on women is high in the country. Exact statistics on the extent case occurrences are very difficult to obtian as a large **(99)** of cases go unreported.

95. (1) expectations

(2) incidences

(3) incidence

(4) responses

96. (1) frequency

(2) occurrences

(3) chances

(4) blocking

97. (1) relative

(2) merely

(3) undoubtful

(4) astonishingly

98. (1) acknowledged

(2) cleared

(3) understand

(4) assured

99. (1) numbers

(2) number

(3) quantity

(4) much

100. Select the synonym of the giv-en word.

COERCE

(1) enchant (2) pressurize

(3) cajole (4) leave

ANSWERS

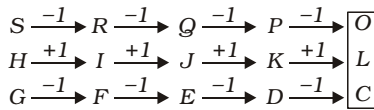|			
1. (3)	2. (2)	3. (3)	4. (2)
5. (4)	6. (4)	7. (4)	8. (2)
9. (4)	10. (3)	11. (1)	12. (3)
13. (3)	14. (3)	15. (2)	16. (1)
17. (4)	18. (1)	19. (1)	20. (1)
21. (1)	22. (1)	23. (2)	24. (1)
25. (4)	26. (3)	27. (4)	28. (3)
29. (4)	30. (3)	31. (4)	32. (4)
33. (1)	34. (2)	35. (3)	36. (2)
37. (1)	38. (3)	39. (4)	40. (2)
41. (1)	42. (3)	43. (1)	44. (3)
45. (3)	46. (2)	47. (1)	48. (1)
49. (4)	50. (3)	51. (1)	52. (2)
53. (1)	54. (3)	55. (2)	56. (1)
57. (4)	58. (4)	59. (4)	60. (4)
61. (2)	62. (1)	63. (3)	64. (2)
65. (2)	66. (3)	67. (1)	68. (3)
69. (3)	70. (3)	71. (2)	72. (1)
73. (3)	74. (2)	75. (1)	76. (1)
77. (1)	78. (1)	79. (1)	80. (2)
81. (4)	82. (1)	83. (2)	84. (4)
85. (1)	86. (1)	87. (3)	88. (1)
89. (2)	90. (3)	91. (3)	92. (4)
93. (4)	94. (3)	95. (3)	96. (1)
97. (4)	98. (1)	99. (2)	100. (2)

═ EXPLANATIONS ═

1. (3) (9, 35, 16)

$\Rightarrow 9 = 3 \times 3$; $16 = 4 \times 4$

First and third numbers are perfect squares.

$(16 - 9) \times 5 = $ Middle Number

$\Rightarrow 7 \times 5 = 35$

Similarly,

(36, 55, 25)

$\Rightarrow 36 = 6 \times 6$; $25 = 5 \times 5$

$(36 - 25) \times 5$

$\Rightarrow 11 \times 5 = 55$

2. (2) From first figure to second figure the right half part is deleted and the left half part gets shaded.

3. (3) Except the number 254, in all other numbers, the number formed by the first and the second digits is multiple of the third digit.

$126 \Rightarrow 6 \times 2 = 12$

$189 \Rightarrow 9 \times 2 = 18$

$217 \Rightarrow 7 \times 3 = 21$

But,

$254 \Rightarrow 4 \times 6 + 1 = 25$

4. (2)

$$S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} P \xrightarrow{-1} \boxed{O}$$
$$H \xrightarrow{+1} I \xrightarrow{+1} J \xrightarrow{+1} K \xrightarrow{+1} \boxed{L}$$
$$G \xrightarrow{-1} F \xrightarrow{-1} E \xrightarrow{-1} D \xrightarrow{-1} \boxed{C}$$

But, $W \xrightarrow{+3} Z$

5. (4) Logical and meaningful order of words :

3. Market

↓

4. Vegetables
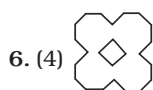
↓

1. Buy

↓

5. Cook

↓

2. Dinner

One goes to market, where vegetables are bought. Then it is cooked for dinner.

6. (4)

7. (4) First Row

$(5 + 4) \times (7 + 4) = 9 \times 11 = 99$

Second Row

$(6 + 2) \times (8 + 7) = 8 \times 15 = 120$

Third Row

$(5 + 5) \times (9 + 6) = 10 \times 15 = 150$

8. (2)

```
   D        I        G
   ↓        ↓        ↓
   4   +    9   +    7  = 20
⇒ 20 + 5 = 25
   C        U        T
   ↓        ↓        ↓
   3   +   21   +   20  = 44
⇒ 44 + 5 = 49
```

Therefore,

```
   K       I       C       K
   ↓       ↓       ↓       ↓
  11  +    9  +    3  +   11  = 34
⇒ 34 + 5 = 39
```
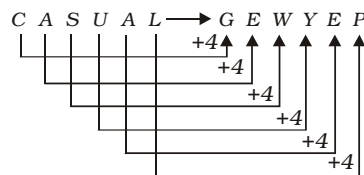
9. (4)

10. (3) First Premise is Universal Affirmative (A–type).

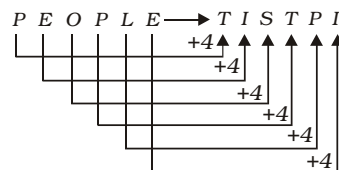Second Premise is Particular Affirmative (I–type).

All rulers are machines.

↕

Some machines are costly items.

A + I ⇒ No Conclusion

Conclusion II is the Converse of the second Premise.

11. (1)

```
C A S U A L ⟶ G E W Y E P
              +4
              +4
              +4
              +4
              +4
              +4
```

Therefore,

```
P E O P L E ⟶ T I S T P I
              +4
              +4
              +4
              +4
              +4
```

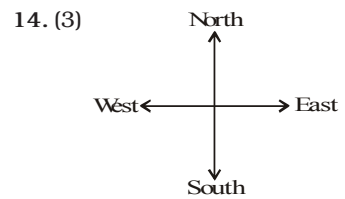**12.** (3) The numbers 1, 4, 5 and 6 are on the faces adjacent to the number 2. Therefore, the number 3 lies opposite to the number 2.
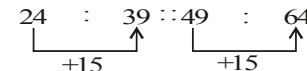
From the two views of the dice, it is clear that 4 lies opposite 1.

13. (3) Bread is prepared by baking the dough. Similarly, curd is manufactured by the fermentation of milk.

14. (3)

Required distance = 18 mile East

15. (2)

```
 24  :  39 :: 49  :  64
    +15         +15
```

16. (1) $6^2 \% 2^2 \wedge 3^2 = 41$

$\Rightarrow 36 - 4 + 9 = 41$

$7^2 \% 5^2 \wedge 2^2 = 28$

$\Rightarrow 49 - 25 + 4 = 28$

Therefore,

$5^2 \% 3^2 \wedge 1^2$

$\Rightarrow 25 - 9 + 1 = \boxed{17}$

17. (4) 'I' One place back in each terms.

So, next term = XXX I XX

18. (1)

$+ \Rightarrow \times$	$- \Rightarrow +$
$\times \Rightarrow \div$	$\div \Rightarrow -$

$50 + 10 - 50 \times 10 \div 125 = ?$

$\Rightarrow ? = 50 \times 10 + 50 \div 10 - 125$

$\Rightarrow ? = 500 + 5 - 125$
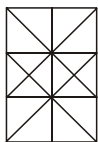
$\Rightarrow ? = 505 - 125 = 380$

19. (1) $34 \times 34 \times 34 = 39304$

$27 \times 27 \times 27 = 19683$

$13 \times 13 \times 13 = 2197$

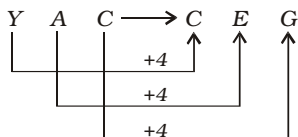**20.** (1) A is cousin brother of C and H.

F is the wife of B.

Therefore, E is the wife of D.

E is mother of C and H.
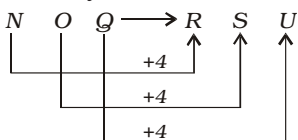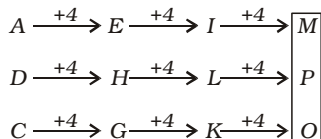F is mother of A and G.
H is nephew of F.

