



# AIIMS GENERAL KNOWLEDGE

with Logical Thinking

## COVERS

- ❖ Current Affairs Update
- ❖ General Knowledge
- ❖ Logical Thinking
- ❖ Theory with Exercises

2 Sets of  
2016  
GK Solved  
Papers

National Scheme & Programmes | Environment  
Panorama | Technology | Everyday Science

Dr. MD. USMANGANI ANSARI



# AIIMS

## GENERAL

## KNOWLEDGE

with Logical Thinking

**DR. MD. USMANGANI ANSARI**

### Covers

- ◎ Current Affairs Update
- ◎ General Knowledge
- ◎ Logical Thinking
- ◎ Theory with Exercises

- **Head Office :** B-32, Shivalik Main Road, Malviya Nagar,  
New Delhi-110017
  - **Sales Office :** B-48, Shivalik Main Road, Malviya Nagar,  
New Delhi-110017
- Tel.** : 011-26691021 / 26691713

**Chief Editor : DR. MD. USMANGANI ANSARI**

Typeset by Disha DTP Team

**DISHA PUBLICATION**

ALL RIGHTS RESERVED

**© Copyright Publisher**

No part of this publication may be reproduced in any form without prior permission of the publisher. The author and the publisher do not take any legal responsibility for any errors or misrepresentations that might have crept in. We have tried and made our best efforts to provide accurate up-to-date information in this book.

---

**For further information about the books and ebooks from DISHA,**

Log on to [www.dishapublication.com](http://www.dishapublication.com)  
or email to [info@dishapublication.com](mailto:info@dishapublication.com)

# Contents

<b>GK Solved Paper 2016 Set 1</b>	2016-1-2
<b>GK Solved Paper 2016 Set 2</b>	2016-3-4

## Current Affairs Update

• Current Affairs	A-1-66
India 2016-17 at a Glance	1
World 2016-17 at a Glance	2
Game Changers 2016	3
Demonetization	4
Goods & Service Tax (GST) 2016	6
Books and Authors 2016-17	8
Popular Terms	9
Important Appointments 2016-17	11
Awards & Honours 2016-17	13
Top 20 Universities of India	17
Important Supreme Court Judgements in 2016-17	18
Important Bills and Acts 2016-17	23
Policies And Schemes 2016	24
People	26
Events	30
Issues	39
Ideas	41
Important news in 2017	46
Who's Who	50

Important National Officials	53
Countries & their Heads	55
Important International Officials	58
National Schemes/ Programmes 2014-17	59
• Current Affairs MCQs	A-67-74

## **General Knowledge**

• India Panorama	B-1-21
• World Panorama	B-22-37
• History	B-38-48
• Polity	B-49-58
• Geography	B-59-70
• Ecology and Environment	B-71-79
• Economy	B-80-84
• Technology and its application	B-85-86
• Information Technology and Computer	B-87-89
• Sports	B-90-94
• Healthcare	B-95-100
• Everyday Science	B-101-110
• General Knowledge MCQs	B-111-124

## **Logical thinking**

• Logical thinking	B-125-127
• Exercise	B-128-138

## WHY & HOW G.K.<sup>+</sup> DECIDES SUCCESS IN AIIMS RESULT

### A. SYLLABUS

No syllabus is prescribed by the Institute for the examination, i.e. questions can be formed based on 12th under 10+2/Intermediate Science (Phy, Che & Bio) + General Knowledge and Aptitude/Logical Thinking as given below :

Subject	No. of questions
1. Biology (Botany + Zoology)	60
2. Chemistry	60
3. Physics	60
4. (a) G.K.	20
(b) Aptitude + Logical Thinking	

### B. MINIMUM CUT-OFF SCORE FOR ADMISSION

In accordance with decision of the Governing Body, AIIMS, New Delhi dated 26-11-2009 and the past practices adopted by AIIMS, New Delhi, the minimum cut-off necessary in the Entrance Examination to determine eligibility for admission in MBBS Course in AIIMS is :

General Category	- 50%
OBC (Non-creamy layer)	- 45%
SC/ST	- 40%
OPH	- Cut-offs of respective category

### C. PREPARATION OF RESULT

- The examination result for each candidate would be prepared on the basis of raw scores.
- PERCENTAGE (%):** Percentiles upto **7 decimal places** separately for each of the 4 subjects (Biology, Chemistry, Physics and General Knowledge) and the Total will be prepared. The percentile of the Total shall not be an aggregate or average of the percentile of individual subjects.
- The following 5 percentiles would be calculated for each student:  
Let T (Total), S-1 (Biology), S-2 (Chemistry), S-3 (Physics) & S-4 (G.K) denote the raw marks obtained in T, S-1, S-2, S-3 & S-4 as :

- Total Percentile (TP)

$$= \frac{\text{No. of Candidates from the group with Total Marks } \leq T \times 100}{\text{No. of Candidates in the group /shift (i.e. morning/evening)}}$$

2. Biology Percentile (S-1P)
- $$= \frac{\text{No. of Candidates from the group with Biology marks } \leq S-1 \times 100}{\text{No. of Candidates in the group /shift (i.e. morning/evening)}}$$
3. Chemistry Percentile (S-2P)
- $$= \frac{\text{No. of Candidates from the group with Chemistry marks } \leq S-2 \times 100}{\text{No. of Candidates in the group /shift (i.e. morning/evening)}}$$
4. Physics Percentile (S-3P)
- $$= \frac{\text{No. of Candidates from the group with Physics marks } \leq S-3 \times 100}{\text{No. of Candidates in the group /shift (i.e. morning/evening)}}$$
5. G.K. Percentile (S-4P)
- $$= \frac{\text{No. of Candidates from the group with G.K. marks } \leq S-4 \times 100}{\text{No. of Candidates in the group /shift (i.e. morning/evening)}}$$

#### **D. PREPARATION OF OVERALL RANK/MERIT LIST**

The percentile scores for the Total Marks for both the shifts (Morning & Evening) as mentioned above would be merged and arranged so as to derive an overall Merit List/Ranking.

**Note :** Thus the percentile scores is not the same as percentage (%) of marks obtained.

#### **E. METHOD OF RESOLVING TIES BETWEEN/AMONG CANDIDATES**

- The overall merit/ranking shall be based on the Percentile Scores of the Total Raw Score.
- The method adopted for breaking ties (similar percentile) shall be:
  - (i) **Biology:** Higher Percentile Scores in Biology will result in higher ranking.
  - (ii) **Chemistry:** If Biology Percentiles do not break the tie, then higher Percentile Scores in Chemistry will result in higher ranking.
  - (iii) **Physics:** If Biology and Chemistry Percentiles do not break the tie, then higher Percentile Scores in Physics will result in higher ranking.
  - (iv) **G.K.:** If Biology, Chemistry and Physics Percentiles do not break the tie, then higher Percentile Scores in General Knowledge (G.K.) will result in higher ranking.
  - (v) **Age:** If Biology, Chemistry, Physics and G.K. Percentiles do not break the tie, then the candidates elder by age will be ranked higher.

## **CONCLUSION/IMPORTANCE OF GK<sup>+</sup>**

The above criteria for preparing results, overall Rank/Merit List and method of resolving ties between/among candidates, the total score in General knowledge (G.K. + Aptitude) out of 20 marks shall be deciding factor for many AIIMS aspirants. So, do not give least importance to G.K.<sup>+</sup>. To crack the AIIMS exam, we went through previous G.K.<sup>+</sup> questions and analysed each and every areas of importance, and divided the book into three main segments.

- A. Current Affairs
- B. Static Subjects, i.e. Panorama, History, Polity, Geography, Environment Everyday Science, Healthcare, Economy, Art & Culture, Sports & Computer & IT.
- C. Aptitude & Logical Thinking

We are sure that this book will be helpful in scoring highest Percentile in G.K.<sup>+</sup> to make the aspirants' names visible in the Merit list for admission in AIIMS. We welcome the aspirant's valuable suggestions for improvement in making the book valuable for this exam.

**With Best Wishes**

**DR. MD. USMANGANI ANSARI**



# AIIMS GK Solved Paper 2016 (Set-1)

(Based on Memory)

1. Why Earth is known as "blue planet"?  
(a) Due to presence of water.  
(b) Due to the presence of green plants.  
(c) Presence of living organisms.  
(d) Due to the presence of air.
2. A, P, R, X, S and Z are sitting in a row. S and Z are in the centre. A and P are at either ends. R is sitting to the left of A. Who is to the right of P?  
(a) A                          (b) X  
(c) S                            (d) Z
3. 
- The above given logo represents which scheme proposed by Prime Minister Narendra Modi in 2014?  
(a) Pradhan Mantri Jan Dhan Yojna  
(b) Make in India.  
(c) Skill India  
(d) Pradhan Mantri Awas Yojna.
4. Out of the given GPS navigational satellite which of the following was the first navigational satellite to be placed in geosynchronous orbit which was launched by Indian Space Research Organization?  
(a) IRNSS-1B (b) IRNSS-1G  
(c) IRNSS-1A (d) IRNSS-1E
5. Which of the following represents the logo of Election Commission of India?  
(a)   
(b)   
(c)   
(d) 
6. Siva Reddy walked 2 km west of his house and then turned south covering 4 km. Finally, he moved 3 km towards east and then again 1 km west. How far is he from his initial position?  
(a) 10km      (b) 9km  
(c) 2km        (d) 4km
7. Who among the following was the first female pilot in Indian Air Force?  
(a) Jane Levitte  
(b) Avani Chaturvedi  
(c) Avani Singh  
(d) Amelia Earhart
8. Former Chief Justice of India RM Lodha, is associated with which examinations launched under Medical Council of India?  
(a) IIT-JEE  
(b) NET  
(c) NEET  
(d) AIIMS
9. Kangana Ranaut won which of the following awards in the year 2016 under the category of women of the year?  
(a) CNN-IBN Indian of the year  
(b) National Film Awards  
(c) GQ Men of the year award  
(d) Zee-Cine award.
10. The bullet train proposed by Ministry of Railways is to be started by 2018 between which cities?  
(a) Ahmedabad-Bangalore  
(b) Chennai-Mumbai  
(c) Mumbai-Ahmedabad  
(d) Mumbai-Hyderabad

11. What was the theme of the 2016 Rio Olympics?  
(a) Peace for inner soul  
(b) Live sports, live freedom  
(c) Nothing can be achieved without peace  
(d) World peace and environment

12. Human: Brain :: Computer: ?  
(a) RAM (b) CPU  
(c) Monitor (d) Keyboard

13. Which of the following vehicle doesn't include the use of petrol? Mark the odd one out.  
(a) Cars (b) Scooter  
(c) Bicycle (d) Jeep

14. Who among the following became the Chief Executive Officer of Google in the year of 2015?  
(a) Sundar Khand  
(b) Sundar Pichai  
(c) Shantanu Narayan  
(d) Satya Nadella

15. Which among the following was declared as the "first digital state"?  
(a) Kerala  
(b) Maharashtra  
(c) Delhi  
(d) Tamil Nadu

16. What is the full form of the acronym, ATM?  
(a) All Time Money  
(b) Automated Teller Machine  
(c) All Time Machine  
(d) At The Moment

17. Which of the following sequence is in the correct order.  
(a) doctor , pain , drug, hospital  
(b) hospital, pain, drug, doctor  
(c) drug, hospital, pain, doctor  
(d) pain, hospital, doctor, drug

18. Black box in plane is of which color?  
(a) White (b) Black  
(c) Yellow (d) Orange

19. State Assembly Elections 2017 is not held in which of the following states?  
(a) Himachal Pradesh  
(b) Punjab  
(c) Uttrakhand  
(d) Uttar Pradesh

20. Out which of the following product of tobacco have the high levels of nicotine?  
(a) Bidi (b) Cigarettes  
(c) Cigars (d) Hookah

---

**ANSWERS KEY**

# AIIMS GK Solved Paper 2016 (Set-II)

(Based on Memory)

1. Which planet is called a “green planet”?  
(a) Uranus (b) Earth  
(c) Saturn (d) Mars
2. Who among the following received The 46th Dada Saheb Phalke Award in the year 2015?  
(a) Rishi Kapoor  
(b) Shashi Kapoor  
(c) Randhir Kapoor  
(d) Shammi Kapoor
3. When is the next Summer Olympics to be held in 2020?  
(a) Beijing, China  
(b) Tokyo, Japan  
(c) Peoyonchang, South Korea  
(d) Budapest, Hungary
4. Rajesh's school bus is facing North when reaches his school. After starting from Rajesh's house, it turning twice and then left before reaching the school. What direction the bus facing when it left the bus stop in front of Rajesh's house?  
(a) North (b) West  
(c) South (d) East
5. Rohan's rank 25 from the top and Sohan's rank 30 from the bottom. If there are three students in between Rohan and Sohan then find out the total number of students.  
(a) 50 (b) 62  
(c) 58  
(d) Can't be determined
6. Who among the following became the first president of AIIMS and was responsible in development of the Hospital?  
  
7. The chairman of Lodha Committee of MCI was appointed by whom?  
(a) Supreme Court  
(b) President  
(c) Prime Minister  
(d) Lieutenant Governor
8. Among the following which is the symbol of WWF (World Wide Fund of Nature)?  
  
(a)  (b)   
(c)  (d) 
9. Which among the following parliament became the first in the world to run on solar power?  
(a) Indian Parliament  
(b) Pakistan Parliament  
(c) Parliament of Nepal  
(d) Parliament of Bangladesh
10. The airport in Bahrain is located at among which of the following places?  
(a) Iran (b) Muharraq  
(c) Kuwait (d) Iraq
11. Out of which of the following is the main official email address of AIIMS?  
(a) www.aiims.edu  
(b) www@aiims.in  
(c) @aiims.in  
(d) @aiims.org.in

12. What is the main aim of Pradhan Mantri Kaushal Vikas Yojana (PMKVY)?  
(a) To provide skills training to the youth.  
(b) To promote art and craft.  
(c) To ensure the development of infrastructure.  
(d) To provide job facilities to the youth

13. Who was the first Governor - General of India  
(a) Robert Clive  
(b) Sir Charles Metcalfe  
(c) William Bentinck  
(d) Warren Hastings

14. WHO Declared Zika an International Public Health Emergency in which month?  
(a) January (b) February  
(c) December (d) November

15. Select the odd one out.  
(a) Cricket  
(b) Table Tennis  
(c) Badminton  
(d) Football

16. Which is the hottest planet of the solar system.  
(a) Mercury (b) Venus  
(c) Jupiter (d) Saturn

17. Which one of the following zones of the atmosphere is rich in Ozone gas  
(a) Mesosphere  
(b) Troposphere  
(c) Stratosphere  
(d) Ionosphere

18. A sand deposit extending into the mouth of a bay is a ?  
(a) Headland (b) Sea Stack  
(c) Split (d) Berm

19. Supreme Court judge retires upon attaining the age of  
(a) 65 years (b) 60 years  
(c) 55 years (d) 50 years

20. Name the first antibiotic medicine discovered.  
(a) Penicillin  
(b) Auromycin  
(c) Streptomycin  
(d) Ampicilin

---

**ANSWERS KEY**

# CURRENT AFFAIRS

## INDIA 2016-17 AT A GLANCE

	Social	Economic	Political
March 2016	Aadhar Bill (Targeted Delivery of Financial and other Subsidies, benefits and services) passed in Parliament; World Cultural Festival - Sri Sri Ravi Shankar	Indian drinks tycoon Vijay Mallya 'flies to Britain' with nearly £1bn in unpaid loans	Proclaiming the Article 356 President's rule imposed in Uttarakhand by the President on the advice of the Union cabinet.
April 2016	Stand Up India Loan Scheme; Unified Payment Interface, or UPI, the next big thing in mobile banking launched	Marginal Cost of Funds based Lending Rate (MCLR) system for banks implemented by RBI.	Panama papers leaked illustrating how wealthy individuals and public officials keep personal financial information private.
May 2016	Elections held and governments formed in five states - Tamil Nadu, West Bengal, Kerala, Puducherry, Assam	India and Mauritius Signed Protocol To Amend Taxation Methods	Insolvency and Bankruptcy Code Bill 2016 passed in the parliament.
June 2016	7th Pay Commission Ratified; PM Modi Addresses US Congress	India's NSG Bid fails but India joins Missile Technology Control Regime as the 35th member; Microsoft buys LinkedIn for \$ 26.2 billion	The Union Government eased FDI norms in Pharma, Aviation and defence sectors.
July 2016	Anti-Dalit Protests following the Gujarat Dalit Unrest.	Flipkart acquires online fashion portal Jabong	Kashmir Unrest post killing of Burhan Wani
August 2016	Surrogacy bill gets the cabinet nod	Parliament passes amendment Bill for GST	Kaveri River water dispute hots up
September 2016	India, France ink €7.87 billion agreement for 36 Rafales; Pakistani Actors Boycott post Uri attacks.	Reliance Jio services commercially launched on 5 September 2016. ISRO Sets Satellite Launch Record in 2016	URI Attack killing 70+ Indian soldiers; Surgical Strike by India in the PoK as a revenge of the Uri attacks
October 2016	India signs 16 agreements with Russia including the procurement of the most advanced anti-aircraft defence system - the S-400 Triumph	40% of the spectrum ranging across the 7 bands sold out of the 2354.55 MHz put up for auction.	Outbreak of one of the biggest corporate controversies with Cyrus Mistry removed from Tata Sons Chairmanship.
November 2016	Delhi Smog; Demonetisation After effects - long queues at Banks, Cash Crunch, Inconvenience to people etc.	Demonetisation of ₹ 500 & 1000 notes announced as a measure to curb terror financing, black money and counterfeit currency.	Opposition protests against the way demonetisation was implemented. Absolutely NO WORK in the Winter Session.
December 2016	Union Cabinet approved the rehabilitation package of ₹2000 crore for displaced families from - Pakistan occupied Jammu & Kashmir	India, Qatar sign agreements on visas, cyberspace, investments; Govt. announced 11 digital payment discounts to push towards a cashless economy	Jayalalithaa, Tamil Nadu Chief Minister, passes away leaving a void in AIADMK leadership and Tamil Nadu's future.
January 2017	Tamil Nadu people compelled the State Assembly to pass Jallikattu Bill on 23-01-2017	Union Govt. launched Intellectual Property Right (IPR) Enforcement Toolkit for Police.	Election Commission announced dates for Assembly polls of 5 states- Goa, Punjab, Manipur, UK & UP.
February 2017	Litchi being the mysterious reason behind Muzaffarpur's brain fever death, discovered by India & US scientists.	5 associate banks, i.e. State Bank (SBB&) of Bikaner & Jaipur, S.B. of Hyderabad, S.B. of Mysore, S.B. of Patiala & S.B. of Travancore merged into SBI.	Union HRD Ministry decided to set up National Testing Agency (NTA) to conduct entrance exams, i.e., NEET, JEE, NET, etc.