21. (4)

22. (1)

$Y \quad A \quad C \longrightarrow C \quad E \quad G$

+4

+4

+4

Similarly,

$N \quad O \quad Q \longrightarrow R \quad S \quad U$

+4

+4

+4

23. (2)

$A \xrightarrow{+4} E \xrightarrow{+4} I \xrightarrow{+4} \boxed{M}$

$D \xrightarrow{+4} H \xrightarrow{+4} L \xrightarrow{+4} \boxed{P}$

$C \xrightarrow{+4} G \xrightarrow{+4} K \xrightarrow{+4} \boxed{O}$

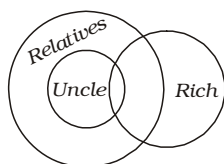**24.** (1) In all the four pairs of words the first depicts the scientific study of the second. But in the option (1) the field of study is of abiotic component whereas the remaining three pairs are related with living beings.

25. (4) Uncle comes under the class Relatives.
Some uncles and some relatives may be rich.

26. (3) Bank accounts opened under Pradhan Mantri Jan Dhan Yojana initially provided overdraft facility of Rs. 5,000. To make the scheme more attractive, the government in September 2018 decided to double the overdraft facility from Rs. 5,000 to Rs. 10,000. PMJDY was launched in August 2014 for a period of four years as a national mission for financial inclusion.

27. (2) Nylon 6 is a polymer that is synthesized by polymerization of a monomer called caprolactam. Caprolactam has 6 carbons, hence 'Nylon 6'. When caprolactam is heated at about 533 K in an inert atmosphere of nitrogen for about 4-5 hours, the ring breaks and undergoes polymerization. Then the molten mass is passed through spinnerets to form fibres of Nylon 6.

28. (3) Chhaap Tilak Sab Chheeni is a ghazal (poem with a certain structure) written and composed by Amir Khusro, a 14th-century Sufi mystic, in the Braj Bhasha language. Due to the resonance of its melody and mystical lyrics, it is frequently heard in Qawwali concerts across South Asia.

29. (4) IPS officer Sundari Nanda in July 2018 assumed charge as Puducherry Director General of Police, becoming the first woman to head the force in the Union Territory. A 1988 batch officer, she was transferred to Puducherry from the National Capital Territory of Delhi.

30. (3) Silicon is neither metal nor non-metal; it's a metalloid, an element that falls somewhere between the two.It is a hard and brittle crystalline solid with a blue-grey metallic lustre; and it is a tetravalent metalloid and semiconductor. It is the second most abundant element in the Earth's crust (about 28% by mass) after oxygen.

31. (4) Guhar Moti is the westernmost inhabited village in India, in Kutch district in Gujarat. Siachen Glacier, located in the eastern Karakoram range in the Himalaya Mountains, marks the northern extremity of India. Similarly, Indira Point located in the Nicobar district of Andaman and Nicobar Island, marks the southernmost point of India's territory.

32. (4) As per data released by Brickwork Ratings in December 2015, Maharashtra earns approximately 70 per cent of its total receipts through tax revenues — the highest among the bigger states — followed by Gujarat and Tamil Nadu. It is the biggest economy within India at Rs 16.87 lakh crore in terms of gross state domestic product (GSDP). The state also contributes to about 40 percent of India's income tax collections.

33. (1) The byte is a unit of digital information that most commonly consists of eight bits. Computer storage is usually measured in byte multiples. For example, an 820 MB hard drive holds a nominal 820 million bytes - or megabytes - of data.

34. (2) Nelson Mandela, a South African anti-apartheid revolutionary, politician, and philanthropist, served as President of South Africa from 1994 to 1999. He was the country's first black chief executive, and the first elected in a fully representative democratic election.

35. (3) Article 39A of the Constitution of India provides for free legal aid to the poor and weaker sections of the society and ensures justice for all. Article 14 and 22(1) of the constitution also make it obligatory for the state to ensure equality before law and a legal system which promotes justice on the basis of equal opportunity to all.

36. (2) Isobutane, also known as i-butane, 2-methylpropane or methylpropane, is a chemical compound with molecular formula HC(CH?)?. It is an isomer of butane. It is the simplest alkane with a tertiary carbon. Isobutane is used as a precursor molecule in the petrochemical industry, for example in the synthesis of isooctane.

37. (1) According to Stanley E. Jones, Satyagraha is the to-

tality or quintessence of Gandhian thoughts. Through it, Gandhi introduced a new spirit to the world—the philosophy of devotion to truth, remaining firm on the truth and resisting untruth actively but nonviolently. It is the greatest of all Gandhi's contribution to the world.

38. (3) An operating system (OS) is the program that, after being initially loaded into the com *puter by a* boot program, manages all the other programs in a computer. The other programs are called applications or application programs. Examples for OSs include Android, iOS, Mac OS X, Microsoft Windows, Linux, Unix and Ubuntu.

39. (4) A logic gate is an elementary building block of a digital circuit. Most logic gates have two inputs and one output. There are seven basic logic gates: AND, OR, XOR, NOT, NAND, NOR, and XNOR.

40. (2) Oxidation is the loss of electrons during a reaction by a molecule, atom or ion. Oxidation occurs when the oxidation state of a molecule, atom or ion is increased. The opposite process is called reduction, which occurs when there is a gain of electrons or the oxidation state of an atom, molecule, or ion decreases. Oxidation is the loss of hydrogen. Reduction is the gain of hydrogen.

41. (1) Oxides are chemical compounds with one or more oxygen atoms combined with another element. Metal oxides react with water to form basic solutions. All nonmetals form covalent oxides with oxygen, which react with water to form acids or with bases to form salts.

42. (3) A colloidal solution, occasionally identified as a colloidal suspension, is a mixture in which the substances are regularly suspended in a fluid. Though colloidal systems can occur in any of the three key states of matter gas, liquid or solid, a colloidal solution unambiguously refers to a liquid concoction. Cheese is an example of colloidal solution of liquid in solution.

43. (1) Imaginary lines drawn parallel to the equator which run east to west (horizontally) on earth's surface are called latitudes. Latitude is an angle which ranges from $0°$ at the Equator to $90°$ (North or South) at the poles. It is used together with longitude to specify the precise location of features on the surface of the Earth.

44. (3) Bab-el-Mandeb separates Asia from Africa at Aden. It is located between Yemen on the Arabian Peninsula, and Djibouti and Eritrea in the Horn of Africa. Precisely speaking it separates Yemen from Djibouti and Eritrea and connects Red sea with Gulf of Aden (part of Arabian sea).

45. (3) The government has granted Geographical Indication (GI) tag to the Alphonso Mango from Ratnagiri, Sindhudurg and other adjoining areas in Maharashtra, a move that will help identify the authenticity of this variety of fruit. The king of mangoes, Alphonso, better known as 'Hapus' in Maharashtra, is in demand in domestic and international markets for its taste, pleasant fragrance and vibrant colour.

- The first product to get a I tag in India was the Darjeeling tea in 2004.

- There are a total of 325 products from India that carry this indication including Mahabaleshwar Strawberry, Blue Pottery of Jaipur, Banarasi Sarees and Tirupati Laddus.

46. (2) The Lucknow Pact established cordial relations between the two prominent groups of the Indian National Congress – the "hot faction" led by Bal Gangadhar Tilak, and the moderates or the "soft faction", led by Gopal Krishna Gokhale.They had split during the Surat Session (1907) of the Congress.

47. (1) The Wadiyar dynasty was a Hindu dynasty in Indian subcontinent that ruled the Kingdom of Mysore from 1399 to 1950, with a brief interruption in the late 1700s. From 1760 to 1799, the rule of the dynasty was essentially nominal, with real power in the hands of Hyder Ali and his son Tipu Sultan, who expanded the kingdom aggressively.

48. (1) The Hornbill festival is a celebration held every year in Nagaland. Known as 'Festival of Festivals,' it takes place between the 1st and the 7th of December every year in Kohima. The Festival is named after the Indian Hornbill, the large and colourful forest bird.

49. (4) Raj Kapoor (1987), B. R. Chopra (1998), Lata Mangeshkar (1989), Asha Bhosle (2000), Yash Chopra (2001) and Shashi Kapoor (2014 have won Dadasaheb Phalke Award, India's highest award in cinema. It is presented annually at the National Film Awards ceremony by the Directorate of Film Festivals.

50. (3) The deltoid muscle is a rounded, triangular muscle located on the uppermost part of the arm and the top of the shoulder. It is named after the Greek letter delta, which is shaped like an equilateral triangle. The deltoid is attached by tendons to the skeleton at the clavicle (collarbone), scapula (shoulder blade), and humerus (upper arm bone).

51. (1) Distance = Speed × Time
According to the question,

$$x \times \frac{x}{60} + 85 \times 6 = 750$$

$$\Rightarrow \frac{x^2}{60} = 750 - 510$$

$$\Rightarrow \frac{x^2}{60} = 240$$

$\Rightarrow x^2 = 240 \times 60$

$\Rightarrow x^2 = 240 \times 60$

$\Rightarrow x = \sqrt{240 \times 60} = 120$

∴ Time taken in the first part of journey = 2 hours

∴ Required total time = (2 + 6) hours = 8 hours

52. (2) 2 hours 48 minutes

$= 2\dfrac{48}{60}$ hours $= 2\dfrac{4}{5}$ hours $= \dfrac{14}{5}$ hours

Rate downstream of boat

$= \left(84 \div \dfrac{14}{5}\right)$ kmph

$= \left(\dfrac{84 \times 5}{14}\right)$ kmph

= 30 kmph

∴ Required time

$= \left(\dfrac{60}{30} + \dfrac{60}{24}\right)$ hours

$= \left(2 + \dfrac{5}{2}\right)$ hours

$= \left(2 + 2\dfrac{1}{2}\right)$ hours

= 4 hours 30 minutes

53. (1) Time period from 5 a.m. to 5 p.m. = 12 hours

∴ Pipe B works for 12 hours.

∴ Part of tank filled by pipe B in 12 hours

$= \dfrac{12}{24} = \dfrac{1}{2}$

Remaining part $= 1 - \dfrac{1}{2} = \dfrac{1}{2}$

This part is filled by pipe A.

∴ Time taken by pipe A = $\dfrac{1}{2} \times 20$ = 10 hours

∴ Pipe A will be closed at 3 p.m.

54. (3) S.P. of article
= Rs. (720– 259.20)
= Rs. 460.8

∴ $720 \times \dfrac{100-x}{100} \times \dfrac{100-x}{100}$

= 460.8

$\Rightarrow (100 - x)^2 = \dfrac{460.8 \times 10000}{720}$

= 6400

$\Rightarrow (100 - x)^2 = (80)^2$

$\Rightarrow 100 - x = 80$

$\Rightarrow x = 100 - 80 = 20\%$

55. (2) Edge of each smaller cube
= x cm.

∴ $8 \times x^3 = 13824$

$\Rightarrow x^3 = \dfrac{13824}{8} = 1728$

$\Rightarrow x = \sqrt[3]{1728} = 12$ cm.

Edge of larger cube = $\sqrt[3]{13824}$

= 24 cm.

∴ Required ratio of surface areas $= \dfrac{6 \times 24 \times 24}{3 \times 6 \times 12 \times 12} = 4 : 3$

56. (1) 4 years ago,
A's age = $4x$ years
B's age = $5x$ years
After 8 years from now,
A's age = $4x + 4 + 8$
= $(4x + 12)$ years
B's age = $(5x + 12)$ years
According to the question,

∴ $\dfrac{4x + 12}{5x + 12} = \dfrac{11}{13}$

$\Rightarrow 55x + 132 = 52x + 156$

$\Rightarrow 55x - 52x = 156 - 132$

$\Rightarrow 3x = 24 \Rightarrow x = \dfrac{24}{3} = 8$

∴ Sum of their present ages
= $(4x + 4 + 5x + 4)$ years
= $(9x + 8)$ years
= $(9 \times 8 + 8)$ years
= 80 years

57. (4) The number of children in respective standard is not known.

58. (4) P $(x) = 3x^2 + kx + 8$
∵ $(x + 4)$ is a factor of P (x).
∴ P $(- 4) = 0$
$\Rightarrow 3 (- 4)^2 + k (- 4) + 8 = 0$
$\Rightarrow 48 - 4k + 8 = 0$
$\Rightarrow 4k = 56$

$\Rightarrow k = \dfrac{56}{4} = 14$

59. (4) $x + y + z = 0$
∴ $(x + y + z)^2 = 0$
$\Rightarrow x^2 + y^2 + z^2 + 2 (xy + yz + zx)$
= 0

$\Rightarrow x^2 + y^2 + z^2 = -2 (xy + yz + zx)$ ......(i)

∴ Expression $= \dfrac{xy + yz + zx}{x^2 + y^2 + z^2}$

$= \dfrac{xy + yz + zx}{-2(xy + yz + zx)} = -\dfrac{1}{2}$

[From equation (i)]

60. (4) $(x + y)^3 = x^3 + 3x^2y + 3xy^2 + y^3$
∴ $(a + 4)^3 = a^3 + 12a^2 + ka + 64$
$\Rightarrow a^3 + 3a^2 \times 4 + 3 \times a \times 4^2 + 4^3$
$= a^3 + 12a^2 + ka + 4^3$
∴ Coefficient of $a = 3 \times 4^2$
$= 48 = k$

61. (4) Area of the rectangular field
= (56×11) sq. metre = 616 sq. metre
Area of the face of well = πr^2

$= \dfrac{22}{7} \times 7 \times 7 = 154$ sq. metre

∴ Area of the field on which earth is spread
= (616 – 154) sq. metre
= 462 sq. metre
Volume of the earth taken out
= $\pi r^2 h$

$= \left(\dfrac{22}{7} \times 7 \times 7 \times 40\right)$ cu. metre

= 6160 cu. metre.

∴ Required height $= \dfrac{6160}{462}$

= 13.33 metre

62. (1) $\dfrac{\cot\theta + \csc\theta - 1}{\cot\theta - \csc\theta + 1}$

$= \dfrac{\cot\theta + \csc\theta - \left(\csc^2\theta - \cot^2\theta\right)}{\cot\theta - \csc\theta + 1}$

$= \dfrac{(\cot\theta + \csc\theta) - (\csc\theta - \cot\theta)(\csc\theta + \cot\theta)}{\cot\theta - \csc\theta + 1}$

$= \dfrac{(\cot\theta + \csc\theta)(1 - \csc\theta + \cot\theta)}{\cot\theta - \csc\theta + 1}$

= $\cot\theta + \csc\theta$

63. (3) $\dfrac{a}{b} = \dfrac{1}{2}$

∴ $\dfrac{2a - 5b}{5a + 3b} = \dfrac{2\left(\dfrac{a}{b}\right) - 5}{5\left(\dfrac{a}{b}\right) + 3}$

$$= \frac{2 \times \frac{1}{2} - 5}{5 \times \frac{1}{2} + 3}$$

$$= \frac{\frac{1-5}{5} + 3}{\frac{5}{2} + 3} = \frac{-4 \times 2}{5 + 6} = \frac{-8}{11}$$

64. (2) C.P. of article = Rs. 100

∴ Marked price = Rs. 120

S.P. = $\frac{120 \times 80}{100}$ = Rs. 96

∴ Loss = Rs. 4 i.e., 4%

65. (2) $\frac{(243)^{\frac{n}{5}} \times 3^{2n+1}}{9^n \times 3^{n-1}}$

$$= \frac{\left(3^5\right)^{\frac{n}{5}} \times 3^{2n+1}}{\left(3^2\right)^n \times 3^{n-1}}$$

$$= \frac{3^n \times 3^{2n+1}}{3^{2n} \times 3^{n-1}} = \frac{3^{n+2n+1}}{3^{2n+n-1}}$$

$$= \frac{3^{3n+1}}{3^{3n-1}}$$

$$= 3^{3n+1-(3n-1)} = 3^2 = 9$$

66. (3) Let the edge of cube be a units.