## WORLD 2016-17 AT A GLANCE

	<b>Social</b>	<b>Economic</b>	<b>Political</b>
March 2016	Narendra Modi on TIME's 'Most Influential People On Internet'	Mckinsey Global Survey results cites slowing growth in China as a threat to global growth.	Islamic State of Iraq and the Levant (ISIL) claimed responsibility for the attacks.
April 2016	G7 Hiroshima Declaration Calls For 'World Without Nuclear Weapons'	14 countries participated in the Heart of Asia Conference Held in New Delhi	Clashes between Armenia and Azerbaijan breach the 1994 ceasefire
May 2016	Failure of the United Nations World Humanitarian Summit held in Istanbul, to achieve its fund raising goals.	India, Iran and Afghanistan signed a historic accord on Chahbahar port making it a transit hub bypassing Pakistan.	175 Nations Signed Historic Paris Climate Agreement at UN Headquarters in New York
June 2016	ISIL claims responsibility for attacking Atatürk Airport in Istanbul	India's NSG Bid fails but India joins Missile Technology Control Regime as the 35th member; Microsoft buys LinkedIn for \$26.2 billion	The United Kingdom votes in a referendum to leave the European Union - BREXIT; British Prime Minister David Cameron resigns.
July 2016	NASA's Juno spacecraft enters orbit around Jupiter	Latvia becomes the 35th member of the OECD; Verizon (which owns AOL) acquired Yahoo's core business (advertising, content, search & mobile activities) for \$4.83 billion in cash.	South China Sea Verdict by UN Conventions in favour of Phillipines
August 2016	The 2016 Summer Olympics are held in Rio de Janeiro, Brazil. US tops the medals tally followed by UK and China.	The U.S. trade deficit rose to \$44.5 billion, driven up by a big rise in imports of oil and Chinese-made computers, cell phones and clothing.	Impeachment of the President of Brazil, Dilma Rousseff by Brazilian Senate. Michel Temer is the new President.
September 2016	Sainthood to Mother Teresa; Hurricane Matthew; Baloch activists protest against Pakistan outside UN	The US & China, together responsible for 40% of the world's carbon emissions, ratify Paris global climate agreement.	North Korea conducts its fifth and reportedly biggest nuclear test.
October 2016	150 nations agree to phase out hydrofluorocarbons at UNEP summit in Rwanda	8th BRICS Summit held at Goa with the BIMSTEC countries invited for regional outreach.	Maldives withdraws from the Commonwealth of Nations; US lifted sanctions against Myanmar after 2 decades.
November 2016	112 nations ratifies the Paris Agreement - dealing with greenhouse gases emissions mitigation, adaptation & finance starting in 2020.	COP22 UN Climate Change Conference in Morocco with the focal issue of water scarcity, water cleanliness, and water-related sustainability.	Iraqi forces continue to advance against ISIS in Mosul US Presidential Elections Held & Donald Trump to be the next President after a surprise victory.
December 2016	Italian voters rejected constitutional changes backed by the government, prompting Prime Minister Matteo Renzi to announce his resignation.	BRICS nations to share tax information to eliminate tax evasion; India crosses USD 300 billion in FDI from USA.	Heart Of Asia conference in Amritsar called for immediate elimination of terrorism to help Afghanistan in its political and economic transition.
January 2017	44 <sup>th</sup> New Delhi World Book Fair begin on 7-01-2017 orgainsed by NBT under theme -"Manushi Books".	ISRO launched 104 satellites on 15-02-2017 in one. 101 belong to 6 foreign countries on commercial basis.	Donald Trump took oath of President on 20-01-2017.
February 2017	On the eve of World Cancer Day (4 <sup>th</sup> Feb.), the centre of Integrative Oncology (C/O) was inaugurated at NICPR, Noida	World Bank cuts India's GDP growth for 2016-17 to 7% from 7.6% on 11-01-2017.	Mohammed Abdullahi was elected as 9th President of Somalia on 8-2-2017.

## GAME CHANGERS 2016

### **Donald Trump: The most unexpected winner**

The dust has settled in Washington and around the country after an election that stunned political watchers and pollsters. US Republican Donald Trump on 9 November 2016 won the US presidential elections in a stunning victory. He won the elections by 276 seats. Trump will resume office as the 45th President of the US on 20 January 2017. He won Florida, Ohio, Iowa and North Carolina, while Democrat Hillary Clinton, who won 218 seats, took Virginia and Nevada, ABC projects. Donald Trump is the chairman and president of Trump Organisation. The organisation is the principal holding company for his real estate ventures and other business interests. Against all odds, polls and projections, Donald Trump gained

victory. It was an unexpected outcome for the Republican candidate, who beat out not only a stacked GOP primary field but also an even more formidable opponent in Hillary Clinton. Despite all this, however, Trump managed to strike a chord with the American people as an unorthodox candidate without a political background.

### **Jio: A trend setter?**

Reliance announced its high speed Broadband service across the country which aims to revolutionize the Indian telecom market resulting in stock values of all other Telecom Operators crashing. Everyone in India and abroad was in great hype; discussions arose and became talk of the town just like Freedom251 Mobile. Reliance Jio is a 4th generation technology that allows taking advantage of more bandwidth and better output.

### **Pradhan Mantri Mudra Yojna**



Micro Units development and Refinance Agency (Mudra) is opened with an intention to help the needy farmers and small business units, who are financially weak. There are scopes for more subsidies to the farmers and small business units across the country. Mudra Bank will provide credit of up to ₹ 10 lakh to small entrepreneurs.

The initial products have been named 'Shishu', 'Kishor' and 'Tarun' to signify the stages of growth/development and funding needs. Shishu would cover loans up to ₹ 50,000 while Kishor above ₹ 50,000 and up to ₹ 5 lakh. Tarun category will cover loans of above ₹ 5 lakh and up to ₹ 10 lakh. Banks are expected to disburse ₹ 1.80 lakh crore loans under the scheme in the current fiscal.

### **'Unified Payment Interface' (UPI)**



'Unified Payment Interface' (UPI) enables all bank account holders to send and receive money from their smartphones without the need to enter bank account information or net banking user ID/password. UPI can be used to send and receive money from individuals or to pay directly to merchants. Users can instantly download a UPI app and Pockets and create their own Virtual Payment Address (VPA) to start using UPI. For using UPI, users need to create a Virtual Payment Address (VPA) of their choice and link it to any bank account.

## DEMONETIZATION

### MEANING

The act of stripping a currency unit of its status as legal tender.  
The old unit of currency is retired and replaced with new currency unit.

### CURRENCY DETAILS

- 16,41,500 cr - Bank notes in circulation.
- 14,18,000 cr - In the form of 500 & 1000 notes that govt aims to withdraw from circulation
- ₹ 500 & 1000 notes account for 24% of the volume & 86 % of value of circulation.

### HISTORY OF DEMONETIZATION

<b>1948</b>	10,000 rupee note along with 1000 + 500 rupee notes were demonetized.
<b>1978</b>	Govt. withdrew 1000, 5000 & 10,000 rupee notes to stop circulation of fake money & get rid of black money.
<b>2016</b>	500 and 1000 notes scrapped. New 500 & 2000 rupee notes are introduced.

### OBJECTIVES

ECONOMIC OBJECTIVES	SOCIAL OBJECTIVES	POLITICAL OBJECTIVES
<ul style="list-style-type: none"> <li>• Promotes Cashless transactions.</li> <li>• Curbs Black Money.</li> <li>• Kills corruption.</li> <li>• Curbs terror financing.</li> <li>• Enhanced overall Development of Nation.</li> </ul>	<ul style="list-style-type: none"> <li>• Upliftment of poor</li> <li>• Encourages honest Tax payers.</li> <li>• Boosts the morale of skilled service class</li> <li>• Lessens Rich-Poor gap.</li> <li>• Raises living standards of all citizens.</li> <li>• Provides Sense of security to Tax Payers.</li> </ul>	<ul style="list-style-type: none"> <li>• Emerges as powerful decision making Govt.</li> <li>• Elevates peoples faith in Govt.</li> <li>• Making/ Bring transparency in party funding.</li> </ul>

### IMPACT

## ECONOMIC IMPACT

### Immediate

- The clampdown of unaccounted cash/ Black money.
- Motivate people to open accounts to deposit their money.
- Online, cashless/ digital payments, net banking, E-Wallet, E-Banking, Apps become primary payment medium.
- Medium & Small business companies face slowdown due to lack of money supply.
- Stall the circulation of large volume counterfeit notes.

### Short-term Impact

- Curb inflation.
- Recapitalize Banks.
- Reduce interest rates.
- Vibrant economy with cash flows.
- Certain sections like SMEs, Small traders, house hold, political parties retail outlets may face short term disruptions in facilitation of their transactions.

### Long-term Impact

- Black money hoarding will vanish & boost formal economy.
- Govt. will be able to spend more on health education & housing.
- Demonetization and GST will make system more accountable and efficient.
- Habit changing impact will be increased belief in keeping cash in banks rather than home.
- Lower borrowing and better fiscal management.
- With improved tax collection Govt will reduce tax rates
- Sustained economic growth.
- Cashless transaction offer higher & transparent scale of growth.

## GOODS & SERVICE TAX (GST) 2017

### Why do we need GST?

Evolution of businesses has led to blurred Taxation lines between Centre & State, leading to double taxation

Cascading effect due to multiplicity of taxes & their non-creditable nature

Extreme disparities in the rate of taxes levied by states

Amendments in state VAT laws, leading to multiple compliance requirements

Tax System needs to be destination based, rather than origin based

### GST - Council

- Setup within 60 days of enactment of GST.
- Be a recommendatory body
- FM as chairman with State Govts. nominees as members.
- Recommends on GST rates, exemptions of limits, etc.
- Recommends adoption & implementation by Centre & States.

### GST-TAXES

Tax structure : 5%, 12%, 18%, & 28%

#### Cess surcharge beyond 28% are :

- (i) Luxury cars – 15%
- (ii) Aerated drinks/water – 15%
- (iii) Panmasala – 135%
- (iv) Tobacco & cigarettes – 290%
- (v) Coal & lignite – ₹ 400 / tonnes

### Features

- Uniform regime of taxes across India
- Common market of goods & services across India
- States will collect service taxes.
- Centre will collect Integrated Goods & Service Tax (IGST) on inter-state supplies.
- IGST rate will be equal to CGST plus SGST.
- It will subsume 16 Central & state taxes.

### GST Replaces

#### States Taxes

- VAT/Sales Tax
- Entry Tax/ Octroi
- Local Tax
- Entertainment Tax
- Purchase Tax
- Mandi Tax/ Local devies
- Luxury Tax
- Tax on Lottery & Betting
- Inter-state Sales Tax

#### Central Taxes

- Central Excise Duty
- Excise Duty on Medicinal & Toilet
- Additional Custom Duty
- Sp. Add. Custom Duty
- Countervailing Duty
- Service Tax
- Cesses & Surcharges

### Impact

#### Price Impact

- Impact on prices is unknown.
- Inflation may rise in 1st year.
- Most services will be costlier.
- Agricultural goods costlier by 0.61% to 1.18%.
- Manufactured items cheaper by 1.22% to 2.53%.
- Over all tax inputs will lower.
- Exports will be competitive.
- Logistics, FMCG, automobiles & consumer durables will benefit.
- Jewellery will be costlier by 2-6%.

#### General Impact

- India will be a common market facilitating goods movement from one state to another
- Will make compliance easier with simplified tax regime.
- Reduction of production costs due to input credits.
- No cascading taxes.
- Widening of tax base & interested revenue collection.

### Exclusion

#### Alcohol

Remains as states monopoly

#### Petroleum

Out for 2 years with states

#### Real Estate

- Stamp duty with States
- Service tax with GST

### Implementation Drive

#### Hardware/ Manpower

- 60,000 Centre & State officials to be trained on GST & IT-Framework.
- Workshops to organise across country.
- Training has started at Hyderabad & Jaipur.
- Training to be completed by March 2017.

#### Software/ GST-network

- GSTN is a Pvt. Ltd. Company-2013.
- GSTN is a Infosys biproduct of ₹ 1380 Crore worth.
- GSTN-System is 60% completed & will be ready by December 2016.
- Its chairman is Navin Kumar.
- GSTN will help tax-payers in-
  - Registration, Return sifting, handle invoices, Inter-states tax settlement & Linking Centre & States for two-way data flow.
  - GSTN Company will build & maintain the technology network.
  - GSTN will be a portal naming, "gstindia"
  - Traders manufacturers, services providers will get GST-ID Code.

**How will GST benefit consumer?**

<b>Present tax collection system. Example</b>	<b>GST Collection system. Example</b>
<b>Stage 1:</b>  In the process of creating jeans, the manufacturer buys raw materials for ₹100 & adds value to the materials he started out with. Let us take this value or/margin/profit added by him to be ₹ 30. The gross value of his good would, be ₹130 (100 + 30).  At a tax rate of 10%, the tax on output will be ₹13. Here good sold to wholesaler for ₹143 (130+13).	<b>Stage 1:</b>  Under GST, Manufacturer can set off this tax (₹13) against the tax he has already paid on raw material/inputs (₹10). Therefore, the effective GST on the manufacturer will be only ₹3 (13 - 10). He will sell good to wholesaler for ₹133 (100 + 30 + 3).
<b>Stage 2:</b>  The wholesaler purchases it for ₹143, and adds on value (his 'margin') of, say, ₹20. The gross value of jeans he sells would then be ₹163 (₹143 + 20) A 10% tax on this amount will be ₹16.3.  He will sell it to retailer for ₹ 179.30. (163 + 16.3).	<b>Stage 2:</b>  Wholesaler adds margin of ₹ 20 on good. Its value = ₹153(133 + 20)  Under GST, he can set off the tax on his output (₹15.30) against the tax on his purchased good from the manufacturer (₹13). Thus, the effective GST incidence on the wholesaler is only ₹ 2.30 (15.30 - 13). He will sell it to retailer for ₹ 155.30(153 + 2.30)
<b>Stage 3:</b>  To retailer purchase price of ₹ 179.30, he adds margin, of ₹10. The gross value of jeans goes up to ₹189.30 (₹ 179.3 + 10). The tax on this, at 10%, will be ₹18.93.  He will sell it to consumer for ₹208.23 (189.3 + 18.93).	<b>Stage 3:</b>  Retailer adds margin of ₹ 10 on good. Its value = ₹ 165.3(155.3 + 10) Tax 10% = 16.53  But by setting off this tax (₹16.53) against the tax on his purchase from the wholesaler (₹15.30), the retailer brings down the effective GST incidence on himself to ₹ 1.23 (16.53 - 15.30). Here good total value = 165.30 + 1.23 = 166.53. i.e consumer buys it for ₹166.53.  So, the total GST on the entire value chain from the raw material/input suppliers through the manufacturer, wholesaler and retailer is, ₹ 10 + 3 + 2.30 + 1.23, or ₹16.53.

**BOOKS AND AUTHORS 2016-17**

- Democrats and Dissenters**–Ramachandra Guha  
**One Indian girl**–Chetan Bhagat  
**Six Machine (I Don't Like Cricket I Love It)**–Chris Gayle  
**His Bloody Project**–Graeme Macrae Brunet  
**AB The autobiography**–AB De Villiers  
**Citizen and Society**–Hamid Ansari  
**The Ocean of Churn: How the Indian Ocean Shaped Human History**–Sanjeev Sanyal  
**R D Burmania: Panchamemoirs**–Chaitanya Padukone  
**India Rising: Fresh Hope, New Fears**–Ravi Velloor  
**The Great Derangement: Climate Change and the Unthinkable**–Amitav Ghosh  
**Courage & Commitment**–Margaret Alva  
**India vs Pakistan: Why Can't we just be Friends?**–Husain Haqqani  
**Chaos and Caliphate: Jihadis and the West in the Struggle for the Middle East**–Patrick Cockburn  
**A Call to Mercy: Hearts to Love, Hands to Serve**–Mother Teresa  
**The Unseen Indira Gandhi**–Dr KP Mathur  
**A Life in Diplomacy**–Maharajakrishna Rasgotra  
**Blood on my Hands: Confessions of Staged Encounters**–Kishalay Bhattacharjee  
**The Making of India: The Untold Story of British Enterprises**–Kartar Lalvani  
**A State in Denial**–BG Verghese  
**The Kiss of Life**–Emraan Hashmi  
**Anything But Khamosh: The Shatrughan Sinha Biography**–Bharathi S Pradhan  
**Gandhi: An Illustrated Biography**–Pramod Kapoor  
**Fixed! Cash and Corruption in Cricket**–Journalist Shantanu Guha Ray  
“Who was Shivaji?”–Govind Pansare  
**A Kingdom for His Love**–Vani Mahesh, Shinie Antony  
**Nathuram Godse: The Story of an Assassin**–Anup Ashok Sardesai  
**The Turbulent Years, Volume II**–President Pranab Mukherjee  
**The Z Factor**–Subhash Chandra  
**Jawaharlal Nehru and The Indian Polity in Perspective**–Hamid Ansari  
**Maru Bharat Saru Bharat**–Jain Acharya Maharaj  
**The Golden House**–Salman Rushdie  
**Age of Anger: A History of the Present** –Pankaj Mishra

## POPULAR TERMS

**Augmented Reality:** Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data. It is also known as the computer term, Kudzi 3.0. It is related to a more general concept called mediated reality, in which a view of reality is modified (possibly even diminished rather than augmented) by a computer.

**Benami properties:** Benami essentially means property without a name. In this kind of transaction the person who pays for the property does not buy it under his/her own name. The person on whose name the property has been purchased is called the benamdar and the property so purchased is called the benami property. The person who finances the deal is the real owner.

**Black Friday:** Black Friday is the day following Thanksgiving Day in the United States (the fourth Thursday of November). Since 1952, it has been regarded as the beginning of the Christmas shopping season in the U.S., and most major retailers open very early (and more recently during overnight hours) and offer promotional sales.

**COP22:** COP 22 (Conference of the Parties) was held in Marrakech, Morocco, on 7–18 November 2016. Main issues: water scarcity, water cleanliness, and water-related sustainability, a major problem in the developing world, including many African states.

**China's Singles Day:** Singles' Day or Guanggun Jie is an entertaining festival widespread among young Chinese people, to celebrate the fact that they are proud of being single. The date, November 11th (11/11), is chosen because the number "1" resembles an individual that is alone.

**Crony-Capitalism:** Crony capitalism is a term describing an economy in

which success in business depends on close relationships between business people and government officials. It may be exhibited by favoritism in the distribution of legal permits, government grants, special tax breaks, or other forms of state interventionism.

**CIVETS:** An acronym given to the countries Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa, which are predicted by some to be among the next emerging markets to quickly rise in economic prominence over the coming decades.

**Democratic socialism:** It is a political ideology that advocates political democracy alongside social ownership of the means of production, often with an emphasis on democratic management of enterprises within a socialist economic system.