Its volume = a^3 cubic units

Radius of sphere = $\frac{a}{2}$ units

Volume of sphere = $\frac{4}{3} \pi \left(\frac{a}{2}\right)^3$

$$= \frac{\pi a^3}{6} \text{ cubic units}$$

∴ Required ratio = $a^3 : \frac{\pi a^3}{6}$

= 6 : π

67. (1) Side of square = $\frac{24}{4}$ cm.

= 6 cm.

Base of triangle = 6 cm.

∵ $6^2 + 8^2 = 10^2$ and 6 + 8 + 10 = 24

∴ Height of triangle = 8 cm.

∴ Area of triangle

$$= \frac{1}{2} \times 6 \times 8 = 24 \text{ sq. cm.}$$

68. (3) Rate of interest = $\frac{8}{4}$ = 2% per quarter

Time = 3 quarters

C.I. = P$\left[\left(1 + \frac{R}{100}\right)^T - 1\right]$

$$= 5000 \left[\left(1 + \frac{2}{100}\right)^3 - 1\right]$$

$$= 5000 \left[(1.02)^3 - 1\right]$$

$$= 5000 (1.061208 - 1)$$

$$= 5000 \times 0.061208$$

$$= \text{Rs. } 306.04$$

69. (3) Water stored in tank

$$= \frac{12 \times 10 \times 50}{100} = 60 \text{ cu. metre.}$$

= Capacity of tank.

70. (3) $\tan\frac{\theta}{2} . \tan\frac{2\theta}{5} = 1$

$$\Rightarrow \tan\frac{\theta}{2} = \frac{1}{\tan\frac{2\theta}{5}} = \cot\frac{2\theta}{5}$$

$$\Rightarrow \tan\frac{\theta}{2} = \tan\left(90° - \frac{2\theta}{5}\right)$$

$$\Rightarrow \frac{\theta}{2} = 90° - \frac{2\theta}{5}$$

$$\Rightarrow \frac{\theta}{2} + \frac{2\theta}{5} = 90°$$

$$\Rightarrow \frac{5\theta + 4\theta}{10} = 90° \Rightarrow 9\theta = 900°$$

$$\Rightarrow \theta = \frac{900}{9} = 100°$$

71. (2) Fifth number = x

∴ Sixth number = $x - 6$

Seventh number = $x - 1$

∴ $5 \times 40 + 4 \times 44 + x + x - 6 + x - 1 = 12 \times 42$

$\Rightarrow 200 + 176 + 3x - 7 = 504$

$\Rightarrow 369 + 3x = 504$

$\Rightarrow 3x = 504 - 369 = 135$

$$\Rightarrow x = \frac{135}{3} = 45$$

∴ Required average

$$= \frac{x + x - 1}{2} = \frac{2x - 1}{2}$$

$$= \frac{2 \times 45 - 1}{2} = \frac{89}{2} = 44.5$$

72. (1) $(x + y + z)^2$

$= x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$

$\Rightarrow (19)^2$

$= 133 + 2(xy + yz + zx)$

$\Rightarrow 361 - 133 = 2(xy + yz + zx)$

$\Rightarrow 2(xy + yz + zx) = 228$

$\Rightarrow xy + yz + zx = 114$

$\Rightarrow xy + yz + y^2 = 114$

($\because y^2 = xz$)

$\Rightarrow y(x + y + z) = 114$

$\Rightarrow y \times 19 = 114$

$$\Rightarrow y = \frac{114}{19} = 6$$

∴ $x + y + z = 19$

$\Rightarrow x + z = 19 - 6 = 13$

∴ $(x - z)^2 = (x + z)^2 - 4xz$

$= (13)^2 - 4 \times y^2$

$= 169 - 4 \times 36$

$= 169 - 144 = 25$

∴ $x - z = \sqrt{25} = 5$

73. (3) Expression

$$= \frac{2 + tan^2\theta + cot^2\theta}{sec\theta . cosec\theta}$$

$$= \frac{1 + tan^2\theta + 1 + cot^2\theta}{sec\theta . cosec\theta}$$

$$= \frac{sec^2\theta + cosec^2\theta}{sec\theta . cosec\theta}$$

$$[\because sec^2\theta - tan^2\theta = 1; cosec^2\theta - cot^2\theta = 1]$$

$$= \frac{sec^2\theta}{sec\theta . cosec\theta} + \frac{cosec^2\theta}{sec\theta . cosec\theta}$$

$$= \frac{sec\theta}{cosec\theta} + \frac{cosec\theta}{sec\theta}$$

$$= \frac{1}{cos\theta} . sin\theta + \frac{1}{sin\theta} . cos\theta$$

$$\left[cosec\theta = \frac{1}{sin\theta}; sec\theta = \frac{1}{cos\theta}\right]$$

$$= \frac{sin^2\theta + cos^2\theta}{sin\theta . cos\theta}$$

$$= \frac{1}{sin\theta . cos\theta} = sec\theta . cosec\theta$$

74. (2) $x^2 + \frac{1}{x^2} = \frac{7}{4}$

$$\Rightarrow \left(x + \frac{1}{x}\right)^2 - 2 = \frac{7}{4}$$

$$\Rightarrow \left(x + \frac{1}{x} \right)^2$$

$$= 2 + \frac{7}{4} = \frac{8+7}{4} = \frac{15}{4}$$

$$\therefore \ x + \frac{1}{x} = \sqrt{\frac{15}{4}} = \frac{\sqrt{15}}{2}$$

75. (1) $\sec\theta = \frac{13}{12}$

$$\therefore \ \tan\theta = \sqrt{\sec^2\theta - 1} = \sqrt{\left(\frac{13}{12}\right)^2 - 1}$$

$$= \sqrt{\left(\frac{169}{144} - 1\right)} = \sqrt{\frac{169 - 144}{144}}$$

$$= \sqrt{\frac{25}{144}} = \frac{5}{12}$$

$$\therefore \ \cot\theta = \frac{12}{5}$$

$$\therefore \ \sqrt{\cot\theta + \tan\theta} = \sqrt{\frac{12}{5} + \frac{5}{12}}$$

$$= \sqrt{\frac{12^2 + 5^2}{60}} = \sqrt{\frac{144 + 25}{60}}$$

$$= \frac{\sqrt{169}}{\sqrt{60}} = \frac{13}{2\sqrt{15}}$$

76. (1) Period of time is evident. Hence, Present perfect continuous will be used.

77. (1) Conditional clause $\Rightarrow$ Present simple
Main clause $\Rightarrow$ Future simple
If you read, you **will pass**.

78. (1) It is in passive voice (Past progressive)
Subject + was/were + v–ing + object (Active voice)

79. (1) **Manoeuvre** = movement or set of movements needing skill and care.
Commensurate = equivalent; comparable.
Exaggerate (Verb) = to make something seem larger, important than it really is.

80. (2) **Wasteful (Adjective)** = using more of something than is necessary; not saving.

81. (4) **Arcane (Adjective)** = secret and mysterious and therefore difficult to understand.
Look at the sentence :
He died in arcane circumstances.

83. (2) **Heads will roll** = people will get into trouble and be punished; dismissed or forced to resign.
Look at the sentence :
A big studio is said to be involved and it is predicted that heads will soon roll there.

84. (2) **Costume (Noun)** = a set of clothes worn by people, suitable for a particular activity.
Apparel (Noun) = clothes especially those worn on a formal occasion.
Eg. Sports apparel

85. (1) **Bashful (Adjective)** = shy and easily embarrassed.
Look at the sentence :
She gave only a bashful smile after she was praised.

88. (1) Here, The teachers, whom I worked with .... should be used.
Whom is used in stead of 'who' as the object of a verb or preposition.

89. (2) **One of** is followed by a plural Noun/pronoun.
Hence, versatile writers ever lived .... should be used here.

90. (3) **Belligerent (Adjective)** = unfriendly and aggressive; hostile
Look at the sentence :
The speaker got a belligerent reception from the audience.

91. (3) The reported speech of the given direct speech is an interrogative sentence and the reporting verb is in past tense. Hence, the 'Wh word -how' would be used as the connector in place of that and 'can' will be changed into 'could' to make the correct indirect speech.
Persons are changed according to the SON formula.
First person $\Rightarrow$ Subject

Second person $\Rightarrow$ Object
Third person $\Rightarrow$ No change

92. (4) **Expel** = to officially make somebody leave an organisation.