**Decacorn:** A decacorn is a word used for companies valued over \$10 billion.

**EAGLES:** Emerging and growth-leading economies of Korea, Indonesia, Mexico, Turkey, Egypt and Taiwan along with the BRIC countries Brazil, Russia, India and China. BBVA expected these countries to generate 50% of the global economic growth through 2020, whereas it expected the G7 countries of France, Germany, the United States, Canada, Italy, Japan and the United Kingdom to generate just 14%.

**Extracorporeal membrane oxygenation (ECMO):** It is an extracorporeal technique of providing both cardiac and respiratory support to persons whose heart and lungs are unable to provide an adequate amount of gas exchange to sustain life.

**Frontier market:** A frontier market is a type of developing country which is more developed than the least developing countries, but too small to be generally considered an emerging market.

**Geneva III (Geneva peace talks on Syria):** The Geneva peace talks on Syria,

also known as Geneva III, are intended peace negotiations between the Syrian government and opposition in Geneva under the auspices of the UN.

**Hectocorn:** A Hectocorn is the appropriate term for such companies valued over \$100 billion.

**Liquid biopsy:** A medical test in which blood cells are taken from the body and examined to find out if they are healthy.

**MINTs:** An acronym coined by the major investment firm Fidelity in 2011 for a group of four countries—Mexico, Indonesia, Nigeria and Turkey—that are expected to show strong growth and provide high returns for investors over the coming decade. The MINTs have been grouped together because of their large populations, favorable demographics and emerging economies. The MINTs have smaller economies than the BRICs.

**Mercalli intensity scale:** The Mercalli intensity scale is a seismic scale used for measuring the intensity of an earthquake. It measures the effects of an earthquake.

**Net Zero Energy Buildings (NZEB):** A zero-energy building, also known as a zero net energy (ZNE) building, net-zero energy building (NZEB), or net zero building, is a building with zero net energy consumption, meaning the total amount of energy used by the building on an annual basis is roughly equal to the amount of renewable energy created on the site, or in other definitions by renewable energy sources elsewhere.

**Populism:** It is a political doctrine that stems from a viewpoint of struggle between the populace and ruling faction. Populism is most common in democratic nations.

**Political radicalism:** The term denotes political principles focused on altering social structures through revolutionary means and changing value systems in fundamental ways.

**Quantitative Easing:** Quantitative easing (QE) is a monetary policy used by central banks to stimulate

the economy. It is usually used when standard monetary policy has become ineffective. Quantitative easing is considered when short-term interest rates are at or approaching zero, and does not involve the printing of new bank notes.

**Servergate:** The term refers to the controversy surrounding Hillary Clinton's private server. The term comes from the combination of "server" and "watergate", which was the political controversy that led to President Richard Nixon's resignation.

**TIMP:** 'TIMP' stands for 'Turkey, Indonesia, Mexico and Philippines.' Similar to BRIC (Brazil, Russia, India and China), the acronym was coined by an investor/economist to group fast-growing emerging market economies in similar states of economic development.

**Trans Pacific Partnership:** The Trans-Pacific Partnership (TPP) or Trans Pacific Partnership Agreement (TPPA) is a trade agreement among twelve of the Pacific Rim countries—notably not including China.

**Thanksgiving Day:** Thanksgiving Day is a national holiday celebrated in Canada, in the United States, in some of the Caribbean islands and in Liberia. It was originally celebrated as a day of giving thanks for the blessing of the harvest and of the preceding year. Similarly named festival holidays occur in Germany and Japan. Thanksgiving is celebrated on the second Monday of October in Canada and on the fourth Thursday of November in the United States, and around the same part of the year in other places. Although Thanksgiving has historical roots in religious and cultural traditions, it has long been celebrated as a secular holiday as well.

**Unicorn:** A unicorn is a start-up company valued at over \$1 billion. According to VentureBeat, there were 229 unicorns as of January 2016. The largest unicorns included Uber, Xiaomi, Airbnb, Palantir, Snapchat, Dropbox and Pinterest.

## IMPORTANT APPOINTMENTS 2016-17

### MARCH

Mar 2, 2016	<i>Vice Admiral Atul Kumar Jain</i> appointed as Chief of Staff of Eastern Naval Command.
Mar 11, 2016	<i>Justice Balbir Singh Chauhan</i> appointed as Chairman of 21 <sup>st</sup> Law Commission of India.
Mar 12, 2016	<i>Lt Gen N P S Hira</i> appointed Deputy Chief of Army.
Mar 15, 2016	<i>Htin Kyaw</i> elected as first civilian President of Myanmar.
Mar 23, 2016	<i>Justice Permod Kohli</i> appointed as Chairman of Central Administrative Tribunal.

### APRIL

April 7, 2016	<i>CP Gurnani</i> appointed as Chairman of NASSCOM (National Association of Software and Services Companies).
---------------	---

### MAY

May 3, 2016	<i>Bhupendra Kainthola</i> takes charge as FTII (Film and Television Institute of India) Director.
May 31, 2016	<i>Admiral Sunil Lanba</i> takes charge as Navy chief.

### JUNE

June 3, 2016	<i>Navin Agarwal</i> appointed as DG of NADA (National Anti Doping Agency).
June 15, 2016	<i>Peter Thomson</i> elected as President of 71 <sup>st</sup> session of United Nations General Assembly.
June 15, 2016	Hollywood actress <i>Anne Hathaway</i> appointed as UN Women Goodwill Ambassador.
June 22, 2016	<i>Ken Miyauchi</i> appointed as President and COO of SoftBank Group.
June 23, 2016	BCCI appoints <i>Anil Kumble</i> as the head coach of Indian Cricket Team.
June 27, 2016	<i>Sujoy Bose</i> appointed as first CEO of NIIF (National Investment and Infrastructure Fund).
June 28, 2016	<i>NS Vishwanathan</i> appointed as deputy governor of RBI.

### JULY

July 4, 2016	<i>Sudarshan Sen</i> appointed Executive Director of RBI.
July 11, 2016	<i>D Rajkumar</i> appointed as CMD of BPCL (Bharat Petroleum Corporation Ltd).
July 13, 2016	<i>Teresa May</i> appointed as PM of the United Kingdom.
July 14, 2016	<i>Rakesh Kumar Chaturvedi</i> appointed as Chairman of CBSE.
July 19, 2016	<i>Guruprasad Mohapatra</i> appointed as Chairman of Airports Authority of India.
July 21, 2016	<i>Ajay Bhushan Pandey</i> appointed as CEO of UIDAI (Unique Identification Authority of India).

### AUGUST

Aug 1, 2016	<i>Rani Singh Nair</i> appointed as Chairman of CBDT (Central Board of Direct Taxes).
-------------	---

### SEPTEMBER

Sep 4, 2016	<i>Urjit Patel</i> assumes charge as 24th Governor of Reserve Bank of India.
Sep 19, 2016	<i>Alka Sirohi</i> appointed UPSC chairman.
Sep 28, 2016	World Bank reappoints <i>Jim Yong Kim</i> for second term as President.

<b>OCTOBER</b>	
Oct 3, 2016	<i>S Sivakumar</i> appointed as full-time member of 21st Law Commission of India.
Oct 6, 2016	<i>Sushil Chandra</i> appointed CBDT Chairman.
Oct 14, 2016	<i>Portugal's Antonio Guterres</i> appointed UN Secretary-General.
Oct 18, 2016	<i>Amandeep Singh Gill</i> appointed as India's Ambassador to UN Conference on Disarmament, Geneva.
Oct 21, 2016	<i>Vice Admiral SV Bhokare</i> assumes office as the Commandant of Indian Naval Academy.
Oct 27, 2016	<i>Karnal Singh</i> appointed as Director of Enforcement Directorate.
<b>NOVEMBER</b>	
Nov. 7, 2016	<i>M Rajeshwar Rao</i> new RBI Executive Director.
Nov. 24, 2016	<i>Yudhvir Singh Malik</i> appointed as new Chairman of NHA.
<b>DECEMBER</b>	
Dec 5, 2016	Senior AIADMK leader O Panneerselvam appointed as the new AIADMK chief and the new Tamil Nadu Chief Minister.
<b>JANUARY 2017</b>	
Jan 2, 2017	<ul style="list-style-type: none"> <li>Air chief Marshal Birender Singh Dhanoa was appointed as the new Air Force Chief.</li> <li>General Bipin Rawat was appointed as Chief of Army Staff.</li> </ul>
Jan 3, 2017	Prof David R Syiemlieh was appointed as the new UPSC Chairman.
Jan 4, 2017	<ul style="list-style-type: none"> <li>The Reserve Bank of India (RBI) has appointed Surekha Marandi as its new Executive Director (ED).</li> <li>Justice Jagdish Singh Khehar appointed as Chief Justice of India.</li> </ul>
Jan 12, 2017	Natraja Chandrasekaran appointed as chairman of TATA Sons group.
Jan 19, 2017	Delhi Police Commissioner and Senior IPS officer Alok Kumar Verma was appointed as new Director of the Central Bureau of Investigation.
Jan 28, 2017	Dr Vijay Bhatkar appointed as new vice-chancellor of Nalanda University.
Jan 30, 2017	Amulya Kumar Patnaik appointed Delhi Police Commissioner.
<b>FEBRUARY 2017</b>	
Feb 11, 2017	Senior IAS officer Ajay Tyagi appointed as SEBI Chairman.
Feb 16, 2017	Edapaddi K. Palaniswami appointed as Chief Minister of Tamil Nadu.
Feb 28, 2017	Nand Kumar Sai assumes charge as Chairman of National Commission of Scheduled Tribes.
Feb 23, 2016	<i>KN Vyas</i> appointed as Director of Bhabha Atomic Research Centre.
Feb 25, 2016	<i>Rajendra Singh</i> appointed as DG of Coast Guard.
Feb 29, 2016	Former <i>CJI HL Dattu</i> takes over as Chairman of NHRC (National Human Rights Commission).

## AWARDS & HONOURS 2016-17

### Gallantry Awards

**New Delhi, Jan 25 :** President Pranab Mukherjee has approved 398 Gallantry and other defence awards to personnel of Indian armed forces on the eve of the 2017 Republic Day. These awards include two Kirit Chakras, 12 Shaurya Chakras, three Bar 50 Sena Medal, 91 Sena Medal, four Vayusena medals and two Nao Sena medal.

Commanding officers of 4 and 9 Special Para Forces have been awarded Yodh Sewa Medal for successfully conducting a surgical strike to destroy terror camps well inside Pakistan's border. Col Kapil Yadav, commanding officer of 9 Para and Col Harpreet Sandhu, Commanding Officer of 4 Para got the prestigious award. Major Rohit Suri and Prem Bahadur Resmi Nagar got the **Kirti Chakra** for successfully leading a team while conducting the surgical strike that was considered a big strategic and military success for India.

Five personnel from the two para units Lt.Col. Atul Gupta, Major D. Vinay Reddy, Major Rajat Chandra, etc. got Shaurya Chakra.

### Padma awards 2017 (NATIONAL, SOCIAL)

**DATE:** 25th January, 2017

**PLACE:** New Delhi

**AGENDA/ISSUE:** Padma Awards 2017 announced

**TARGET/APPLICATION:** Padma awards were announced on 25th January, 2017 to citizens of the country in acknowledgment of their distinguished contribution in various spheres. These awards are conferred by the President of India at ceremonial functions which are held at Rashtrapati Bhawan usually around March/ April every year. This year the President of India has approved conferment of Padma Awards to 89 persons. The list comprises of 7 Padma Vibhushan, 7 Padma Bhushan and 75 Padma Shri Awardees. 19 of the awardees are women and the list also includes 5 persons from the category of foreigners, NRIs, PIOs and 6 posthumous awardees.

### PADMA VIBHUSHAN

Sl. No	Name	Field	State
1.	Shri K J Yesudas	Art-Music	Kerala
2.	Sadhguru Jaggi Vasudev	Others-Spiritualism	Tamil Nadu
3.	Shri Sharad Pawar	Public Affairs	Maharashtra
4.	Shri Murli Manohar Joshi	Public Affairs	Uttar Pradesh

5.	Prof. Udupi Ramachandra Rao	Science & Engineering	Karnataka
6.	Late Shri Sunder Lal Patwa (Posthumous)	Public Affairs	Madhya Pradesh
7.	Late Shri PA Sangma (Posthumous)	Public Affairs	Meghalaya

**PADMA BHUSHAN**

Sl. No.	Name	Field	State
8.	Shri Vishwa Mohan Bhatt	Art-Music	Rajasthan
9.	Prof. (Dr.) Devi Prasad Dwivedi	Literature & Education	Uttar Pradesh
10.	Shri Tehemton Udwadia	Medicine	Maharashtra
11.	Shri Ratna Sundar Maharaj	Others-Spiritualism	Gujarat
12.	Swami Niranjana Nanda Saraswati	Others-Yoga	Bihar
13.	H.R.H. Princess Maha Chakri Sirindhorn (Foreigner)	Literature & Education	Thailand
14.	Late Shri Cho Ramaswamy (Posthumous)	Literature & Education – Journalism	Tamil Nadu

**PADMA SHRI**

Sl. No	Name	Field	State
15.	Smt. Basanti Bisht	Art-Music	Uttarakhand
16.	Shri Chemanchery Kunhiraman Nair	Art-Dance	Kerala
17.	Smt. Aruna Mohanty	Art-Dance	Odisha
18.	Smt. Bharathi Vishnuvardhan	Art-Cinema	Karnataka
19.	Shri Sadhu Meher	Art-Cinema	Odisha
20.	Shri T K Murthy	Art-Music	Tamil Nadu
21.	Shri Laishram Birendrakumar Singh	Art-Music	Manipur
22.	Shri Krishna Ram Chaudhary	Art-Music	Uttar Pradesh
23.	Smt. Baoa Devi	Art-Painting	Bihar
24.	Shri Tilak Gitai	Art-Painting	Rajasthan
25.	Dr. Prof. Aekka Yadagiri Rao	Art-Sculpture	Telangana

### 26th Saraswati Samman 2016

Renowned bilingual writer Mahabaleshwar Sail has been honoured in March 2017 for his Konkani novel "**Hawthan**". The award is instituted by KK Birla Foundation in 1991 for literary work.

### 73rd Annual Golden Globe Awards

The 73rd Annual Golden Globe Awards ceremony was organized at Beverly Hills, California, United States (US) on January 10, 2016. Golden Globe Awards are the annual awards that honour the best in Motion Pictures and Television for the previous year.

In this edition of awards, *The Revenant* won the maximum 3 awards followed by *The Martian* and *Steve Jobs* winning 2 awards each.

#### **The winners of various awards are as follows:**

**Best Motion Picture Drama:** *The Revenant*.

**Best Motion Picture Musical/Comedy:** *The Martian*.

**Best Director in Motion Picture-Drama:** Alejandro Inarritu for *The Revenant*.

**Best Actor in Motion Picture-Drama:** Leonardo DiCaprio for *The Revenant*.

**Best Actress in Motion Picture-Drama:** Brie Larson for *Room*.

**Best Actor in Motion Picture or Musical or Comedy:** Matt Damon for *The Martian*.

**Best Actress in Motion Picture Musical or Comedy:** Jennifer Lawrence for *Joy*.

**Best Actor in a Supporting role in Motion Picture:** Sylvester Stallone for *Creed*.

**Best Actress in a Supporting role in Motion Picture:** Kate Winslet for *Steve Jobs*.

**Best Original Score Motion Picture:** Ennio Morricone for *The Hateful Eight*.

**Best Foreign Language Film:** *Son of Saul* (Hungary).



### 51st Jnanpith Award 2016

President Pranab Mukherjee conferred the 51st Jnanpith Award on renowned Gujarati writer and litterateur Dr. Raghuvir Chaudhari on July 11, 2016 at a function in New Delhi. He was awarded with the India's highest literary honour carrying a cash prize, a citation plaque and a bronze replica of Goddess Saraswati for the year 2015.

Mr. Chaudhary is the fourth Gujarati litterateur to bag this prestigious award after Uma Shankar Joshi (1967), Pannalal Patel (1985) and Rajendra Shah (2001).

## Nobel Prize 2016

**Peace:** The current President of Colombia, **Juan Manuel Santos**, was awarded Nobel Peace Prize for his resolute efforts to bring the country's more than 50-year-long civil war to an end, a war that took away the lives of at least 2,20,000 Colombians and displaced nearly six million people.

**Physics:** British trio of physicists David Thouless, F Duncan M Haldane and Michael Kosterlitz have won the 2016 Nobel Prize in Physics.

**Economics:** Two economists Oliver Hart and Bengt Holmstrom have won the 2016 Nobel Memorial Prize in Economic Sciences.

**Chemistry:** Trio of Jean-Pierre Sauvage, J Fraser Stoddart and Bernard L Feringa have won the prestigious 2016 Nobel Prize in Chemistry.

**Literature:** American singer-songwriter, artist and writer Bob Dylan (75) has won the 2016 Nobel Prize in Literature. He is the first American to win the prize since novelist Toni Morrison in 1993.

**Medicine:** Yoshinori Ohsumi (71) of Japan has won the 2016 Nobel Prize for physiology or Medicine for his pioneering work on autophagy.

## National Sports Awards 2016

The Union Government bestows National Sports Awards every year to recognize and reward excellence in sports in India.

### Rajiv Gandhi Khel Ratna Award

**Recipients are:** PV Sindhu (Badminton), Sakshi Malik (Wrestling), Dipa Karmakar (Gymnastics) and Jitu Rai (Shooting). 2016

### Dronacharya Award

**Recipients are:** Nagapuri Ramesh (Athletics), Sagar Mal Dhayal (Boxing), Raj Kumar Sharma (Cricket), Bishweshwar Nandi (Gymnastics), S. Pradeep Kumar (Swimming) and Mahabir Singh (Wrestling) 2016

### Arjuna Award

**Recipients are:** Rajat Chauhan (Archery), Lalita Babar (Athletics), Sourav Kothari (Billiards & Snooker), Shiva Thapa (Boxing), Ajinkya Rahane (Cricket), Subrata Paul (Football), Rani (Hockey), Raghunath V.R. (Hockey), Gurpreet Singh (Shooting), Apurvi Chandela (Shooting), Soumyajit Ghosh (Table Tennis), Vinesh (Wrestling), Amit Kumar (Wrestling), Sandeep Singh Mann (Para-Athletics) and Virender Singh (Wrestling).