93. (4) **Rambunctious (Adjective)** = full of energy in a cheerful and noisy way; boisterous.

94. (3) **Impeccable (Adjective)** = without mistakes or faults; perfect.
Inexact (Adjective) = not accurate or exact.
Look at the sentences :
Her written English is impeccable.
Economics is an inexact science.

95. (3) **Incidence (Noun)** = the rate of happening of something.
Expectation (Noun) = the belief that something will happen.

96. (1) **Frequency** = the rate at which something occurs
Occurrence (Noun) = incident

97. (4) **Astonishingly (Adverb)** = in a way that is very surprising.
Merely (Adverb) = only- just.
An adverb modifies an adjective.

98. (1) **Acknowledge (Verb)** = to accept or admit that something is true.
Assured (Adjective) = confident.

99. (2) Before countable noun, **number** is used.

100. (2) **Coerce (Verb)** = to force somebody to do something, especially by threatening; persuade someone forcefully to do something.
Look at the sentence :
The court heard that six defendants had been coerced into making a confession.
Cajole (Verb) = to persuade someone to do something by pleasant talk and promises.
**Enchant (Verb)** = captivate; charm; enthral.

∎∎∎

PART-A
GENERAL INTELLIGENCE

1. Select the set in which the numbers are related in the same way as are the numbers of the following set.
   (3, 24, 4)
   (1) (6, 35, 11)
   (2) (2, 30, 8)
   (3) (12, 84, 4)
   (4) (4, 72, 9)

2. Read the given information and answer the question that follows.
   - A + B means 'A is the father of B'
   - A – B means 'A is the husband of B'
   - A × B means 'A is the daughter of B'
   - A ÷ B means 'A is the sister of B'
   If P + M ÷ Q × N × T – U, then how is P related to N?
   (1) Son
   (2) Brother
   (3) Uncle
   (4) Husband

3. Select the correct mirror image of the given figure when the mirror is placed to the right of the figure.
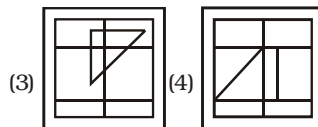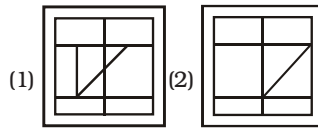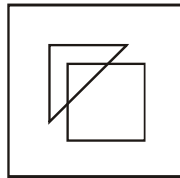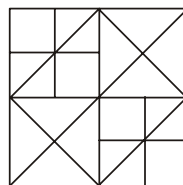   **Question Figure :**

   Answer Figures :

   (1)

   (2)

(3)

(4)
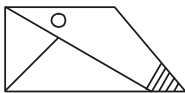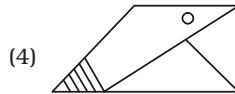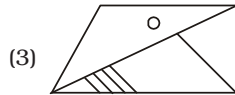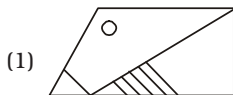
4. From the given answer figures, select the one in which the question figure is hidden/embedded.

   (1) (2)

   (3) (4)

5. How many squares are there in the following figure?

   (1) 12 (2) 16
   (3) 13 (4) 14

6. Select the combination of letters that when sequentially placed in the gaps of the given letter series will complete the series.

   b_bab_bc_abbb_ba_b
   (1) cbbac (2) cbabc
   (3) cbbcb (4) bcbab

7. In the following question, select the odd letters from the given alternatives.
   (1) KQWC (2) FLRY
   (3) NTZF (4) RXDJ

8. In the following question, select the odd number from the given alternatives.
   (1) 26 – 8 (2) 52 – 7
   (3) 34 – 7 (4) 42 – 8

9. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

   (1) (2)

   (3) (4)
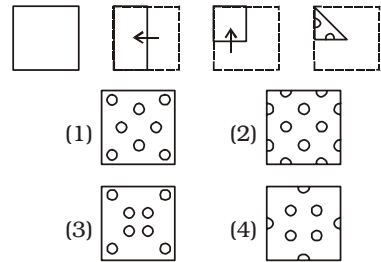
10. In the following question, a series is given with one or more word missing. Choose the correct alternative from the given options.
    Leaves, Twig, Branches, Trunk, ?
    (1) Soil (2) Roots
    (3) Fruits (4) Grass

11. In the following question, select the odd letters from the given alternatives.
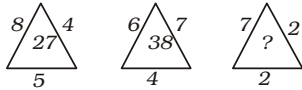   (1) ROKHC (2) VSOLH
    (3) JGCZV (4) FCYVR

12. In the following question, select the related letters from the given alternatives.
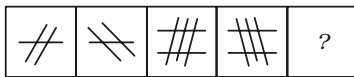   LOCK : OLFH : : MATE : ?
    (1) QYAN (2) LGHT
    (3) QRXZ (4) PXWB

13. Choose the alternative that best replaces the question mark(?) in the given figure.
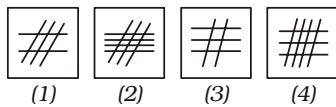

(1) 15   (2) 12
(3) 19   (4) 24

14. Complete the series.
8888, 666, 44, (...)
(1) 20   (2) 2
(3) 22   (4) 0

15. Select the related letters from the given alternatives.
PRT : QSU : : VXZ : ?
(1) WYB   (2) WYA
(3) ACE   (4) VYB

16. Select the figure that will come next in the following figure series :
Question Figures :

Answer Figures :

17. Select the word–pair in which the two words are related in the same way as are the two words in the following word-pair.
Book : Thesaurus
(1) Tree : Forest
(2) Reptile : Python
(3) Furniture : Wood
(4) Tennis : Ball

18. Two workmen L and M start at the point. L walks 25 m East, then turns left and walks 15 m. In the meanwhile M walks 18 m South, then turns to his right and walks 17 m , then turns North and walks 33 m. Where is M with respect to L?
(1) 42 m West   (2) 42 m East
(3) 15 m West   (4) 15 m East

19. Six friends are sitting in a circle and are facing the centre of the circle. Runa, Charu and Pari are females. Varun, Manu and Prakash are males. Manu is between Varun and Prakash, Charu is between Pari and Runa. Varun and Pari are opposite to each other. Person sitting to the right of Runa is male. Who is sitting just right to Prakash?
(1) Manu   (2) Charu
(3) Pari   (4) Varun

20. Which two signs should be interchanged in the following equation to make it correct?
$24 \div 8 - 5 \times 5 + 3 = 13$
(1) × and –   (2) × and +
(3) ÷ and ×   (4) ÷ and +

21. In a code language, VICTORY is written as CIVSYRO. How will TRAITOR be written as in that language?
(1) RATHORT (2) RTAJORT
(3) ARTJOTR (4) ARTHROT

22. In this question, two statements are given followed by two Conclusions. Choose the Conclusion(s) which best fit(s) logically.
   Statements :
     (1) Some fools are intelligent.
     (2) Some children are intelligent.
     Conclusions :
   I. Some fools are children.
   II. All children are intelligent.
     (1) Neither Conclusion I nor II follows.
     (2) Both Conclusions I and II follow.
     (3) Only Conclusion I follows.
     (4) Only Conclusion II follows.

23. Which of the following represents the relationship between Science, Biology and Zoology?
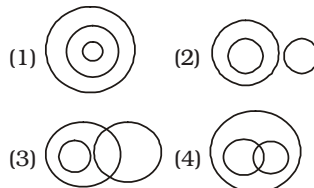
24. Arrange the given words in the sequence in which they occur in the dictionary :
1. First   2. Frown
3. Fist   4. Fast
5. Floor
(1) 13542   (2) 41523
(3) 41352   (4) 13452

25. Select the set in which the numbers are related in the same way as are the numbers of the following set.
(3, 24, 4)
(1) (6, 35, 11)
(2) (2, 30, 8)
(3) (12, 84, 4)
(4) (4, 72, 9)

PART-B
GENERAL AWARENESS

26. Which Maratha warrior died in the successful defence of the Sinhagad fort fighting against at Mughal army ?
(1) Chimaji Appa
(2) Baji Prabhu Deshpande
(3) Tanaji Malusare
(4) Baji Pasalkar

27. In which amendment to the constitution were the Bodo, Dogri, Santhali and Maithli added to the list of recognised languages ?
(1) 73rd Constitution Amendment Act of 2003
(2) 92nd Constitution Amendment Act of 2003
(3) 103rd Constitution Amendment Act, 2018
(4) 101st Constitution Amendment Act, 2016

28. What causes hydrophobia?
(1) Bacteria
(2) Varroa virus
(3) Acute virus
(4) Rabies virus

29. Who attacked and looted the famous Somnath temple in 1026 AD?
(1) Muhammad Ghori
(2) Mahmud of Ghazni
(3) Nadir Shah
(4) Genghis Khan

30. Which country was the first to implement Goods and Services Tax (GST)?
    (1) France   (2) USA
    (3) Germany (4) Canada

31. Which is the largest blood vessel in human body?
    (1) Aorta
    (2) Anatomises
    (3) Tunica Intima
    (4) Atrium

32. 'El Nino' that affects our Monsoons, has its origins in
    (1) The Indian Ocean
    (2) The Himalayan Plateau
    (3) The Pacific Ocean
    (4) The Arabian Peninsula

33. IDFC Bank proposed to change its name. What will be the new name of IDFC bank?
    (1) IDFC Capital Bank
    (2) IDFC First Bank Ltd.
    (3) IDFC Capital First Bank
    (4) IDFC Bank Ltd.

34. The Person known for "Communication Revolution in India" is:
    (1) Prannoy Roy
    (2) Petroda Ericson
    (3) Craig Wigginton
    (4) Sam Pitroda

35. Which gas in its solid state is also known as dry ice?
    (1) Nitrogen
    (2) Carbon dioxide
    (3) Oxygen
    (4) Hydrogen

36. Name the oldest operating port in India built by the British East India Campany.
    (1) Kolkata Port
    (2) Chennai Port
    (3) Mumbai Port
    (4) Vishakapatnam Port

37. When was RBI established?
    (1) 1943   (2) 1935
    (3) 1939   (4) 1936

38. Hydrophone is an instrument that shows changes in:
    (1) Sound under water
    (2) Atmospheric humidity
    (3) Density of liquid
    (4) Elevation of land

39. Which one of the following reflects back more sunlight as compared to other three?
    (1) Sand desert
    (2) Land covered with fresh snow
    (3) Prairie land
    (4) Paddy crop land

40. Abbreviation of Doctor of Philosophy is:
    (1) PH.D   (2) D Phil
    (3) PH D   (4) Ph. D

41. Which monument is in pink colour?
    (1) Taj Mahal
    (2) Hawa Mahal
    (3) Moti Mahal
    (4) Mumtaz Mahal

42. The second lightest of all gases is :
    (1) Nitrogen   (2) Hydrogen
    (3) Helium   (4) Oxygen

43. Metals can be ____ at room temperature.
    (1) Liquid only
    (2) Solid only
    (3) Solid or liquid
    (4) Solid, liquid or gas

44. Which Article of the Indian Constitution provides free and compulsory education to children?
    (1) 21-A   (2) 46
    (3) 39   (4) 15

45. According to World Happiness Index what is the rank of India?
    (1) 156   (2) 123
    (3) 141   (4) 118

46. Which of the following ports is the first port that was developed after independence in Gujrat State?
    (1) Mundra   (2) Kandla
    (3) Hazira   (4) Bhavnagar

47. The property of catenation is predominant in _____.
    (1) sulphur   (2) nitrogen
    (3) silicon   (4) carbon

48. Which creature grows again after it is cut into half ?
    (1) Frog
    (2) Earthworm
    (3) Lizard
    (4) Cockroach

49. In which of the following cities is the longest beach in India located ?
    (1) Mangalore   (2) Cochin
    (3) Chennai   (4) Mumbai

50. If a person weighs 66 kg on the Earth, how much is his weight on the moon?
    (1) 55 kg   (2) 77 kg
    (3) 11 kg   (4) 132 kg

PART-C
QUANTITATIVE APTITUDE

51. A circle is inscribed in a triangle ABC. It touches the sides AB, BC and AC at the points R, P and Q respectively. If AQ = 4.5 cm, PC = 5.5 cm and BR = 6 cm, then the perimeter of the triangle ABC is :
   (1) 30.5 cm.   (2) 28 cm.   (3) 32 cm.   (4) 26.5 cm.

Directions (52–55) : The table shows the production of different types of cars (in thousands). Study the table carefully and answer the questions

Years\Cars	2012	2013	2014	2015	2016
A	30	35	48	45	56
B	42	48	40	38	56
C	48	36	38	35	44
D	51	24	30	46	54
E	20	42	40	35	43

52. If the data related to the production of cars of type E is represented by a pie chart, then the central angle of the sector representing the data of production of cars in 2013 will be :
    (1) 102°   (2) 84°   (3) 70°   (4) 80°

53. What is the ratio of the total production of cars of type A in 2014 and type C in 2013 taken together to the total production of cars of type B in 2016 and type E in 2015 taken together?
(1) 12 : 13   (2) 11 : 12
(3) 10 : 11   (4) 12 : 11

54. The total production of type B cars in 2012, 2014 and 2015 taken together is approximately what per cent more than the total production of type A cars in 2013 and 2016 taken together?
(1) 31.9   (2) 33.2
(3) 36.3   (4) 34.4

55. The number of years, in which the production of cars of type B is less than the average production of type D cars over the years is :
(1) 4   (2) 1
(3) 3   (4) 2

56. If $4 - 2\sin^2\theta - 5\cos\theta = 0$, $0° < \theta < 90°$, then the value of $(\sin\theta + \tan\theta)$ is :
(1) $\dfrac{3\sqrt{2}}{2}$ (2) $\dfrac{3\sqrt{3}}{2}$
(3) $3\sqrt{2}$ (4) $2\sqrt{3}$

57. A cube of side 4 cm has kept in a rectangular tank whose measurement is 25cm × 16cm and there is water at depth of 3cm. How much water be poured in tank so that the cube is completely covered?
(1) 16 cm³   (2) 48 cm³
(3) 434 cm³   (4) 450 cm³

58. The value of
$\dfrac{cosec\theta}{cosec\theta - 1} + \dfrac{cosec\theta}{cosec\theta + 1}$ is –
(1) $2\,cosec^2\,\theta$ (2) $2\cos^2\theta$
(3) $2\cot^2\theta$ (4) $2\sec^2\theta$

59. If $\left(x + \dfrac{1}{x}\right)^2 = 5$ and $x > 0$, then what is the value of $\left(x^3 + \dfrac{1}{x^3}\right)$?
(1) $2\sqrt{5}$ (2) $3\sqrt{5}$
(3) $4\sqrt{5}$ (4) $5\sqrt{5}$

60. A truck covers a distance of 384 km at a certain speed. If the speed is decreased by 16 km/h., it will take 2 hours more to cover the same distance. 75% of its original speed (in km/h.) is :
(1) 45   (2) 54
(3) 48   (4) 42

61. If decreasing 120 by $x\%$ gives the same result as increasing 40 by $x\%$, then $x\%$ of 210 is what per cent less than $(x + 20)\%$ of 180?
(1) $33\dfrac{1}{3}$ (2) 18
(3) $16\dfrac{2}{3}$ (4) 20

62. If $\left(5\sqrt{5}x^3 - 81\sqrt{3}y^3\right) \div \left(\sqrt{5}x - 3\sqrt{3}y\right)$
$= (Ax^2 + By^2 + Cxy)$, then the value of
$\left(6A + B - \sqrt{15}C\right)$ is :
(1) 10   (2) 9
(3) 15   (4) 12

63. If a nine–digit number $985x3678y$ is divisible by 72, then the value of $(4x - 3y)$ is :
(1) 5   (2) 4
(3) 6   (4) 3