### 2016 Dhyanchand Award

**Recipients are:** Satti Geetha (Athletics), Sylvanus Dung Dung (Hockey) and Rajendra Pralhad Shelke (Rowing). 2015-16

### Maulana Abul Kalam Azad (MAKA) Trophy

**Recipient:** Punjabi University, Patiala.

## TOP 20 UNIVERSITIES OF INDIA

Rank	Name	Est.	City	Weighted Score
1	Indian Institute of Science, Bangalore	1909	Bengaluru	91.81
2	Institute of Chemical Technology, Mumbai	1933	Mumbai	87.58
3	Jawaharlal Nehru University (JNU) New Delhi	1969	New Delhi	86.46
4	University of Hyderabad, Hyderabad	1974	Hyderabad	85.45
5	Tezpur University, Tezpur	1994	Tezpur	84.31
6	University of Delhi, Delhi	1922	Delhi	83.19
7	Banaras Hindu University, Varanasi	1916	Varanasi	81.22
8	Indian Institute of Space Science and Technology, Thiruvananthapuram	2007	Thiruvananthapuram	78.83
9	Birla Institute of Technology & Science, Pilani	1964	Pilani	76.85
10	Aligarh Muslim University, Aligarh	1920	Aligarh	76.62
11	Visva Bharati, Kolkata	1922	Kolkata	76.11
12	Panjab University, Chandigarh	1882	Chandigarh	76.07
13	Pondicherry University, Puducherry	1985	Puducherry	74.44
14	Bharathiar University, Coimbatore	1982	Coimbatore	74.32
15	North Eastern Hill University, Shillong	1973	Shillong	72.42
16	King Georges Medical University, Lucknow	1905	Lucknow	72.24
17	Homi Bhabha National Institute, Mumbai	2005	Mumbai	72.09
18	Jamia Hamdard, New Delhi	1989	New Delhi	71.46
19	Amrita Vishwa Vidyapeetham, Coimbatore	2003	Coimbatore	71.03
20	Goa University, Goa	1985	Goa	69.90

### IMPORTANT SUPREME COURT JUDGEMENTS IN 2016-17

Date	Judgment	Parties
04-02-2016	SC observed that the request of the information seeker about the information of his answer sheets and details of the interview marks can be and should be provided to him by Public Service Commission under RTI Act but not about examiners.	Kerala Public Service Commission vs. State Information Commission.
18-03-2016	SC Allows Photos of CMs, Governors, and Ministers in Government Advertisements.	Request by Centre, W.Bengal & T.Nadu govt. To Supreme Court.
30-03-2016	SC approved guidelines of Union Government to protect Good Samaritans from police, who help road accident victims.	SC's Committee & Transport Ministry for road safety.
28-04-2016	SC ordered to conduct the National Eligibility Cum Entrance Test (NEET) 2016 in Two Phases, for academic year 2016-17 for admission to MBBS, BDS and like Courses of medical colleges throughout the country.	Sankalp Charitable Trust vs. UoI.
02-05-2016	SC appointed RM Lodha Panel to oversee functions of Medical Council of India.	SC appointed Panel on its own.
11-05-2016	SC ruled that Telecom Regulatory Authority of India TRAI's Penalty on Tel-companies for Call Drops is Illegal.	Cellular Operators Association of India vs. TRAI.
11-05-2016	SC issued landmark guidelines for disaster /drought management. The writ petition was filed by Swaraj Abhiyan.	Swaraj Abhiyan vs. UoI.
12-05-2016	SC asked the SpiceJet Ltd to pay Rupees Ten Lakhs to Jeeja Ghosh, an eminent activist involved in disability rights, for forcibly deboarding her by the flight crew, because of her disability.	Jeeja Ghosh vs. UoI.
30-06-2016	SC directed the Union Government and State Governments to treat only transgender & not Lesbians, Gays and Bisexuals as socially and educationally backward classes and provide them quotas in admission to educational institutions and public appointments.	Transgender vs. Govt.

08-07-2016	<b>SC</b> ruled that security forces cannot use excessive and retaliatory force in disturbed areas under the Armed Forces (Special Powers) Act (AFSPA), 1958.	Verdict on PIL filed by Extra Judicial Execution Victim Families Association.
18-07-2016	<b>SC</b> accepted recommendations of the Lodha Committee on reforms to the BCCI, including a bar on ministers and civil servants and those above 70 from becoming its members.	BCCI vs. Lodha Committee Recommendations.
19-07-2016	<b>SC</b> can transfer cases from Jammu & Kashmir Courts to courts outside it and vice versa.	Anita Kushwaha vs. Pushpa Sudan.
01-08-2016	<b>SC</b> held that former Chief Ministers are not entitled for government accommodation for lifetime.	Lok Prahari vs. State of Uttar Pradesh.
09-08-2016	<b>SC</b> ruled that persons in Govt/judicial service need not resign to participate in District Judge Selection Process.  <b>SC</b> held that Article 233(2) of the Constitution of India only prohibits the appointment of a person as District Judge, who is already in the service of the Union or the State, but not the selection of such a person.	Vijay Kumar Mishra and Anr vs. Patna High Court.
22-08-2016	<b>SC</b> held that all Tribunals are not necessary parties to the proceedings where legality of its orders challenged.	S. Kazi vs. Muslim education society
05-09-2016	<b>SC</b> ordered Karnataka to release 15000 cusecs of water to Tamil Nadu, Later on a plea by state of Karnataka; it was modified to 12000 cusecs.	State of Karnataka vs. State of Tamil Nadu.
07-09-2016	<b>SC</b> directed Union & state govts. To upload FIRs in Police Websites.	Youth Bar Association of India vs. Union of India.
19-09-2016	<b>SC</b> in case of Tattu Lodhi, child rapist and murderer opted for, instead of death penalty, a "judicial innovation", i.e. SC stripped Lodhi of his right to apply for release from prison on remission for the next 25 years.	Child's Parent Vs. Tattu Lodhi.

28-09-2016	<b>SC</b> observed that providing social security to the legal profession becomes an essential part of any legal system which has to be effective, efficient and robust to enable it to provide necessary service to the consumers of justice.	Cardamom Marketing Corporation & Anr. vs. State of Kerala & Ors.
06-10-2016	<b>SC</b> held that persistent effort of the wife to constrain her husband to be separated from the family constitutes an act of 'cruelty' to grant divorce.	Narendra vs. K.Meena.
07-10-2016	<b>SC</b> stayed the commercial release of Genetically Modified (GM) mustard crop till October 17, 2016.	On petition filed by Aruna Rodrigues vs. Govt. Of India.
10-10-2016	<b>SC</b> widened the scope of the Domestic Violence Act by ordering deletion of the words "adult male" from it, paving the way for prosecution of women and even non-adults for subjecting a woman relative to violence and harassment.	Hiral P Harsora and ors vs. Kusum Narottamdas Harsora.
21-10-2016	<b>SC</b> Freezes BCCI's Transactions with State Cricket Bodies.	BCCI vs. Lodha Committee.
11-11-2016	<b>SC</b> upheld the constitutional validity of Entry Tax imposed by States on goods coming in from other states.	Jindal Stainless Ltd. vs. State of Haryana.
30-11-2016	<b>SC</b> ordered all cinema halls across India to play the National Anthem before the screening of films.	Shyam Narayan Chouksey vs Union of India.
03-12-2016	<b>SC</b> ruled that horse racing per se is not animal cruelty. It held that it is different from Jallikattu, which metes out specific methods of torture to bulls.	Animal Welfare Board of India vs A. Nagaraja & Ors
15-12-2016	<ul style="list-style-type: none"> <li>• <b>SC</b> set aside a Rajasthan High Court order which had directed the Union Government to exempt judges of the high court from pre-embarkation security checks, i.e. High Court judges not exempt from airport frisking.</li> </ul>	<ul style="list-style-type: none"> <li>• Union of India vs. Rajasthan High Court and Ors.</li> </ul>

	<ul style="list-style-type: none"> <li>• SC passed an order to ban all liquor shops on national as well as state highways across the country as a measure to control the road mishaps.</li> <li>• SC ruled that the Indian Air Force (IAF) personnel cannot sport a beard on religious grounds.</li> <li>• SC refused to quash the March 2015 resolution by both houses of Parliament against Justice Markandey Katju for describing Gandhi as a British agent and Netaji as a Japanese agent in a blog.</li> </ul>	<ul style="list-style-type: none"> <li>• State of Tamil Nadu vs. K. Balu</li> <li>• Mohammed Zubair and Ansari Aftab Ahmed vs. IAF authorities.</li> <li>• Justice Markandey Katju vs. the Lok Sabha.</li> </ul>
16-12-2016	<ul style="list-style-type: none"> <li>• SC held that Jammu and Kashmir has "no vestige" of sovereignty outside the Indian Constitution and its own, while the citizens of the state are "first and foremost" citizens of India.</li> <li>• SC has referred constitutional validity of demonetization to a constitutional bench.</li> </ul>	<ul style="list-style-type: none"> <li>• State Bank of India vs. Santosh Gupta &amp; Anr. Etc.</li> <li>• A batch of cases Vs. GoI.</li> </ul>
02-01-2017	<ul style="list-style-type: none"> <li>• SC ruled out that no politician can seek votes in the name of caste, language, region or religion &amp; it will be a corrupt practice and not permissible.</li> <li>• SC sacked Anurag Thakur, President, BCCI and Secretary Ajay Shirke from their posts.</li> <li>• A seven-judge Constitution Bench of the Supreme Court has held that re-promulgation of ordinances is a fraud on the Constitution and a subversion of democratic legislative processes. So, placing of Ordinance before Legislature is mandatory.</li> <li>• A High Court cannot initiate contempt proceedings or punish for contempt of the Supreme Court. A Bench headed by Chief Justice of India TS Thakur set aside an order of division bench of Delhi High.</li> </ul>	<ul style="list-style-type: none"> <li>• Abhiram Singh vs. C.D. Commachen.</li> <li>• BCCI vs. Lodha Panel</li> <li>• Krishna Kumar Singh vs. State of Bihar.</li> <li>• Vitusah Oberoi vs. Court of Its Own Motion.</li> </ul>

	Court, which found editors and cartoonists of Mid-Day newspaper guilty of contempt for maligning the former Chief Justice of India. The High court had suo motu initiated contempt after an advocate brought such cartoons and news reports to its notice	
03-01-2017	• The Supreme Court has imposed a cost of Rs. 1 lakh on a tenant who refused to hand over possession to the landlord even after the apex court ordered it in 2012.	• Anil Sabarwal & ORS vs Girija Shankar.
07-01-2017	The Supreme Court reiterated that a person holding premises gratuitously (i.e. unjustifiably) won't acquire any legal right on the property.	Behram Tejani vs. Azeem Jagani.
04-02-2017	SC declined to interfere in a Public Interest Litigation (PIL) for regulation of private coaching institutes.	The Student Federation of India (SFI) vs. Union of India & ors.
01-03-2017	SC directed all universities to verify certificates of law degree holders without charging a fee.	Ajayinder Sangwan vs. Bar Council of India & ors.
03-03-2017	SC notice to Centre, CBSE on plea to include urdu un NEET.	Through its Secretary & ors vs. Union of India.
07-03-2017	• SC Tells High Courts not to keep review petitions pending for long.	• Sasi (D) Through Lrs. vs. Aravindakshan Nari and Others
08-03-2017	SC declared trust can't file complaint before consumer forum.	Pratibha Pratisthan vs. Manager, Canara Bank.
10-03-2017	SC ruled central PF authorities have no authority over 'exempted' establishments.	Yeshwant Gramin Shikshan Sanstha vs. Assistant Provident Fund Commissioner.

## IMPORTANT BILLS AND ACTS 2016-17

### **Maternity Benefits (Amendment) Bill, 2016**

- Rajya Sabha has passed this bill on August 11, 2016 which aims to raise maternity leave for women from 12 to 26 weeks.
- The Maternity Benefit Act, 1961, protects the employment of women during the time of maternity and entitles them of a full paid absence from work to take care for the child. The amendment bill seeks to increase maternity leave to 26 weeks in all establishments, including private sector.
- The act is applicable to all establishments employing 10 or more persons. The bill also provides 12 weeks leave for commissioning and adopting mothers and makes it compulsory to provide crèche facility for establishment where the number of workers is 50 and above. Adopting mother is the woman who legally adopts a child below 3 months of age. A commissioning mother is a biological mother who uses her egg to create an embryo implanted in another woman.
- There is already a provision of 26-week or 6-month maternity leave for the government employees.

### **Indian Medical Council (Amendment Bill), 2016**

- The Indian Medical Council (Amendment) Bill, 2016 was introduced by Minister of Health and Family Welfare, Mr. Jagat Prakash Nadda in Lok Sabha on July 19, 2016.
- The Bill seeks to amend the Indian Medical Council Act, 1956.
- The MCI regulates: (i) standards of medical education, (ii) permission to start colleges, courses or increase the number of seats,

- (iv) registration of doctors, (v) standards of professional conduct of medical practitioners, among others.
- The provisions of the bill will come into force from May 24, 2016.
- The Bill seeks to introduce a uniform entrance examination for all medical educational institutions.
- This would be applicable at the undergraduate and the post-graduate level.
- The Bill has the provision in case a state has not opted for the uniform entrance examination, then the examination will not be applicable at the undergraduate level for the academic year 2016-17.
- This provision will apply to state government seats in government and private medical colleges.

### **NIT, Science Education & Research (Amendment) Bill, 2016**

- The National Institutes of Technology(NIT),Science Education and Research (Amendment) Bill, 2016 was passed by the Parliament on August 2, 2016.
- The bill was first passed in Lok Sabha in July 2016. Now the bill will go for presidential assent as per Article 111 of Constitution.
- The Bill seeks to establish the National Institute of Technology (NIT), Andhra Pradesh as an institute of national importance.
- The NIT, Andhra Pradesh will be established under the National Institutes of Technology, Science Education and Research (NITSER) Act, 2007.
- The NIT will be deemed as an institute of national importance status as on August 20, 2015, the day on which the Union Government approved its establishment.

### Aadhaar Act, 2016

The Aadhaar (Targeted Delivery of Financial and other Subsidies, benefits and services) Act, 2016 has been notified by the Union Government on March 28. The Act will provide statutory backing for transfer of subsidies and benefits to eligible people having Aadhaar (UID) number.

- Those individuals not having Aadhaar number shall be offered alternate and viable means of identification for delivery of the subsidies, benefits or service.

### HIV and AIDS (Prevention and Control) Bill, 2014

The Union Cabinet has given its approval to introduce amendments to the HIV and AIDS (Prevention and Control) Bill, 2014.

- Prevent and control the spread of HIV and AIDS. It prohibits discrimination against persons with HIV and AIDS. No person will be

compelled to disclose his HIV status except with his informed consent, and if required by a court order establishments keeping records of information of PLHIV must adopt data protection measures.

- Obligations on establishments to safeguard rights of persons living with HIV and create mechanisms for redressing complaints. Lists various grounds on which discrimination against HIV-positive persons and those living with them is prohibited.
- These include the denial, discontinuation, termination or unfair treatment with regard to employment, educational establishments, health care services, renting property etc. Prohibits requirement for HIV testing as a prerequisite for obtaining employment or accessing health care or education.
- Prohibits any individual from publishing information or advocating feelings of hatred against HIV positive persons and PLHIV.

## POLICIES AND SCHEMES 2016

### UJALA Scheme

The National LED programme – Unnat Jyoti by Affordable LEDs for All (UJALA) was launched by the Union Government on May 1.

#### Key facts

- The UJALA scheme is being implemented by Energy Efficiency Services Limited (EESL), a joint venture of PSUs under the Union Ministry of Power.
- It is LED based Domestic Efficient Lighting Programme (DELP).

### Adarsh Vidyalaya Project

Adarsh Vidyalaya (AV) project was launched by the Odisha Government on April 7 to provide modern schools facilities on the lines of Kendriya

Vidyalayas in the underdeveloped rural areas of the state. It was launched by Odisha Chief Minister Naveen Patnaik at Sasan Ambagaon village in his home constituency Hinjli in Ganjam district.

#### Key features

- Schools under AV project will provide free education to students of the classes from VI to XII along with free uniforms and other study materials.
- These schools will be affiliated under the Central Board of Secondary Education (CBSE) and shall have hostel facility in future.
- Under this project, one Adarsh Vidyalaya will be set up in each of the 314 revenue blocks of the state.

### **Swachh Himachal Padhai bhi, Safai bhi**

'Swachh Himachal – Padhai bhi, Safai bhi' campaign was launched by Himachal Pradesh Cricket Association (HPCA) on February 20 in Dharamsala. With this unique campaign, HPCA became the first cricket association in the country to work towards Swatch Bharat Abhiyan initiated by the Union Government.

#### **Key facts**

The campaign aims at involving youth to promote good health and sanitation in urban and rural areas in the Himalayan state.

### **National Dialysis Services Programme**

With an aim to help poor patients suffering from renal (kidney) disease, who require regular dialysis, the government has started a 'National Dialysis Services Programme'.

#### **Highlights of the scheme**

- The scheme will provide health cover up-to ₹ 1 lakh per family.
- For senior citizens of the age 60 years and above belonging to this category, an additional top-up package up to ₹ 30,000 will be provided.
- About 2.2 lakh new patients of end stage renal disease get added every year resulting in additional demand for 3.4 crore dialysis sessions.
- With approximately 4,950 dialysis centres in India, largely in the private sector and concentrated in the major towns, the demand is only half met.
- Every dialysis session costs about ₹ 2,000 - an annual expenditure of more than ₹ 3 lakh. Besides, most

families have to undertake frequent trips, often over long distances, to access dialysis services, incurring heavy travel costs and loss of wages.

- Finance Minister has also proposed to exempt certain parts of dialysis equipment from basic customs duty, excise/CVD and SAD to further reduce the cost.

### **Pradhan Mantri Ujjwala Yojana**

On May 1, the Pradhan Mantri Ujjwala Yojana (PMUY) was launched. The scheme will benefit the poor, especially the women. The scheme aims to provide cooking gas (LPG) connections to five crore below-poverty-line (BPL) beneficiaries over the next three years.

- A budgetary provision of the scheme is 2000 crore rupees.

### **Pradhan Mantri Surakshit Matritva Abhiyan**

The Scheme aims at providing pregnant women ante-natal services and required treatment for free at government health centres and hospitals on 9th of every month.

The Scheme had also found its mention in Prime Minister Narendra Modi's monthly radio address *Mann Ki Baat* in June 2016.

#### **Salient Features**

- To provide healthy life to pregnant women
- To lower the maternity mortality rate
- To make pregnant women aware of their health issues and diseases
- To ensure safe delivery and healthy life of the baby

## PEOPLE

### PV Sindhu



India's ace shuttler Pusarla Venkata Sindhu won the silver medal in women's singles badminton event at 2016 Rio Olympics. In the final match of women's singles badminton event, Sindhu lost to Spain's Carolina Marin (World No.1) by 21-19, 12-21, 15-21 score. Earlier in her quarterfinal match, she had defeated Japan's Wang Yihan (World No.2) by 22-20, 21-19 score. She also won China open on 19 November, 2016.

PV Sindhu was Born on 5 July 1995 in Hyderabad, Telangana.

attack in Dhaka was his follower who was inspired by his speeches. Mr. Naik's speeches are aired on 'Peace TV' from Dubai, run by his Mumbai-based Islamic Research Foundation. Britain and Canada have banned Mr. Naik from visiting their countries several years ago while Malaysia banned his lectures fearing that they could instigate inter-racial tensions. Born on 18 October 1965 in Mumbai, Dr. Naik attended the Kishinchand Chellaram College in Churchgate, and later studied medicine at Topiwala National Medical College, and BYL Nair Charitable Hospital.