64. If $\sin\theta = \dfrac{p^2 - 1}{p^2 + 1}$, the $\cos\theta$ is equal to :
(1) $\dfrac{2p}{1 + p^2}$ (2) $\dfrac{p}{p^2 - 1}$
(3) $\dfrac{p}{1 + p^2}$ (4) $\dfrac{2p}{p^2 - 1}$

65. If $\sqrt{5} = 2.236$, then what is the value of $\dfrac{\sqrt{5}}{2} + \dfrac{5}{3\sqrt{5}} - \sqrt{45}$?
(1) –8.571   (2) –4.845
(3) –2.987   (4) –6.261

66. In the figure below, AB is a chord of a circle with centre O. A tangent AT is drawn at point A so that ∠BAT=50°. Then ∠ADB= ?
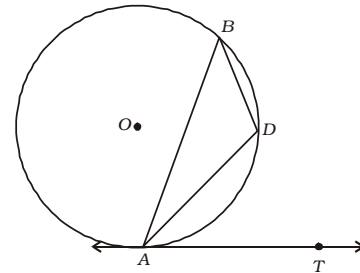
(1) 120°   (2) 130°
(3) 140°   (4) 150°

67. Anil started a business with an investment of Rs. 25,000. After 3 months, Vishal joined his business with a capital of Rs. 30,000. At the end of the year, they have made a profit of Rs. 19,000. What will be Anil's share in the profit?
(1) Rs. 10,000 (2) Rs. 12,500
(3) Rs. 10,250 (4) Rs. 14,000

68. If for a non–zero x, $3x^2 + 5x + 3 = 0$, then the value of $x^3 + \dfrac{1}{x^3}$ is :
(1) $\dfrac{10}{27}$ (2) $-\left(\dfrac{10}{27}\right)$
(3) $\dfrac{2}{3}$ (4) $-\left(\dfrac{2}{3}\right)$

69. The length of the common chord of two intersecting circles is 12 cm. If the diameters of the circles are 15 cm and 13 cm, then what is the distance (in cm) between their centres?
(1) $\dfrac{7}{2}$ (2) 7
(3) $7\sqrt{2}$ (4) 14

70. A man rows to a place 35 km in distant and back in 10 hours 30 minutes. He found that he could row 5 km with the stream in the same time as he can row 4 km against the stream. Find the rate of flow of the stream.:
(1) 1 km/hr
(2) 0.5 km/hr
(3) 0.75 km/hr
(4) 1.5 km/hr

71. If the selling price of 318 arti-

cles is equal to the cost price of 212 articles, then what is the loss percentage ?

(1) 20　　　(2) $33\dfrac{1}{3}$

(3) 40　　　(4) $33\dfrac{2}{3}$

72. If $\sin 54° = \dfrac{\sqrt{5}+1}{4}$ then the value of $\sin 12° \sin 48° \sin 54°-$

(1) $-\dfrac{1}{8}$　　　(2) $\dfrac{1}{8}$

(3) $-\sqrt{\dfrac{5}{4}}$　　　(4) $\sqrt{\dfrac{5}{4}}$

73. The side of an equilateral triangle is 6 cm. The length of base of triangle having same area is 3 cm. Then what will be the height of second triangle?

(1) $4\sqrt{3}$ cm　　(2) $5\sqrt{3}$ cm

(3) $6\sqrt{3}$ cm　　(4) $8\sqrt{3}$ cm

74. In a $\triangle$ABC, the bisectors of $\angle$B and $\angle$C meet at point O, inside the traingle. If $\angle$BOC = 122°, then the measure of $\angle$A is :
(1) 64°　　　(2) 62°
(3) 72°　　　(4) 68°

75. If $x^4 + x^4 = 194$, $x > 0$, then the value of $(x-2)^2$ is :
(1) 1　　　(2) 6
(3) 2　　　(4) 3

PART-D
ENGLISH LANGUAGE

Directions : Improve the bracketed part of the sentences.

76. His coach **(wishes I to play)** for his team.
(1) wishes that I have played
(2) wishes that me to play
(3) wishes me to play
(4) No Improvement

77. Select the antonym of the given word.
EXPANSION
(1) inflation
(2) augmentation
(3) extension
(4) compression

78. In the sentence identify the segment which contains the grammatical error.
We had to decline several orders in case that the production was held up due to labour strike.
(1) in case that
(2) the production was held up
(3) due to labour strike
(4) We had to decline

79. A sentence is given with blanks to be filled in with appropriate words. Four alternatives are suggested. Choose the correct alternative out of the four.
Mr. Naimi, the chief secretary, was unceremoniously _____after party's ____ defeat in general elections.
(1) exiled, predictable
(2) ousted, disastrous
(3) recommended, unexpected
(4) honoured, stupendous

80. Four alternatives are given for the Idiom/Phrase printed in **bold**. Choose the alternative which best expresses the meaning of Idiom/Phrase.
To beat the rap
(1) to destroy stereotypes
(2) to be more successful than others
(3) to be acquitted of a crime
(4) to involve someone in a crime

81. Four words are given, out of which only one word is correctly spelt. Find the correctly spelt word.
(1) heirachy　　(2) hierarchy
(3) heirarchy　　(4) hairarchy

Directions : In the following question, out of the four alternatives, select the word similar in meaning to the word given.

82. **Epitome**
(1) type　　　(2) extension
(3) ruddy　　　(4) lively

83. Select the most appropriate word to fill in the blank.
His company has the ____ of producing the best cricket balls in the country.
(1) opinion　　(2) brand
(3) reputation　(4) position

84. Select the word which means the same as the group of words given.
A person, animal or plant much below the usual height
(1) wizard　　(2) dwarf
(3) creature　　(4) witch

85. Four alternatives are given for the Idiom/Phrase printed in **bold**. Choose the alternative which best expresses the meaning of Idiom/Phrase.
Many of us have seen the dog who is **full of beans** outside the ring but, after stepping across the threshold of the ring, walks as if his feet are made of lead.
(1) successful
(2) popular
(3) lacks energy
(4) energetic

86. Four words are given, out of which only one word is correctly spelt. Find the correctly spelt word.
(1) rhapsodic　　(2) rapsodic
(3) rapcodic　　(4) rapsodich

87. Select the synonym of the given word.
CHRONIC
(1) ordinary　　(2) persistent
(3) common　　(4) temporary

88. Four words are given, out of which only one word is correctly spelt. Find the correctly spelt word.
(1) challange
(2) chalenge
(3) challenge
(4) chalange

89. Select the antonym of the given word.
SCARCE
(1) scanty　　　(2) few
(3) seldom　　　(4) plentiful

90. Out of the four alternatives, choose the one which can be substituted for the given words.
To renounce one's throne
(1) Abdicate　　(2) Arrogate
(3) Abstain　　(4) Abrogate

Directions (91–92) : Given below are four jumbled sentences. Select the option that gives their correct order.

91. A. The cafe's owner says he's interested in conservation, and hopes customers will realise the animals are worth saving, even though they often have a bad reputation.

B. None of them are venomous, meaning customers can get up close and personal with the reptiles.

C. Here you sip your drink in the company of 35 snakes.

D. This cafe, which has just opened in Tokyo, is not for the faint-hearted.

(1) DBCA　　(2) DCBA
(3) ABCD　　(4) ABDC

92. A. An environmental group performed a necropsy on the animal and found about 40 kilograms of plastic, including grocery bags and rice sacks.

B. A 4.7-metre long whale died on Saturday in Phillipines where it was stranded a day earlier.

C. "It's very disgusting and heartbreaking," he said. "We've done necropsies on 61 dolphins and whales in the last 10 years and this is one of the biggest amounts of plastic we've seen."

D. "The animal died from starvation and was unable to eat because of the trash filling its stomach," said Darrell Blatchley, Director of D' Bone Collector Museum Inc..

(1) ABCD　　(2) DABC
(3) BADC　　(4) BACD

Directions : In the following question, a sentence has been given in Active/Passive voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice.

93. Have residents decided to call police, affer seeing some rioters ?

(1) Has it been decided by residents to call the police, affer seeing some rioters?

(2) Have itbeen decided by residents to call the police, affer seeing some rioters?