### Dipa Karmakar



The 23 year Tripura girl, Dipa Karmakar created history by becoming the first Indian woman gymnast to qualify for Olympics as she booked a berth for the Rio Games after a strong performance at the final qualifying and test event. She garnered a total score of 52.698 points in the Olympics qualifying event to book a berth for artistic gymnastics in Rio Games.

Dipa had created history by becoming the first Indian woman gymnast to win a medal - a bronze, in the Commonwealth Games in Glasgow in 2014. She then became the first Indian woman gymnast to feature in the finals of World Championships.

### Subrata Roy

Subrata Roy was released on parole in May 2016 to attend the last rites of his deceased mother. The court kept extending his parole on the condition of depositing money with the SEBI towards refunding investors.

On 26 February, 2014, the Supreme Court of India ordered the arrest of Subrata Roy, chairman and founder of Sahara India Pariwar, for failing to appear in court in connection with the ₹24,000 crore deposits his company failed to refund to its investors as per a Supreme Court order, after a legal dispute with the Indian market regulator SEBI. He was eventually arrested on 28 February, 2014 by Uttar Pradesh police on a Supreme Court warrant.

### Zakir Naik



Zakir Naik has been under the scanner of Indian law enforcement authorities ever since Bangladesh asked for an investigation into his speeches and his writing, following a claim that a terrorist involved in the recent terror

### Urjit R Patel



Union Government appointed Dr. Urjit R Patel as the 24th governor of Reserve Bank of India (RBI) on 20 August, 2016. He will be having tenure of three years with effect from 4 September, 2016. He will succeed the present RBI Governor

Dr. Raghuram Rajan, the former International Monetary Fund chief economist. At present, Dr Patel is the Deputy Governor of RBI and is holding this assignment since 2013. With this appointment, he also becomes the eighth Deputy Governor to be elevated as the Governor at RBI. Patel obtained his Bachelor's in Economics from the London School of Economics, M. Phil. degree from Oxford University in 1986. He received his doctorate in Economics from Yale University in 1990. He was at IMF India desk during the 1991–94 transition period. He was posted to IMF country mission in India 1992–95. He has also been a non-resident Senior Fellow at the Brookings Institution since 2009. Mahudha in Kheda district of Gujarat is his ancestral village. Patel is unmarried.

### **Abidali Neemuchwala**

IT giant Wipro, India's third largest IT services exporter, on 4 January, 2016 appointed current Chief Operating Officer (COO) Abid Ali Neemuchwala as the Chief Executive Officer (CEO) and member of the board. Neemuchwala gets his surname from Neemuch, a small town in Madhya Pradesh. Neemuchwala had joined Wipro as COO in April 2015. Prior to Wipro, he held a long tenure of over 23 years with Tata Consultancy Services (TCS). In TCS, he headed the business process services unit of India's biggest outsourcer. He obtained an engineering degree in electronics and communication from NIT, Raipur and holds a master's degree in industrial management from IIT Mumbai.

### **Vijay Mallya**



Business tycoon and Rajya Sabha member, Vijay Mallya, is in trouble for his escape from the country right around the time he is wanted by the

Enforcement Directorate for money laundering.

Mallya, known for his extravagant lifestyle and Kingfisher brand of liquor, is in debt with 17 public sector banks for an estimated amount of ₹9,091 crore, who have moved the Debt Recovery Tribunal against him. Upon the banks' plea, the Supreme Court has issued a notice to Mallya seeking the disclosure of his assets and seizure of his passport. Earlier the liquor baron had made a quiet exit to London via Delhi on March 2016. Now, Mallya is being chased by almost every institution in the country for ₹9,000 crore that he owes to the lenders.

### **Cyrus Mistry**



The board of India's largest conglomerate Tata Sons Ltd has removed Cyrus Pallonji Mistry (48) as Chairman.

The board has replaced him with his predecessor Ratan Tata as interim chairman for four months. Mistry had shortest tenure as Chairman so far at the group. Mistry had replaced Ratan Tata as chairman in December 2012. He was only the sixth group Chairman in nearly 15 decades and the first from outside the Tata family to be appointed to top most post of Tata group.

### **Vinod Rai**

Former Comptroller & Auditor General of India Vinod Rai has been appointed as the first chairman of Banks Board Bureau on February 28, 2016, which will advise the government in appointing heads of public sector banks and also on banking reforms.

Rai served as the Comptroller and Auditor General between January 2008 and May 2013, during which a number of CAG reports led to revelation of various scams including the **telecom** and **coal sector scams**.

## Jayalalithaa Jayaraman

Jayalalithaa's life in politics is well documented. Her steady growth from a party secretary to a member of Rajya Sabha to the Chief Minister of Tamil Nadu is a long saga of adventure, struggle and success.



Once a classical dancer, later a popular actress, she became the face of the state's politics in the 21st century. Jayalalithaa revered as 'Amma' by lakhs of her loyalists has had one of the most interesting expeditions any modern politicians have had. Jayalalithaa who suffered a cardiac arrest passed away on 5 December 2016. She was 68.

Jayalalitha was born in Mysore on 24 February 1948. She hails from a Tamil Iyengar family. Her father Jayaram, a lawyer by profession, passed away when she was just two years old. She completed her schooling from Bishop Cotton Girls' High School, Chennai, and Sacred Heart Matriculation School in 1964. However, she took up films shortly after that.

In 1982, Jayalalitha became a member of the AIADMK, a party founded by M.G. Ramachandran. It marked her entry into politics. In 1984, Jayalalitha came to the forefront during the elections to the Lok Sabha and the Legislative Assembly in Tamil Nadu in December 1984.

On 24 June 1991, she became the youngest ever and the second female Chief Minister of Tamil Nadu. She held the position till 12 May 1996. The 1998 general election of the Lok Sabha saw the AIADMK and its alliance securing 30 out of 40 seats. In February 2002, she was elected from the constituency of Andipatti. She remained the Chief Minister of Tamil Nadu from 2 March 2002 to 12 May 2006.

Again in the 2011 Legislative Assembly elections in Tamil Nadu, the AIADMK and its allies bounced back, winning 203 seats out of 234, with the AIADMK securing 150 seats on its own.

Jayalalitha had to step down from her post of the Chief Minister in September 2014 when a trial court in Karnataka held her guilty in an 18-year-old disproportionate assets (amounting to ₹ 66.65 crore) and corruption case. The court had sentenced her to a four-year jail term with a fine of ₹ 100 crore, but she challenged this verdict in Karnataka High Court. On 11 May 2015, the Karnataka High Court acquitted Jayalalitha in the Disproportionate Assets case.

J. Jayalalitha was sworn-in as the Chief Minister of Tamil Nadu for a record-equaling fifth time on 23 May 2015. Again she took oath as the chief minister of Tamil Nadu for a record sixth time on 23 May 2016.

## O Panneerselvam

AIADMK leader O. Panneerselvam, 65, was sworn in as Chief Minister of Tamil Nadu following the death of Chief Minister Jayalalithaa. He was administered the oath of office and secrecy by Governor Ch. Vidyasagar Rao at a solemn ceremony held in the Raj Bhavan, Chennai on 6th Dec 2016. This is for the third time he has sworn in as Chief Minister of Tamil Nadu.

Panneerselvam was born on January 14, 1951 in Periyakulam, Tamil Nadu. He started his political career as chairman of Periyakulam Municipality (1996 to 2001). Previously in Jayalalithaa's government he had served as Minister of Revenue Department (March 2002 to December 2002), Minister for Public Works (December 2002 to May 2006) and Finance Minister (May 2011 to September 2014).

Earlier he had served CM for two brief periods from 2001-02 and 2014-15 after Jayalalithaa was unseated from the post by the courts on various grounds. Panneerselvam has been a trusted aide of AIADMK supremo Jayalalithaa. After her death, he was elected the leader of the Legislature Party. He will have remaining four years term of the Jayalalithaa Government.

## **Sheikh Mohammed bin Zayed Al Nahyan**

The crown prince of Abu Dhabi, Sheikh Mohammed bin Zayed Al Nahyan was the chief guest for the 68th Republic Day celebrations on 26 January, 2017. This is the first time that a leader of the United Arab Emirates was honored with the invitation of being the chief guest at India's Republic Day parade.

## **Boutros Boutros-Ghali**

The former United Nations Secretary-General Boutros Boutros-Ghali passed away on 16 February, 2016 in Cairo, Egypt. He was 93. Boutros-Ghali served as UN Chief from January 1992 to December 1996 and became the first secretary general to be deprived of a second term as he struggled to impose the UN's writ in a post-cold war world. He was the first African to hold the position. He helped secure peace deals between Israel and Egypt.

Born on 14 November 1922 in Cairo, Egypt, Boutros Boutros-Ghali was an Egyptian politician and diplomat who was the sixth Secretary-General of the UN. An academic and former

Vice Foreign Minister of Egypt, he oversaw the UN at a time when it dealt with several world crises, including the break-up of Yugoslavia and the Rwandan Genocide.

## **TVK Sasikala**

Convicted in Disproportionate Assets Case

**DOB:** 1957

**Background:** Sasikala Natarajan is the General Secretary of AIADMK. Sasikala was born to Vivekanandan and Krishnaveni, a family from Thiruthuraipoondi and is married to Natarajan with the blessings of DMK Chief M. Karunanidhi. Her husband was working as a Public Relations officer in Tamil Nadu government when they got married. She was a close aid of former Tamil Nadu CM, Jayalalitha. She was arrested along with Jayalalitha in 1996 in connection with the Colors TV Scam. She was contented as the chief minister of Tamil Nadu after demise of Jayalalitha.

**Important Work:** AIADMK general secretary VK Sasikala was convicted in the disproportionate assets case

and sentenced to four-year jail-term on 14th February 2017. According to the verdict, she cannot contest elections for the next 10 years. Sasikala was found guilty of amassing wealth disproportionate to her income with two others and was asked to immediately surrender to the police to begin serving her sentence. She reacted to the conviction by emotionally

addressing her MLAs. She was also fined Rs. 10 crore. The verdict of 21 year old corruption case shattered Sasikala's dream to become the next CM of Tamil Nadu.

### E. Palaniswamy

Edappadi Palaniswami was appointed as Chief Minister of Tamil Nadu on 16th Feb. 2017.

## EVENTS

### ENVIS Portal Launched

**Agenda/Issue:** A new Environment Information System (ENVIS) portal and mobile application is launched on 17 February, 2016. It is a central sector Scheme of the MOEFCC implemented since 1982.

**Target/Application:** The portal <http://envis.nic.in> runs parallel with the Digital India Objective, which works on improving the digital literacy in the environment sector and deliver services digitally all over the country.

### Gatiman Express Flagged Off

**Place:** New Delhi

**Agenda/Issue:** Railway Minister Suresh Prabhu flagged off the much-awaited Gatiman Express on 5th April, 2016 which will cover the distance from Agra to Nizamuddin station in 90 to 100 minutes.

### World Health Day

**Agenda/Issue:** April 7th 2016 was celebrated as the World Health Day a global health awareness day.

This year's focus was-scale up prevention, strength care, enhance surveillance.

### Single Rooftop Solar Power Plant

**Place:** Amritsar

**Agenda/Issue:** World's largest Single Rooftop Solar Power Plant over 82 acres on 8 rooftops to generate 19.6

MW inaugurated in Amritsar in Punjab on 18th May, 2016. The plant has been set up with the cost of 139 crore rupees and would generate clean and green energy sufficient to power approximately 8,000 homes. It will also help in abating 4-lakh tonnes of carbon dioxide ( $\text{CO}_2$ ) in the next 25 years.

### Green-concept Based State Data Centre

**Agenda/Issue:** Himachal Pradesh became the first state in the country to have a State Data Centre (SDC), designed using green data centre concept on 5th June, 2016. The SDC will offer 101 people-oriented services online through an integrated data base. It would integrate the websites of various departments and all services can be accessed through the integrated data base.

### World Environment Day

**Agenda/Issue:** World Environment Day was celebrated on June 5, 2016 to educate global awareness to tiger-express take positive environmental action to protect nature and the planet Earth. The Theme for 2016 is 'Go Wild for Life (Zero Tolerance for the Illegal Wildlife Trade)'.

### India's First LIGO Laboratory to Come up in Hingoli, Maharashtra

**Place:** Hingoli, Maharashtra

**Agenda/Issue:** India's first LIGO (Laser Interferometer Gravitational-Wave Observatory) laboratory will be set up in Aundh in Hingoli district of Maharashtra. The proposal is approved on 10th September, 2016.

**Target/Application:** It will be third such laboratory in the world and first outside the United States. The existing two laboratories are located in Hanford, Washington and in Livingston, Louisiana.

The LIGO-India laboratory will help to bring considerable opportunities in cutting edge technology for Indian industries.

### National Ayurveda Day

**Agenda/Issue:** The first National Ayurveda Day was observed on 28 October, 2016 on the occasion of Dhanwantari Jayanti.

**Target/Application:** Union Government has decided to celebrate National Ayurveda Day every year on the occasion of Dhanwantari Jayanti. This day marks birth date of Lord Dhanvantari, which occurs before two days before Diwali on Dhanteras.

### Smart India Hackathon Launched

**Agenda/Issue:** The Union Ministry of Human Resource Development (HRD) has launched Smart India Hackathon 2017 on 10th November, 2016. It is the world's largest digital national building initiative. Through this initiative, HRD Ministry is keen to reach out to all technology institutions in the country and challenge students to offer innovative solutions to some of the daunting problems faced by our nation.

### World Cancer Day

**Agenda/Issue:** World Cancer Day (WCD) was observed on 4 February, 2016 across the world to raise awareness of cancer and to encourage

its prevention, detection, and treatment. The theme for year 2016 WCD was "We can. I can"

The Union for International Cancer Control (UICC) had founded the WCD in 2008 by formally writing the goals of the World Cancer Declaration. The primary goal of observing the day is to reduce illness and death caused by it by 2020. UICC is a Geneva based leading international non-governmental organisation (NGO) founded in 1933.

### World Wildlife Day

**Agenda/Issue:** World Wildlife day was observed across the world on 3rd March, 2016. It is designated as World Wildlife Day to celebrate and raise awareness of the world's wild fauna and flora.

**Target/Application:** The theme for 2016 theme was "The future of wildlife is in our hands", with African and Asian elephants being the main focus of global campaigns. The date is the day of the adoption of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1973, which plays an important role in ensuring that international trade does not threaten the species' survival.

### RIO Paralympics 2016

**Agenda/Issue:** The 2016 Summer Paralympic Games began on 7th September 2016 and concluded on 18th September 2016. **Deepa Malik** has created history by winning silver medal in Women's shotput at the 2016 Rio Paralympics. With this she becomes first Indian woman to win a medal at the Paralympics. It is India's 3rd medal in the ongoing Paralympics games at Rio de Janeiro, Brazil.

Mariyappan Thangavelu has won India's first gold medal at the 2016 Rio Paralympics. He won the gold medal in the Men's High Jump T-42 event with jump of 1.89 metres.

### **Summer Olympics 2016: Rio de Janeiro**

The 31st Summer Olympic Games officially began on 5 August, 2016 with inaugural ceremony held at the Maracana Stadium in the Brazilian city of Rio de Janeiro. The Game was declared open by Brazil's Acting President Michel Temer in the presence of International Olympic Committee chief Thomas Bach and United Nations chief, Ban-Ki Moon.

India bagged a total of **two** medals, one silver and one bronze, in the games, and stood at the **67th** place in the medal tally. **Badminton** player **P V Sindhu** won historic silver medal in women's singles **badminton** event. With this, she became the first Indian woman to clinch a silver medal in Olympics. **Wrestler Sakshi Malik**

secured a bronze in the **58 kg** category to become India's first female wrestler to win an Olympic medal. India had qualified one artistic gymnast into the Olympic competition for the first time since 1964. Dipa Karmakar became the first Indian female ever to book an Olympic spot in the apparatus events and all-around event at the Olympic Test Event.

### **United Nations Day**

**Agenda/Issue:** The United Nations Day is being observed globally on October 24.

**Target/Application:** It entered into force on 24 October 1945 after it was ratified by the original five permanent members of the Security Council—China, France, Russia, United Kingdom, and United States.

This year's United Nations Day will highlight concrete actions people can take to help achieve the **Sustainable Development Goals**.

### **COP22 Adopts Marrakech Action Proclamation**

**Agenda/Issue:** The COP22 was held on 7-18 November, 2016 in Marrakech,

Morocco. Nearly 200 nations attending the COP22 to the UNFCC have adopted Marrakech Action Proclamation for Our Climate and Sustainable Development. The adaptation of Marrakech Action Proclamation sends out a strong signal to the world on climate action and shift towards a new era of implementation and action on climate and sustainable development. India has welcomed Marrakesh Action Proclamation as most of its demands including the issue of providing finance to developing nations to tackle climate change has been incorporated.

**Target/Application:** Countries affirmed their commitment to full implementation of the Paris Agreement held during COP21/OCMP11 from 30 Nov, to 11 Dec, 2015.

### **Election Commission announces dates for Assembly polls of five states**

**Date:** 4 January 2017

**Place:** New Delhi

#### **Agenda/Issue**

The Election Commission of India (ECI) has announced the dates for the assembly elections in five states—Uttar Pradesh, Uttarakhand, Punjab, Manipur and Goa.

With the Election Commission announcement the Model code of conduct has come into effect. Counting of votes for all five states will take place on 11 March 2017.

#### **Target/Application**

<b>State</b>	<b>Date of Poll</b>
Goa	4 February 2017
Punjab	4 February 2017
Uttarakhand	15 February 2017
Manipur (2 phases)	4 March 2017, 8 March 2017
Uttar Pradesh (7 phases)	11 February 2017, 15 February 2017, 19 February 2017, 23 February 2017

### **Union Government launches IPR Enforcement Toolkit for Police**

**Date:** 4 January 2017

**Place:** New Delhi

#### **Agenda/Issue**

The Union Commerce and Industry Minister Nirmala Sitharaman launched an Intellectual Property Rights (IPR) Enforcement Toolkit for Police.

This toolkit will be provided to all state police departments across the nation to assist them in dealing with the cases relating to Trademarks and Copyrights infringements.

#### **Target/Application**

The toolkit has been jointly developed by the Cell for IPR Promotion and Management (CIPAM) and Federation of Indian Chambers of Commerce and Industry (FICCI).

It will act as a ready reckoner for police officials across the country for dealing with crimes related Intellectual Property rights (IPR) infringement, specifically Trade Marks counterfeiting and Copyrights piracy.

In addition it will provide details of offences under various laws, checklists for registering a complaint and conducting search and seizures case of IP crimes.

### **44th New Delhi World Book Fair begins**

**Date:** 7 January 2017

**Place:** New Delhi

#### **Agenda/Issue**

The 44th edition of the New Delhi World Book Fair began at Pragati Maidan in national capital. The theme for this edition of the event is 'Manushi- Books Written on and by Women'.

It was inaugurated by Union Minister of State (MoS) for Human Resources Development (Higher Education) Mahendra Nath Pandey.

#### **Target/Application**

The nine-day event has been organised by National Book Trust (NBT), under

the Union Ministry of Human Resource Development. While, India Trade Promotion Organisation (ITPO) is the Co-organizer.

### **PM Narendra Modi announces Pravasi Kaushal Vikas Yojana**

**Date:** 8 January 2017

**Place:** Bangalore

#### **Agenda/Issue**

Prime Minister Narendra Modi launched Pravasi Kaushal Vikas Yojana (PKVY), a skill development program targeted at Indian youth seeking overseas employment.

It was launched after inauguration of 14th Pravasi Bhartiya Divas convention held in India's IT hub Bengaluru, Karnataka. Portuguese Prime Minister Antonio Costa was the Chief Guest of the event.

#### **Target/Application**

PKVY will provide training and certify Indians who are seeking overseas employment in selected sectors in line with international standards.

It will be implemented by the National Skill Development Corporation (NSDC) through its training partners and in consultation with the Union Ministry of External Affairs and the Union Skill Development Ministry.

It also aims at boosting the confidence of the Indian youth so that they don't feel like strangers when they land in a country of their choice for vocation.

### **January 12: National Youth Day**

**DATE:** 12th January 2017

**PLACE:** India

**AGENDA/ISSUE:** To commemorate the birthday of Swami Vivekananda.

**TARGET/APPLICATION:** National Youth Day (Yuva Diwas or Swami Vivekananda Birthday) is celebrated with the great joy and enthusiasm in India every year on 12th of January. It is celebrated to honour the birthday of Swami Vivekananda. It was first

declared by the Government of India in the year 1984 to celebrate the birthday of Swami Vivekananda as the National Youth Day. Since then (1985), it is started celebrating as the National Youth Day all over the country.

#### **Narendra Modi inaugurates Nobel Prize Series India Exhibition in Gandhinagar**

**DATE:** 9th January 2017

**PLACE:** Ahmedabad

**AGENDA/ISSUE:** Part of Nobel Prize Series India 2017, an extensive programme of events taking place with the participation of nine Nobel Laureates

**TARGET/APPLICATION:** Prime Minister Narendra Modi inaugurated the 'The Nobel Prize' exhibition at Science City in Ahmedabad. 'The Nobel Prize: Ideas Changing the World' contains several original artefacts, both from Alfred Nobel himself and from a number of Nobel Laureates. The Nobel Prize Series 2017 will attribute to a five week long Science Exhibition. It is being set up by the Nobel Foundation with exhibits from Nobel Museum at Stockholm, Sweden. One of the 9 Nobel laureates include India-born scientist Dr Venkatraman Ramakrishnan. He won 2009 Nobel Prize in Chemistry for his work on ribosome structure along with Thomas A Steitz and Ada Yonath. The Department of Biotechnology (DBT) under the Union Ministry of Science and Technology and Nobel Media had signed a Memorandum of Understanding (MoU) for hosting Nobel Prize Series in India for the next 5 years in 2016. Due to the programme the students will be able to interact with the Laureates at universities such as IISC Bangalore, NCBS Bangalore, IIT Delhi, IIT Gandhinagar, Gujarat University and M S University Vadodara.

#### **ISRO, CNES ink pact on satellite launch**

**DATE:** 9th January 2017

**PLACE:** Bengaluru, Karnataka.

**AGENDA/ISSUE:** Indo-French strategic partnership.

**TARGET/APPLICATION:** Indian Space Research Organisation (ISRO) and French Space agency (CNES) signed a partnership agreement in satellite launch technology. The agreement was signed between ISRO Chairman Kiran Kumar and CNES President Jean-Yves Le Gall in the presence of visiting French Minister of Foreign Affairs Jean-Marc Ayrault. ISRO is the second partner of CNES, in terms of volume, after NASA.

#### **74th Golden Globe Awards**

**DATE:** 8th January 2017

**PLACE:** The Beverly Hilton in Beverly Hills, California

**AGENDA/ISSUE:** To honour the best in film and American television of 2016

**TARGET/APPLICATION:** The critically-acclaimed musical La La Land broke the record for most wins by any one film. It won all seven of the categories it was nominated in, including a Best Actor statuette for Ryan Gosling, Best Actress for Emma Stone and Best Director for its auteur Damien Chazelle. On the television side, The Crown took home Netflix's first trophy for best drama, while star Claire Foy won for best actress in a drama series. Donald Glover took the stage twice, with Atlanta winning best comedy series and Glover himself winning for best actor in a comedy. Meryl Streep was announced as the Cecil B. DeMille Lifetime Achievement Award honouree. Actor and talk-show host Jimmy Fallon was announced as the host of the ceremony on August 2, 2016.

**January 10: World Hindi Day****DATE:** 10th January 2017**PLACE:** All across the world.**AGENDA/ISSUE:** The day is observed to honour the Indo-Aryan language.**TARGET/APPLICATION:** The World Hindi Day is observed every year on 10 January. World Hindi Day was observed for the first time on 10 January 2006. It is in addition to present National Hindi Divas which is being observed annually on 14 September. Hindi has also been declared as the official language in Fiji.**ISRO successfully tests Cryogenic Engine for Upper Stage of GSLV Mk III (NATIONAL, SOCIAL)****DATE:** 25 January, 2017**PLACE:** Mahendragiri**AGENDA/ISSUE:** Testing indigenously developed Cryogenic Upper Stage for GSLV MkIII**TARGET/APPLICATION:** Indian Space Research Organisation (ISRO) successfully ground tested its indigenously developed Cryogenic Upper Stage for GSLV MkIII on 25th January, 2017. The cryogenic stage designated as C25 was tested for a duration of 50 seconds at ISRO Propulsion Complex (IPRC) in Mahendragiri demonstrating all the stage operations. This is the first test in a series of two tests. The next test is planned for flight duration of 640 seconds. The development of C25 cryogenic stage began with the sanction of GSLV MKIII, the next generation launch vehicle of ISRO, capable of launching 4 ton class spacecraft in Geosynchronous Transfer Orbit (GTO).**68th Republic Day celebrated on 26 January 2017 (NATIONAL, SOCIAL)****DATE:** 26th January, 2017**PLACE:** New Delhi**AGENDA/ISSUE:** Celebration of India's 68th Republic Day**TARGET/APPLICATION:** India celebrated its 68th Republic Day on 26th January 2017 marking the anniversary of the day

the country's Constitution was adopted in 1950, with the customary grand parade in the national capital and several other events. The Crown Prince of Abu Dhabi, Sheikh Mohamed bin Zayed Al Nahyan was the chief guest of honour at this year's Republic Day parade. The Indian Army, Navy, Air Force, artistes and performers from across the country took part in parades.

**Tamil Nadu Assembly unanimously passes Jallikattu Bill (NATIONAL, SOCIAL)****DATE:** 23rd January, 2017**PLACE:** Chennai**AGENDA/ISSUE:** Ordinance promulgated to allow Jallikattu

**TARGET/APPLICATION:** Tamil Nadu Assembly unanimously passed an amendment bill for conducting the bull taming sport without any hindrance. Replacing an ordinance promulgated two days ago to allow Jallikattu, the Bill to amend the Prevention of Cruelty to Animals Act, 1960 was unanimously adopted by the House after members of all parties spoke welcoming the legislative initiative. The "Prevention of Cruelty to Animals (Tamil Nadu Amendment), Act, 2017" was piloted by Chief Minister O Panneerselvam and adopted by voice vote. It was deemed to have come into effect on the day the ordinance was issued, January 21, 2017. The Bill defines Jallikattu as an occasion involving bulls conducted with a view to following tradition and culture from January to May and it includes alike events like 'manjuvirat', 'vadamadu' and 'erudhuividum' festivals. Considering the crucial role of jallikattu in preserving and promoting tradition and culture among people and also in view of ensuring the survival and continuance of native breeds of bulls, the Government of Tamil Nadu has decided to exempt jallikattu from the provisions of the PCA Act.

**News: Donald Trump: Immigration Ban on immigrants from Muslim-majority countries in United States: International/ Political**

**DOB:** 14 June 1946

**Background:** Donald Trump is an American businessman, politician and social personality. He was sworn in as 45th president of USA on 20th January 2017 after he defeated Hilary Clinton. At the age of 70 years, he is the oldest and wealthiest person to become the President of the United States.

**Important Work:** Donald Trump issued an executive order which will deny refugees and immigrants from few Muslim-dominant countries entry to the United States. The immigration ban was passed on 27th January 2017 as a measure to keep terrorists away from US. The 90 day ban applies to the citizens from Iran, Iraq, Syria, Yemen, Sudan, Libya and Somalia. The ban has stopped the entry of refugees from Syria indefinitely. The ban was condemned by democrats, immigrants and civil rights groups as it is counter to US Constitutional principle of not discriminating on the basis of religion. However Republicans were in stride of the ban considering it as a matter of national security.

**Genetically Modified mosquito trials launched to control dengue, chikungunya and zika (NATIONAL, SOCIAL)**

**Date:** 23rd January, 2017

**Place:** Maharashtra

**Field/ Segment:** Science, Medicine

**Problem/Demand:** To demonstrate the efficiency of genetically modified mosquitoes to suppress wild female Aedesaegypti mosquito populations that transmit dengue, chikungunya and Zika

**Effects:** Outdoor caged trials to determine the efficiency of genetically modified mosquitoes to suppress wild female

Aedesaegypti mosquito populations that transmit dengue, chikungunya and Zika were launched in Dawalwadi, Badnapur, in Maharashtra's Jalna district. Based on the results of the trials, which use the Release of Insects carrying Dominant Lethal genes (RIDL) technology, and permission from Indian regulatory authorities, GangabishanBhikul Investment and Trading Limited (GBIT) and Oxitec, plan to conduct open field trials in the country. Laboratory-based studies have already been carried out in India since 2012 by GBIT and Oxitec and these studies have demonstrated the compatibility of Aedesaegypti mosquitoes. Oxitec's technology uses genetically modified male Aedesaegypti mosquitoes that carry a dominant lethal gene. When male GM mosquitoes mate with wild female mosquitoes the lethal gene is passed on to offspring. The lethal gene in the offspring kills the larvae before they reach adulthood. Since male mosquitoes do not bite humans, the release of GM males will not increase the risk of dengue, chikungunya and Zika.

**Centre of Integrative Oncology inaugurated in New Delhi**

**Date:** 4th February, 2017

**Place:** New Delhi

**AGENDA/ISSUE:** Inauguration of Centre of Integrative Oncology (CIO)

**TARGET/APPLICATION:** The Centre of Integrative Oncology (CIO) was inaugurated at the National Institute of Cancer Prevention and Research (NICPR) at Noida on the eve of world Cancer Day (4th February).

**Litchi Reason behind mysterious deaths in Bihar**

**Date:** 1st February, 2017

**Place:** New Delhi

**Field/ Segment:** Social

**Problem/Demand:** Unexplained neurological illness in Bihar's Muzaffarpur Effects: The unknown reason behind the occurrence of amysterious neurological illness in Bihar's Muzaffarpur, which claimed nearly 100 lives each year till 2014, has been resolved. Scientists from the US and India, after a combined investigation, have concluded that consuming litchi --a tropical fruit on an empty stomach triggers the illness and death. Seasonal outbreak of the mysterious illness, characterised by acute seizures and changed mental status, has been plaguing Muzaffarpur for nearly two decades. Some similar cases have been reported from Malda in West Bengal. Naturally-occurring toxins that are found in litchis --hypoglycin A and methylenecyclopropylglycine (MPCG) - disrupt the fatty acid metabolism, leading to acutely low levels of blood sugar. This further affects brain function, leading to acute seizures and stroke. The research findings have been published in the latest issue of medical journal The Lancet. For years, many theories were proposed for the seasonal outbreak, including the possibility of pesticide exposure and infectious encephalitis, but no one could confirm anything. In 2013, the National Centre for Disease Control (NCDC) in India and US Center for Disease Control initiated a joint investigation into the matter. The hospital-based surveillance involved laboratory investigations to evaluate possible infectious and non-infectious causes in 390 children less than 15 years old, who were admitted to Shri Krishna Medical College hospital and Krishnadevi Deviprasad Kejriwal maternity hospital -the chief referral medical centres in Muzaffarpur with sudden neurological illness. This study is the largest investigation of the Muzaffarpur outbreak and the first comprehensive confirmation that this

recurring outbreak illness is associated with litchi consumption and toxicity from both hypoglycin A and MPCG.

### NTA to Conduct Exams for Higher & Secondary Education

**Date:** 5th February 2017

**Place:** New Delhi

The Union Ministry of Human Resource Development (HRD) is going to set up a department known as National Testing Agency (NTA) to conduct examinations for higher and secondary education. It will be the single authority that will conduct entrance tests for all higher institutions like JEE, NEET, NET and other prestigious exams. Establishment of NTA will free CBSE, AICTE and other agencies from conducting various exams and enable them to focus on their core areas and work on improving the quality of education. Its main purpose is to bring reforms in the education system. The National Testing aims to bring professionalism, competence and transparency in the field of conducting tests for higher educational institutions and benefit students as well.

Initially examinations like IIT, NIT and even university exams will be conducted by NTA. Later on secondary school exams will also be handed over to it. Initially, the CBSE staff will be deployed in this department and but later on the specialised people will be hired in the NTA.

### SC upholds cancellation of MBBS admission through Vyapam

**DATE:** 13th February, 2017

**PLACE:** New Delhi

**AGENDA/ISSUE:** Admission of MBBS students through Vyapam cancelled

**TARGET/APPLICATION:** Supreme Court has upheld the cancellation of the admission of 634 MBBS students in the MBBS course through Vyapam test

in Madhya Pradesh for adopting unfair means, terming their action as "an act of deceit". The three-judge bench headed by Chief Justice J S Khehar said the actions of the students were founded on "unacceptable behaviour" and warranted no interference under Article 142 of the Constitution. Article 142 deals with special powers of the Supreme Court to enforce decree to meet the ends of justice.

The batch of matters were referred to the three-judge bench after a two-judge bench of Justices J Chelameswar and A M Sapre, though they concurred regarding guilt of adopting unfair means by the medical aspirants, but had differed on the quantum of sentence. The medicos had challenged two verdicts, delivered in 2014, of the Madhya Pradesh High Court dismissing their pleas against cancellation of the results in the entrance examinations held between 2008 and 2013 by the Madhya Pradesh Professional Examination Board (MPPEB), also known as VYAPAM. During the inquiry, the examination board had concluded that the exam process was "tampered with" and 634 medicos were the beneficiaries of the "manipulated examination process".

### **ISRO launches 104 satellites in one go**

**DATE:** 15th February, 2017

**PLACE:** Satish Dhawan Space Centre, Sriharikota

**AGENDA/ISSUE:** ISRO will gain supremacy in the field of space research

**TARGET/APPLICATION:** India has got its name etched in the history of space exploration with the successful launch of a record 104 satellites by Isro's Polar Satellite Launch Vehicle (PSLV) in a single mission. PSLV-C37 carrying

the 104 satellites lifted off from the first launch pad at Satish Dhawan Space Centre in Sriharikota. It was PSLV's 39th flight. Out of the total 104 satellites placed in orbit, 101 satellites belonged to six foreign countries. They included 96 from the US and one each from Israel, the UAE, the Netherlands, Switzerland and Kazakhstan.

PSLV first injected its main payload Cartosat- 2 series, India's indigenously built earth observation satellite. It was followed by two other nanosatellites of Isro - INS-1A and INS-1B. Russian Space Agency held a record of launching 37 satellites in one go during its mission in June 2014.

India previously launched 23 satellites in a single mission in June 2015. Equipped with panchromatic and multispectral cameras, the 664kg Cartosat -2 will provide remote sensing services similar to that of its predecessors. INS-1A and INS-1B are versatile and modular nanosatellite bus system envisioned for future science and experimental payload. The nano satellites from Israel, Kazakhstan, the Netherlands, Switzerland and the UAE are mostly technology demonstrators.

### **5 associate banks merged into SBI**

**DATE:** 15th February, 2017

**PLACE:** New Delhi

**AGENDA/ISSUE:** Cabinet approves merger of SBI with 5 associate banks

**TARGET/APPLICATION:** The Union Cabinet has approved the merger of State Bank of India with five of its associate banks including State Bank of Bikaner and Jaipur, State Bank of Hyderabad, State Bank of Mysore, State Bank of Patiala, and State Bank of Travancore. The merger proposal was announced in May 2016 and was scheduled for March 2017.

**ISSUES****Cauvery Water Dispute**

**Karnataka** and **Tamil Nadu** are living in rivalry for 125-years. Currently, this has been raging since the order of the Supreme Court asking Karnataka to release 15,000 cusecs of water per day to Tamil Nadu.

The dispute between Karnataka and Tamil Nadu over sharing Cauvery was close to a solution when in 1924, the two sides, Mysore princely state and Madras Presidency, reached an agreement.

Mysore was permitted to build a dam at Kannambadi village to trap 44.8 thousand million cubic feet of water. The agreement was supposed to be valid for 50 years with a review thereafter.

**Core of the issue**

Karnataka claims that the British-era agreement was not correct since it did not get its due share of water. Whereas, Tamil Nadu believes that it needs the water to sustain extensive farming that has resulted in increase because of Karnataka's commitment to provide sufficient water.

Karnataka wants to triple its water share from the river, that originates from Kodagu and flows through Karnataka, Tamil Nadu, Puducherry and Kerala. This means there Tamil Nadu's portion will reduce.

**Present agitation**

The dispute escalated when monsoon failed, as there is lesser water to share. Adding to the fire, Karnataka and Tamil Nadu have received less rainfall during the monsoon. Karnataka denies releasing water to TN for agriculture, saying it needs it for drinking water purposes.

**Combat Drug Resistant TB**

**Date:** 21 March, 2016

**Place:** New Delhi

**Field:** Health

**Bedaquiline** Drug the new anti-TB drug combat Drug Resistant TB as part of the **Revised National Tuberculosis Control Program (RNTCP)**. It is a new class of drug is a **diarylquinoline** that specifically targets Mycobacterial ATP synthase, an enzyme essential for supply of energy to *Mycobacterium tuberculosis* and most other mycobacteria. It will available at six identified tertiary care

centres across the country. These sites have advanced facilities for laboratory testing and intensive care for patients. It will be given to multi-drug resistant TB patients with resistance to either all fluoroquinolone and/or all second line injectables and extensively drug resistant TB. Union Minister of Health and Family Welfare on 21st March launched **Bedaquiline** – new anti-TB drug for Drug Resistant TB as part of the RNTCP (Revised National Tuberculosis Control Program) on the eve of 'World TB Day'.