(3) Itwas being decided byresidents to call the police, affer seeing some rioters.

(4) It had been decided by residents to call the police, after seeing some rioters.

Directions : In the following question, a sentence has been given in Direct/Indirect Speech. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct speech.

94. The President said to the nation, "Be united in the time of difficulty."

(1) The President commanded the nation to be united in the time of difficulty.

(2) The President addressed the nation to be united in the time of difficulty.

(3) The President urged the nation that they should unite in the time of difficulty.

(4) The President told the nation that it is good to be united in the time of difficulty.

Directions (95–99) : In each of the following passages, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank (numbered) out of the four alternatives.

The 28th session of the Standing Labour Committee **(95)** here yesterday concluded without any agreement being reached on the question of automation. Representatives of employers and that of labour **(96)** after the meeting, asserting that the session did not impose any commitments on them. At the afternoon meeting of the session the Union Labour Minister, Mr. Jaisukhlal Hathi, **(97)** spokesmen of both labour and employers to sum up their conclusions. The labour point of view was **(98)** by Mr. Bagaram Tulpule, who said that labour was definitely against automation in the country which was short of technological and capital resources and with a huge human potential. Exceptions may be made in the cases where there is some kind of "compulsion" but what constitutes a compulsion must be spelt **(99)** in great detail.

95. (1) hold　　(2) behold
(3) to be held　(4) held

96. (1) dispersed　(2) assembled
(3) hugg　　(4) laugh

97. (1) introduced
(2) invited
(3) applauded
(4) praised

98. (1) put up　　(2) put on
(3) put off　　(4) put forward

99. (1) out　　(2) in
(3) of　　(4) on

100. Select the wrongly spelt word.
(1) calender　(2) career
(3) callous　　(4) carriage

▤▤▤	**ANSWERS**	▤▤▤

1. (4)	2. (4)	3. (4)	4. (3)
5. (4)	6. (3)	7. (2)	8. (4)
9. (2)	10. (2)	11. (1)	12. (4)
13. (2)	14. (2)	15. (2)	16. (4)
17. (2)	18. (2)	19. (3)	20. (2)
21. (4)	22. (1)	23. (1)	24. (3)
25. (4)	26. (3)	27. (2)	28. (4)
29. (2)	30. (1)	31. (1)	32. (3)
33. (2)	34. (4)	35. (2)	36. (1)
37. (2)	38. (1)	39. (2)	40. (1)
41. (2)	42. (3)	43. (3)	44. (1)
45. (4)	46. (2)	47. (4)	48. (2)
49. (3)	50. (3)	51. (3)	52. (2)
53. (1)	54. (1)	55. (4)	56. (2)
57. (3)	58. (4)	59. (1)	60. (3)
61. (3)	62. (4)	63. (2)	64. (1)
65. (2)	66. (2)	67. (1)	68. (1)
69. (2)	70. (3)	71. (2)	72. (2)
73. (3)	74. (1)	75. (4)	76. (3)
77. (4)	78. (1)	79. (2)	80. (3)
81. (2)	82. (1)	83. (3)	84. (2)
85. (4)	86. (1)	87. (2)	88. (3)
89. (4)	90. (1)	91. (1)	92. (3)
93. (1)	94. (2)	95. (4)	96. (1)
97. (2)	98. (4)	99. (1)	100. (1)

EXPLANATIONS

1. (4) (3, 24, 4)

⇒ 3 × 4 × 2 = 24

Similarly,

(4, 72, 9)

⇒ 4 × 9 × 2 = 72

2. (4) P + M ⟶ P is father of M.

M ÷ Q ⟶ M is sister of Q.

Q × N ⟶ Q is daughter of N.

P is father of M and Q.

N is mother of M and Q.

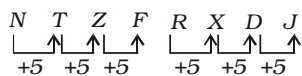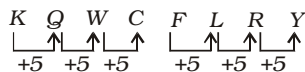Therefore, P is husband of N.

3. (4)

4. (3)

5. (4)
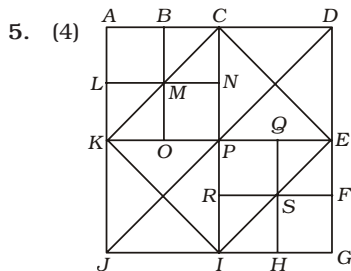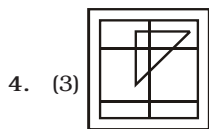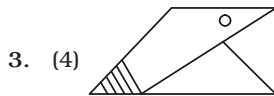
The squares are :

ABML; BCNM; LMOK;

MNPO; ACPK; KPIJ;

CDEP; PQSR; QEFS;

RSHI; SFHG; PEGI;

KCEI; ADGJ
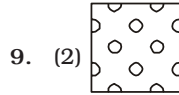
Thus, there are altogether 14 squares in the given figure.

6. (3) b $\boxed{c}$ b a b $\boxed{b}$ / b c $\boxed{b}$
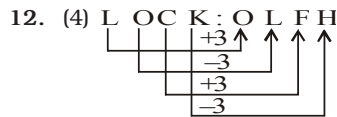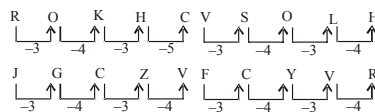
a b b / b $\boxed{c}$ b a $\boxed{b}$ b

7. (2)

K Q W C F L R Y
+5 +5 +5 +5 +5 +5

N T Z F R X D J
+5 +5 +5 +5 +5 +5

8. (4) 42 – 8

9. (2)

10. (2) Roots grow to develop trunk. Trunk gives rise to branches and twig. Leaves grow on twig.

11. (1)

R O K H C V S O L H
 –3 –4 –5 –3 –4 –3 –4

J G C Z V F C Y V R
 –3 –4 –3 –4 –3 –4 –3

12. (4) L O C K : O L F H

+3
–3
+3
–3

Similarly,

M A T E : P X W B

+3
–3
+3
–3
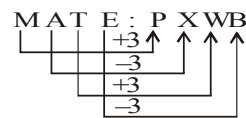
13. (2) First Figure

8 × 4 – 5 = 27

Second Figure

6 × 7 – 4 = 38

Third Figure

7 × 2 – 2 = 14 – 2 = 12

14. (2) Look at the pattern :

8888 ⇒ 4 digits
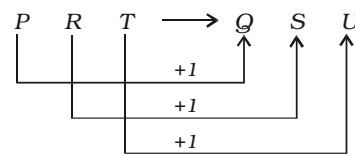
666 ⇒ 3 digits, 8 – 2 = 6

44 ⇒ 2 digits, 6 – 2 = 4

2 ⇒ 1 digit, 4 – 2 = 2

15. (2)

P R T ⟶ Q S U

+1
+1
+1

Similarly,

V X Z ⟶ W Y A

+1
+1
+1
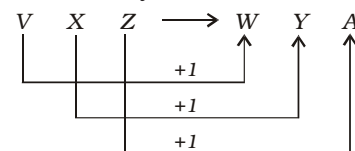
16. (4) From First Figure to Third Figure one vertical but tilted and one horizontal line segments are added. Similarly,

from second figure to fourth figure one vertical but tilted and one horizontal line segments are added.
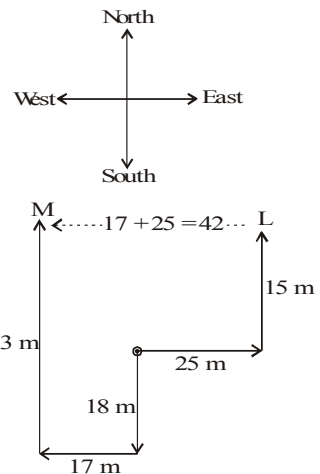
Therefore, similar changes would occur from third figure to fifth figure.

Alternatively, after every two figures one vertical but tilted and one horizontal line segments are added and vertical line segment(s) change(s) direction in each subsequent figure.

17. (2) The second belongs to the first. Thesaurus is a book containing words and phrases arranged according to their meanings.

Similarly, Python is a large reptile.

18. (2)

'M' with respect to 'L'm = 42 m East.

19. (3)

Pari is sitting just to right of Prakash.