## National Waterways Project Threatens Gangetic Dolphins

**Date:** 24 September, 2016

**Place:** Patna

**Field:** Ecological Conservation

The development of the Ganga is beneficial for India but it is the natural habitat of dolphins. Due to construction of dams and barrages on the river for shipping their numbers are rapidly decreasing. The Central Government plans further to develop a 1600-km waterway between Allahabad and Haldia. The first phase of the project spanning 1300 km, from Varanasi to Haldia is now under implementation. It envisages to improve the navigability of the river as it passes through Northern India. However this stretch is also home to the **endangered dolphin**. According to the scientists and wildlife conservationists, the National Waterways (NW) project possesses serious environmental threat to Gangetic river dolphins. The development NW1 in the River Ganga is considered as single-largest threat to the survival of the species, whose numbers are declining in most parts of their natural habitat. River dolphins are found in Ganga and Brahmaputra and its tributaries. It has been declared endangered species and is protected under Schedule I of the Wildlife Protection Act, 1972.

## Operation 'Sankat Mochan'

**Date:** 13 July, 2016

**Place:** New Delhi

**Field:** Foreign Affairs

There are over 550 Indians at **Juba** and another 150 in areas where the oil wells are located. **South Sudan** has been hit by violence which has claimed hundreds of lives till now. The conflict is because of clashes between government troops and forces loyal to Vice President Riek Machar. Thousands of Indians are working in the Gulf countries and they are in serious threat due to growing militarism of ISIS.

In this regard Operation Sankat Mochan is the first big evacuation effort in a year after **Operation Rahat** that evacuated hundreds of citizens of India and other countries in July 2015. '**Sankat Mochan**' evacuated Indian citizens stranded in **South Sudan's capital Juba**. Sankat Mochan in Hindi means reliever from troubles. The operation was being undertaken by Indian Air Force (IAF).

## Expansion Of Rotavirus Vaccine In 5 States

**Date:** 18th February, 2017

**Place:** Agartala

**Problem/Demand:** Morbidity and mortality among children from rotavirus diarrhoea.

**Effects:** Diarrhoea is one of the biggest killers in children and Rotavirus is one of the most common causes of severe diarrhoea in children less than 2 years of age. Rotavirus vaccine along with proper sanitation, hand washing practices, ORS and zinc supplementation will go a long way in reducing the mortality and morbidity due to diarrhoea in children. The government is committed to increasing the full immunization coverage and ensuring that the benefit of the life-saving vaccines is provided to every child.

The fourth phase of Mission Indradhanush has already begun in North-eastern states - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura from 7th February 2017 and will be rolled out in rest of the country in April

2017. This life-saving vaccine will not only improve the health of our children but will also reduce hospitalization and other conditions associated with diarrhoea due to Rotavirus such as malnutrition, delayed physical and mental development among children. In March 2016, the Rotavirus vaccine was first introduced in four states namely Haryana, Himachal Pradesh, Andhra Pradesh and Odisha. India's UIP provides free vaccines against 11 life threatening diseases, to 26 million children annually, the largest birth cohort in the world.

### FIGHT AGAINST 12 MOST DANGEROUS SUPERBUGS

**DATE:** 27th February, 2016

**PLACE:** Geneva, Switzerland

**PLACE/DEMAND:** Demand for drugs against drug-resistant bacteria

**EFFECTS:** The World Health Organization (WHO) has urged countries to step up the fight against a dozen bacteria that are growing resistant to all the existing antibiotics. The antibiotic resistance crisis has been credited to the accelerated overuse of these drugs. The primary reason sighted are that the pharmaceutical companies aren't developing new antibiotics quickly

enough. They also often place profits ahead public health when choosing which drugs to develop.

For the first time, the World Health Organization (WHO) published a list of bacteria threatening to turn once easily treatable infections into serial killers. The list was drawn up by a group of international experts led by the WHO and the University of Tübingen in Germany which has ranked bacteria based on their level of resistance to treatment, their mortality rates, their prevalence in the community, and the burden on the health system they cause.

The 12 bugs on the list are categorised as critical, high and medium priority. At the top of the critical category are **Acinetobacter baumannii** and **Pseudomonas aeruginosa**, which can cause deadly blood infections and pneumonia, most commonly in hospital patients. The third on the list, **carbapenem-resistant enterobacteriaceae**, is a family of germs that include **Klebsiella** and **E. coli** bacteria. They also commonly originate in hospitals, and can lead to urinary tract infections, bloodstream infections, and pneumonia with high mortality rates. Among the high and medium priority categories were drug-resistant gonorrhea and salmonella bacteria.

### IDEAS

#### HPV Vaccine Programme in Schools

**Date:** 29 February, 2016

**Place:** Delhi

**Field:** Health

Delhi is going to be the first state in the country to launch the *Human Papillomavirus (HPV)* vaccine as a public health programme for school children. The HPV vaccine protects people against the group of 150-odd HPVs, some of which can cause cervical cancer. Human papillomavirus is a DNA virus from the papillomavirus family that is capable of infecting humans.

Like all papillomaviruses, HPVs establish productive infections only in keratinocytes of the skin or mucous membranes.

#### POCSO e-box

**Date:** 26 August, 2016

**Place:** New Delhi

**Field:** Child Development

An online complaint box for reporting child sexual abuse, the POCSO e-Box is a much needed initiative to address the grave situation. *Protection of Children from Sexual Offences (POCSO)*, e-Box,

is an online complaint management system for easy and direct reporting of sexual offences against children and timely action against the offenders under the POCSO Act, 2012. The e-Box is incorporated prominently in the home page of *National Commission for Protection of Child Rights (NCPNR)* website <http://ncpcr.gov.in/> where a user has to simply push a button named POSCO e-Box. The Protection of Children from Sexual Offences Act (POCSO Act) 2012 was formulated in order to effectively address sexual abuse and sexual exploitation of children. Which is growing rampantly in India.

### **Digital Locker**

**Date:** 8 September, 2016

**Place:** New Delhi

**Field:** Transport

The idea of integration of DigiLocker with Driving Licenses (DL) & Vehicle Registration Certificates (VRC) will hugely benefit people. Now, people will no longer need to carry around physical copies of their Driving Licences and RCs. Using DigiLocker mobile app, they can instead access digital copies of the same on their mobile phones. Besides, DLs and VRC documents will be now issued directly to the DigiLockers of individuals in digital formats. These digital copies also can be shared with other government departments as identity and address proof. They can also be used for on the spot verification through the citizen's mobile, by various law enforcement authorities like the Traffic Police. Besides, it will also result in assured authenticity of such documents and reduction of administrative overhead.

### **Kahin Bhi-Kabhi Bhi Medical Facilities**

**Date:** 14 November, 2016

**Place:** New Delhi

**Field:** Health

Employees State Insurance Corporation (ESIC) is going to launch 'Kahin Bhi-

Kabhi Bhi' medical facilities for its beneficiaries of Delhi. Kahin Bhi means any dispensary/Hospital and Kabhi Bhi means anytime. With this initiative, all the networks of dispensaries of Delhi have been made accessible to insured persons and their family members all the time. The initiative aims at saving time of the beneficiaries as well as minimizing the effort that he/she makes to avail the services.

### **Mobile App CHIRAG**

**Date:** 9 November, 2016

**Place:** Mumbai

**Field:** Human Rights

The App "Child Helpline for Information on Rights and Address Grievances" (CHIRAG) will be available for download on Google Playstore while an IOS version would be launched shortly. The app will provide information regarding functioning of the Child Rights Protection Commission while spreading awareness about children's rights. People can also lodge complaints about violation of child rights through the app. Maharashtra and Uttar Pradesh have recorded cases of child abuse. This idea is path-breaking because with registering a complaint on the app will immediately send an email to the Maharashtra State Child Rights Protection, which will direct it to police or a child right charity.

### **DRDO's drone Rustom-2**

**Date:** 15 November, 2016

**Place:** Karnataka

**Field:** Defence

A medium-altitude long-endurance unmanned aerial vehicle, Rustom-2 is comparable to the American made Predator drone and can fly for 24 hours at stretch. It can conduct sustained surveillance and can carry weapons along with surveillance equipment. The application of drones is manifold - including reconnaissance, surveillance, intelligence gathering and aerial combat missions. What makes them

indispensable is that they can conduct these tasks at a fraction of the cost of a manned aircraft and in case of a crash or malfunction, costs no lives. The most recent instance of drone usage by India had been during the army's surgical strikes on terror launchpads across the Line of Control in Jammu and Kashmir, where the drones have monitored and filmed the proceedings. For that operation, the military had to rely on imported drones, which had long endurance and a capacity to fly in high altitudes. Rustom-2 will be able to carry out such missions. The Rustom-2 has been renamed Tapas 201. The Rustom-1, which flew for the first time in 2009, had been named after the late Rustom Damania, who helped develop the aircraft that had been used as a prototype.

#### **Stand Up India Scheme for Women and SC/ST**

**Date:** January 7, 2016

**Place:** New Delhi

**Field:** Economic Empowerment

**Problems:** SC/ST Economic Backwardness

**Effects:** To promote entrepreneurship among SC/ST and Women

Stand Up India Scheme aims to promote entrepreneurship among SC/ST and Women entrepreneurs. This Scheme aims to facilitate at least two such projects per bank branch, on an average one for each category of entrepreneur. It is likely to prove beneficiary for at least 2.5 lakh borrowers. The Stand Up India Scheme provides for: Refinance window through Small Industries Development Bank of India (SIDBI) with an initial amount of Rs. 10,000 crore and creation of a credit guarantees mechanism through the National Credit Guarantee Trustee Company (NCGTC).

#### **SBI In Cube**

**Date:** January 14, 2016

**Place:** Bengaluru, Karnataka

**Field:** Start-ups

**Problems:** Start-ups lacking specific financial needs

**SBI InCube** branch is a specialised branch to understand and address our banking needs for setting up a start-up. It will provide the best suitable solutions in banking transactions and investments on a robust technology platform for business model. InCube branches will be a one-stop shop for the financial service requirements of start-ups in the country. SBI has opened its first **InCube** branch in **Bengaluru** keeping in mind that the city is the hub for start-ups in the country. Apart from serving a start-up's financial services requirements, SBI will also provide mentorship through technology experts. SBI also launched a new wealth management service called **Exclusif**.

#### **Rashtriya Ekta Diwas**

**Date:** 31 October, 2016

**Place:** New Delhi

**Field:** Culture

**Rashtriya Ekta Diwas (National Unity Day)** is observed across India on **31 October** to commemorate birth anniversary of Independent India's first **Deputy Prime Minister Sardar Vallabhbhai Patel**. The theme of the day for **2016** is "**Integration of India**". The idea of Rashtriya Ekta Diwas was mooted by PM Narendra Modi in October 2014 to mark the birth anniversary of country's first Home Minister Sardar Vallabhbhai Patel. Sardar Vallabhbhai Patel is known as the **Iron Man of India** or **Bismarck of India**. In India's independence struggle, he played a major role in organizing peasants' movements on Gandhian principles in Bardoli and Kheda in Gujarat and during the Quit India movement. His biggest contribution to India was his role in the integration of the over 500 princely states with India during 1947-49. He is also remembered as the **Patron Saint of India's civil servants** for establishing modern **All-India Services**.

## Solar Impulse 2

**Date:** 26 July, 2016

**Place:** Abu Dhabi

**Field:** Aviation

Solar Impulse 2, the first airplane powered by renewable energy has completed the first round world trip. The solar-powered airplane finally arrived at **Al-Bateen Executive Airport** located in **Abu Dhabi**, where it had started its journey 505 days ago. This airplane is extra sensitive to weather patterns and it depends on the sun for power and also its tiny weight makes it difficult to fly through heavy cloud cover or rain. The flight covered a remarkable 42,000-kilometre journey across four continents, two oceans and three seas. Solar Impulse is a Swiss long-range experimental solar-powered aircraft project, and also the name of the project's two operational aircraft. The privately financed project is led by Swiss engineer and businessman **André Borschberg** and Swiss psychiatrist and aeronaut **Bertrand Piccard**, who co-piloted Breitling Orbiter 3, the first balloon to circle the world non-stop. The Solar Impulse project's goals were to make the first circumnavigation of the Earth by a piloted fixed-wing aircraft using only solar power and to bring attention to clean technologies.

## Coradia iLint

**Date:** 3 Nov, 2016

**Place:** Germany

**Field:** Environment

World's first hydrogen-powered and zero-emission passenger train is Germany's Coradia iLint. It is powered by a hydrogen fuel tank on its roof. The fuel cell is supplied with hydrogen and oxygen from the air, which it converts into electric power. The system is backed up by lithium batteries. These batteries store the excess power in order to later supply the train when needed. The train is totally carbon-free, making it a much more sustainable alternative to the 4000 diesel trains currently in circulation in Germany. It has enough onboard hydrogen storage to power an 800 kilometre journey, with speeds topping out at 87 miles per hour.

## First Brain Implantation

**Date:** 14 Nov, 2016

**Place:** Netherlands

**Field:** Health

Doctors of Netherlands have performed the first-ever brain implant on a 58-year-old woman paralysed by disease named

**Lou Gehrig's.** The implantation has enabled her to communicate in day-to-day life with the help of a speech computer. The disease Lou Gehrig's caused nerve degeneration that had left her with control only over her eyes. The implant enabled her to control the computer using brain signals, and spell out messages speaking two letters per minute. With this innovative idea a remarkable change will take place in medical science. Now the people whose heart beats even if the brain is dead can survive.

## GOES-R

**Date:** 20 Nov, 2016

**Place:** Washington DC

**Field:** Science & Tech

GOES-R is the next generation of geosynchronous environmental satellite. It is expected to provide atmospheric and surface measurements of the Earth's Western Hemisphere for weather forecasting, severe storm tracking, space weather monitoring and meteorological research. It marks a technological advance in geostationary observations. Compared to the current GOES system, the advanced

instruments and data processing provides, three times more spectral information, four times greater spatial resolution, five times faster coverage, real-time mapping of total lightning activity, increased thunderstorm and

tornado warning lead time, improved hurricane track and intensity forecasts, improved monitoring of solar x-ray flux, improved monitoring of solar flares and coronal mass ejections and improved geomagnetic storm forecasting.

### Chabahar Port

The Chabahar port is located in south-eastern Iran in the Gulf of Oman. It is the only Iranian port with direct access to the ocean. Prime Minister Narendra Modi's visit to Iran has led to the much-awaited signing of the pact for India to develop the strategic Chabahar port.

The port was partially built by India in 1990s. The pact to build the Chabahar port was first initiated during the Atal Bihari Vajpayee's government in 2003, but the deal couldn't get through the subsequent years.

After several rounds of negotiations between India's consortium of JNPT, Kandla Port Authority and Iranian authorities, the contract was finally deemed ready to be signed.

Developing the port is understood to be a major breakthrough for India's trade with West Asia. Following agreements have been established as per the pact:

- a) India will develop and operate the Chabahar port. India Ports Global will invest \$85 million in developing two container berths with a length of 640 metres and three multi-cargo berths.
- b) The signed contract will last for 10 years and is extendable. First two years of the contract are to be observed as grace period. It means India doesn't have to guarantee any cargo for the port. Phase one of the port construction will take 18 months to complete.
- c) India will facilitate 30,000 TEUs (Twenty Foot Equivalent) of cargo at the port in third year. By the tenth year, quantum will rise to 2,50,000 TEUs.
- d) IRCON International will set up a railway line at Chabahar in order to move goods right up to Afghanistan. The rail link of 500-km between Chabahar and Zahedan will link Delhi to the rest of Iran's railway network.
- e) Free trade zone where a total investment of ₹1 lakh crore is envisaged is also a part of the agreement.
- f) India will also supply \$400 million of steel rails to Tehran.

#### How India gains?

- Presently, Pakistan does not allow India to transport through its territory to Afghanistan. The port will make way for India to bypass Pakistan and transport goods to Afghanistan using a sea-land route.
- This will also give momentum to the International North-South Transport Corridor. Iran is the key gateway in this project. The route primarily involves moving freight from India, Iran, Azerbaijan and Russia.
- The corridor would increase trade connectivity between major cities such as Mumbai, Moscow, Tehran, Baku etc.
- It would counter Chinese presence in the Arabian sea through the support of Pakistan in developing Gwadar port.
- Port can also be used to station security vessels for merchant ships off the African coast, apart from giving the country a foothold in the western Arabian Sea. It is important as many of its energy imports pass through the route.

## IMPORTANT NEWS IN 2017

**International Year of Sustainable Tourism for Development 2017:** The United Nations General Assembly approved 2017 to be the International Year of Sustainable Tourism for Development.

**INS Viraat to be decommissioned:** INS Viraat, world's oldest aircraft carrier, formal decommissioning was scheduled in January 2017.

**Portugal PM Antonio Costa was the chief guest:** The Indian-origin Portugal Prime Minister, Antonio Costa was the chief guest at the 14th Pravasi Bharatiya Divas (PBD) Convention held from January 7 to 9, 2017 in Bengaluru.

**IPL 2017:** The 2017 edition of IPL will take place from 5 April to 21, May 2017 in India.

**World Team Chess Championship 2017:** World Team Chess Championship 2017 to take place in Russia from May 15–May 27.

**ICC Champions Trophy 2017:** ICC Champions Trophy 2017 to be held across three venues: The Oval, Edgbaston and Sophia Gardens in England from June 1 to June 18.

**The 2017 Women's Cricket World Cup:** The 2017 Women's Cricket World Cup is to be played in England from 26 June to 23 July 2017.

**French Open Grand Slam 2017:** French Open Grand Slam to be held in France from June 28–11 June.

**2017 Wimbledon Championships Grand Slam:** 2017 Wimbledon Championships

Grand Slam is scheduled to be held in July in United Kingdom July 3–July 16.

**PM Modi to visit G20 SUMMIT:** PM Modi scheduled to attend the 12th G20 SUMMIT to be held in Hamburg, Germany from July 7–July 8.

**Presidential election 2017 India:** A Presidential election will be held before 25 July, 2017, the day when incumbent President Pranab Mukherjee's term ends.

**The total solar eclipse:** This eclipse will be the first total solar eclipse visible from the United States on August 21, 2017 since the solar eclipse of July 11, 1991 and the first visible from the contiguous United States since 1979.

**The Chess World Cup 2017:** The Chess World Cup 2017 is scheduled to be held in Georgia from September 1 to September 25, 2017.

**The Himachal Pradesh Legislative Assembly election, 2017:** The Himachal Pradesh Legislative Assembly election, 2017 will be held in late 2017, to elect the 68 members of the Himachal Pradesh Legislative Assembly, as the term of current Legislative Assembly ends on 7 January, 2018.

**9th BRICS SUMMIT:** PM Narendra Modi schedule to attend the 9th BRICS SUMMIT in 2017 to be held in China.

**IBSA Summit:** PM Narendra Modi scheduled to attend the next IBSA Summit to be held in 2017 in India.

**Exoplanet to be launched:** NASA plans to launch the exoplanet-seeking TESS

(Transiting Exoplanet Survey Satellite) mission to survey the brightest stars near the Earth.

**'Artificial' chromosome:** A UK team of scientists is building an "artificial" chromosome to be inserted into the world's first synthetic yeast scheduled to be completed by the year 2017.

**Cassini-Huygens to be destroyed:** The unmanned spacecraft sent to the planet Saturn will be destroyed in 2017 by flying into Saturn, since it is running out of fuel for orbital corrections.

**Chandrayaan-2:** Chandrayaan-2 is India's second lunar exploration mission after Chandrayaan-1 developed by the ISRO, the mission is planned to be launched to the Moon by a Geosynchronous Satellite

Launch Vehicle (GSLV Mk II) in 2017.

**China establishes the largest megacity in the world:** China is going to merge nine of its cities into one, creating the largest metropolitan area on the planet. This new megacity has a population of 42 million – over 7 million greater than Tokyo, the previous record holder.

**India's first private moon mission 2017:** TeamIndus, a Bengaluru-based private aerospace company, will send a spacecraft to the moon on December 28, 2017, aboard an Indian Space Research Organisation (ISRO) rocket. The mission's aim is to land this spacecraft on the moon, have it travel at least 500 metres and beam high-definition video, images and data back to the earth.

## UNION BUDGET 2017-18

### First Time Budget Reform

1

#### Preponement of Budget

Presentation of Budget advanced to 1st February to enable the Ministries to operationalise all activities from the commencement of the financial year, i.e. 1st April.

2

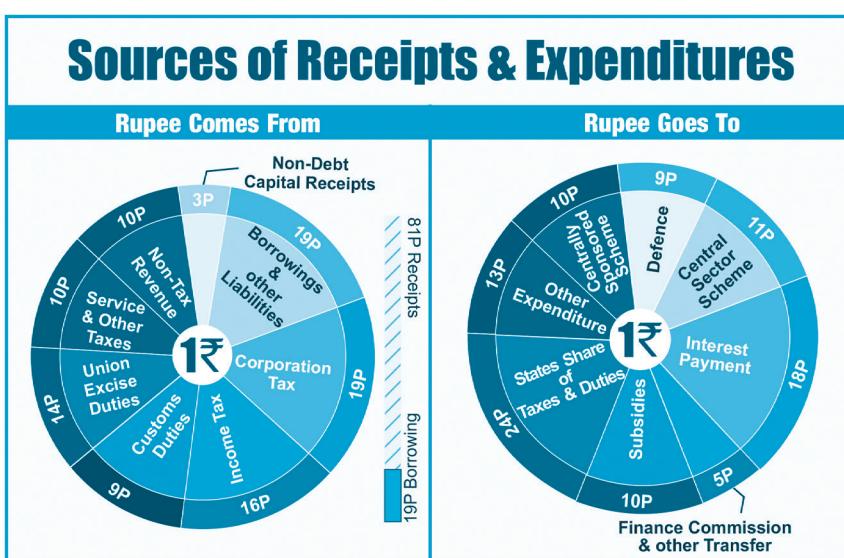
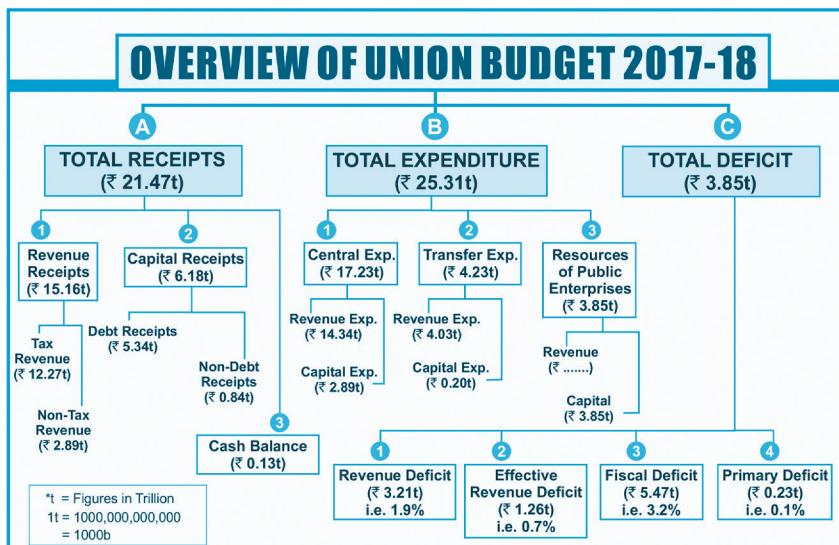
#### Merger of Railway Budget

Merger of Railway Budget with General Budget to bring Railways to the centre stage of Government's Fiscal Policy.

3

#### No Classification of Expenditure

Removal of Plan and Non-Plan classification of Expenditure to facilitate a holistic view of allocations for sectors and Ministries



## TAX SLABS

### 1. General & Women Less than 60 Yrs

Net Income Range	Income Tax Rates	Education Cess on Income Tax	Secondary & Hr. Education cess on Income Tax
Upto 2,50,000	Nil	Nil	Nil
₹ 2,50,001 - ₹ 5,00,000	5% (i.e. ₹ 12,500)	2%	1%
₹ 5,00,001 - ₹ 10,00,000	20% (i.e. ₹ 1 Lakh)	2%	1%
Above ₹ 10,00,000	30%	2%	1%

Surcharge@10% for taxable income between ₹ 50 lakhs to ₹ 1 Cr and @15% for taxable income >1 Cr

### 2. Sr. Citizen 60 Yrs but less than 80 yrs.

Net Income Range	Income Tax Rates	Education Cess on Income Tax	Secondary & Hr. Education cess on Income Tax
Upto 3,00,000	Nil	Nil	Nil
₹ 3,00,001 - ₹ 5,00,000	5% (i.e. ₹ 10,000)	2%	1%
₹ 5,00,001 - ₹ 10,00,000	20% (i.e. ₹ 1 Lakh)	2%	1%
Above ₹ 10,00,000	30%	2%	1%

Surcharge@10% for taxable income between ₹ 50 lakhs to ₹ 1 Cr and @15% for taxable income >1 Cr

### 3. Very Sr. Citizen 80 Yrs & Above

Net Income Range	Income Tax Rates	Education Cess on Income Tax	Secondary & Hr. Education cess on Income Tax
Upto 5,00,000	Nil	Nil	Nil
₹ 5,00,001 - ₹ 10,00,000	20% (i.e. ₹ 1 Lakh)	2%	1%
Above ₹ 10,00,000	30%	2%	1%

Surcharge@10% for taxable income between ₹ 50 lakhs to ₹ 1 Cr and @15% for taxable income >1 Cr

## WHO'S WHO

**President** – Shri Pranab Mukherjee

**Vice President** – Mohd. Hamid Ansari

**Prime Minister** – Shri Narendra Modi

### THE NEW COUNCIL OF MINISTERS AT THE CENTRE 2016

S.No.	Portfolio	Name
<b>Union Council of Ministers</b>		
1	Personnel, Public Grievances and Pensions, Department of Atomic Energy, Department of Space, All important policy issues and All other portfolios not allocated to any Minister	Narendra Modi
<b>Cabinet Ministers</b>		
1	Home Affairs	Rajnath Singh
2	External Affairs	Smt. Sushma Swaraj
3	Finance, Corporate Affairs	Arun Jaitley
4	Urban Development, Housing and Urban Poverty Alleviation, Information & Broadcasting	M. Venkaiah Naidu
5	Road Transport and Highways, Shipping	Nitin Jairam Gadkari
6	Defence	Manohar Parrikar
7	Railways	Suresh Prabhu
8	Statistics & Programme Implementation	D.V. Sadananda Gowda
9	Water Resources, River Development and Ganga Rejuvenation	Sushri Uma Bharati
10	Consumer Affairs, Food and Public Distribution	Ramvilas Paswan
11	Micro, Small and Medium Enterprises	Kalraj Mishra
12	Women and Child Development	Smt. Maneka Sanjay Gandhi
13	Chemicals and Fertilizers, Parliamentary Affairs	Ananth Kumar
14	Law & Justice, Electronics & Information Technology	Ravi Shankar Prasad
15	Health and Family Welfare	Jagat Prakash Nadda
16	Civil Aviation	Ashok Gajapathi Raju Pusapati
17	Heavy Industries and Public Enterprises	Anant Geete
18	Food Processing Industries	Smt. Harsimrat Kaur Badal
19	Rural Development, Panchayati Raj, Drinking Water and Sanitation	Narendra Singh Tomar
20	Steel	Chaudhary Birender Singh
21	Tribal Affairs	Jual Oram
22	Agriculture & Farmers Welfare	Radha Mohan Singh
23	Social Justice and Empowerment	Thawar Chand Gehlot
24	Textiles	Smt. Smriti Zubin Irani
25	Science and Technology, Earth Sciences	Dr. Harsh Vardhan
26	Human Resource Development	Prakash Javadekar

**Ministers of State (Independent Charge)**

<b>Minister</b>	<b>Portfolio</b>
Vijay Goyal	Sports & Youth Affairs, Water Resources, River Developmet and Ganga Rejuvenation
Rao Inderjit Singh	Planning Urban Development, Housing & Urban Poverty Alliviation
Jitendra Singh	Development of North Eastern Region
Bandaru Dattatreya	Labour and Employment
Rajiv Pratap Rudy	Skill Development & Entrepreneurship
Shripad Yesso Naik	AYUSH
Dharmendra Pradhan	Petroleum Forest and Climate Change
Piyush Goyal	Power, Coal, New & Renewable Energy and Mines
Mukhtar Abbas Naqvi	Minority Affairs, Parliamentary Affairs
Manoj Sinha	Communications and Railways
Nirmala Sitharamaon	Commerce and Industry
Mahesh Sharma	Culture and Tourism

**Ministers of State (Independent Charge)**

<b>Minister</b>	<b>Portfolio</b>
VK Singh, MJ Akbar	External Affairs
Santosh Kumar Gangwar	Finance
Faggan Singh Kulaste, Anupriya Patel	Health & Family Welfare
Ajay Tamta	Textiles
CR Chaudhary	Consumer Affairs, Food & Public Distribution
Krishna Raj	Women & Child Development
Arjun Ram Meghwal	Finance and Corporate Affairs
Subhash Ramrao Bharma	Defence
Ramesh Chandappa Jigajinagi	Drinking Water and Sanitation
Giriraj Singh, Haribha Parthibha Chaudhary	Micro, Small & Medium Enterprises
Sanjeev Kumar Balyan	Water Resources, River Developmet & Ganga Rejuvenation
Sudarshan Bhagat	Agriculture and Farmers Welfare
Rajen Gohain	Railways
Mansukh L Mandaviya	Road Transport and Highways, Shipping, Cheimcal and Fertilizers
Parushottam Rupala	Agriculture & Farmers Welefare and Panchayati Raj
P. Radhadrishnan	Road Transport & Highways, Shipping
Kiran Rijiju, Hansraj Gangaram Ahir	Home Affairs
SS Ahluwalia	Agricultures & Farmers Welfare, Parliamentary Affairs, Tribal Affairs
Jaswantsingh Sumanbai Bahadur	Tribal Affairs
Ram Kripal Yadav	Rural Development

PP Chaudhary	Law & Justice, Electronics & Information Technology
Vishnu Deo	Steel
Mahendra Nath Pandey, Upendra Kus-hwaha	Human Resource Development
YS Chowdhary	Science & Technology and Earth Sciences
Babul Supriyo	Urban Development, Housing and Urban Poverty Alleviation, Heavy Industries and Public Enterprises
Rajyavardhan Singh Rathore	Information & Broadcasting
Sadhvi Niranjan Jyoti	Food Processing Industries
Vijay Samplea, Krishan Pal, Ram Das Athawala	Social Justice & Empowered

### Chief Minister and Governors of States & Union Territories

State	Capital	Chief Minister	Governor
Andhra Pradesh	Hyderabad	N.Chandrababu Naidu	E.S Lakshmi Narasimhan
Arunachal Pradesh	Itanagar	Pema Khandu	Padmanabha Acharya
Assam	Dispur	Sarbananda Sonowal	Padamanabha Acharya
Bihar	Patna	Nitish Kumar	Ram Nath Kovind
Chhattisgarh	Raipur	Dr. Raman Singh	Balram Dass Tandon
Goa	Panaji	Manohar Parrikar	Mridula Sinha
Gujarat	Gandhinagar	Vijay Rupani	Om Prakash Kohli
Haryana	Chandigarh	Manohar Lal Khattar	Kaptan Singh Solanki
Himachal Pradesh	Simla	Virbhadra Singh	Acharya Dev Vrat
Jammu & Kashmir	Srinagar (Summer) Jammu(Winter)	Mehbooba Mufti	Narinder Nath Vohra
Jharkhand	Ranchi	Raghuvan Das	Draupadi Murmu
Karnataka	Bangalore	Siddaramaiah	Vajubhai Vala
Kerala	Thiruvananthapuram	Pinarayi Vijayan	P. Sathasivam
Madhya Pradesh	Bhopal	Shivraj Singh Chouhan	Om Prakash Kohli
Maharashtra	Mumbai	Devendra Fadnavis	Chennamaneni Vidyasagar Rao
Manipur	Imphal	N. Biren Singh	V. Shanthmuganathan
Meghalaya	Shillong	Dr. Mukul Sangma	Banwarilal Purohit
Mizoram	Aizawl	Lal Thanhawla	Nirbhay Sharma
Nagaland	Kohima	T R Zeliang	Padmanabha Balkrishna Acharya
Odisha	Bhubaneswar	Naveen Patnaik	S.C. Jamir
Punjab	Chandigarh	Capt. Amrinder Singh	Kaptan Singh Solanki
Rajasthan	Jaipur	Vasundhara Raje	Kalyan Singh
Sikkim	Gangtok	Pawan Kumar	Shrinivas
		Chamling	Dadasaheb Patil
Tamil Nadu	Chennai	E. Palaniswami	Dr. K. Rosaiah
Telangana	Hyderabad	K Chandrasekhar Rao	E.S Lakshmi Narasimhan
Tripura	Agartala	Manik Sarkar	Tathagata Roy
Uttar Pradesh	Lucknow	.....	Ram Naik
Uttarakhand	Dehradun	Trivendra Singh Rawat	Krishan Kant Paul
West Bengal	Kolkata	Mamta Benerjee	Keshri Nath Tripathi

<b>Union Territories</b>	<b>Capital</b>	<b>Head</b>	<b>Position</b>
Andaman and Nicobar Island	Port Blair	Jagdish Mukhi	Lieutenant Governor
Chandigarh	Chandigarh	V. P. Singh Badnore	Administrator
Dadra and Nagar Haveli	Silvassa	Praful Khoda Patel	Administrator
Daman and Diu	Daman	Praful Khoda Patel	Administrator
Delhi	Delhi	Arvind Kejriwal	Anil Baijal
Lakshadweep	Kavaratti	Farooq Khan	Administrator
Puducherry	Puducherry	Kiran Bedi	Lieutenant Governor

### **IMPORTANT NATIONAL OFFICIALS**

1. Naseem Ahmed Chairperson, NCM
2. Rameshwar Oraon Chairperson, National Commission for Scheduled Tribe
3. Ved Prakash Chairperson, UGC
4. P.L. Punia Chairperson, National Commission for Scheduled Castes
5. H. L. Dattu Chairperson NHRC
6. Shekhar Basu Chairman, Atomic Research Centre
7. K.N. Vyas Director, Bhabha Atomic Research Centre
8. Dr. Y.V. Reddy Chairperson, 14th Finance Commission
9. Urjit Patel Governor, Reserve Bank of India
10. U.K. Sinha Chairman, SEBI
11. Ram Sevak Sharma Chairperson, TRAI
12. Harsh Kumar Bhanwala Chairperson, NABARD
13. Ashish Bahuguna Chairperson, FSSAI
14. Raghav Chandra/ Yudhvir Singh Malik Chairperson, National Highways Authority of India
15. A.S. Kiran Kumar Chairperson, ISRO
16. Karnal Singh Director, Enforcement Directorate
17. Pahlaj Nihalani Chairperson, Central Board of Film Certification
18. Mukesh Khanna Chairperson, Children's Film Society of India
19. A. Chakravarty/ Vinod Vashisht Director, National Cadet Corps
20. Rakesh Kr. Chaturvedi Chairperson, Central Board of Secondary Education
21. T.S. Vijayam Chairperson, Insurance Regulatory & Development Authority of India
22. C.K. Prasad Chairperson, Press Council of India
23. Krishna Chaudhary Director General ITBP
24. K.K. Sharma/D.K. Pathak Director General, Border Security Force
25. Ranjit Kumar Solicitor General of India
26. Mukul Rohtagi Attorney General of India
27. Justice Swatantra Kumar Chairperson, National Green Tribunal
28. K. Durga Prasad Director General, CRPF
29. Dr. Hrushikesh Senapati Director, NCERT
30. Sunil Kanoria President, ASSOCHAM
31. T.M. Bhasin Chairman, Indian Banks Association
32. R. Chandrashekhar President, NASSCOM
33. Hurmusti N. Cama President, Press Trust of India

34. Ashim Khurana	President, Staff Selection Commission
35. Mangu Singh	Director General, Delhi Metro Rail Corporation
36. Muhammad Aslam	Vice Chancellor, IGNOU
37. Jyotsna Suri/Pankaj Patel	President, FICCI
38. Lalitha Kumarmangalam	President, National Commission for Women
39. CA M Devaraja Reddy	President, Institute of Chartered Accountants (ICAI)
40. Dr. Girish Sahni	Director General, CSIR
41. Anupam Shrivastava	CEO, Bharat Sanchar Nigam Limited
42. Prof. David R. Syiemlieh	Chairman of UPSC

**Heads of State Bank of India & Associates/MDs**

1. Arundhati Bhattacharya	Chairperson-State Bank of India
2. Mani Palveesan	MD-State Bank of Hyderabad
3. N.K. Chari	State Bank of Mysore
4. Jyoti Ghosh (MD)/ Dibakar Mohanty	State Bank of Bikaner & Jaipur
5. Jeevandas Narayan (MD) C.R. Sasikumar	State Bank of Travancore
6. SM Ramesh Rangan (MD)	State Bank of Patiala

**Heads of Nationalised Banks CHAIRMAN**

1. Rakesh Sethi	Allahabad Bank
2. Melwyn Rego	Bank of India
3. P.S. Jayakumar	Bank of Baroda
4. Ravindra Prabhakar Marathe	Bank of Maharashtra
5. Suresh N. Patel	Andhra Bank
6. T.N. Manoharan	Canara Bank
7. Jai Kumar Garg/S.R. Bansal	Corporation Bank
8. Mahesh Kumar Jain	Indian Bank
9. Ashwani Kumar	Dena Bank
10. Animesh Chauhan	Oriental Bank of Commerce
11. Usha Ananta Subrahmaniam	Punjab National Bank
12. Jatinderbir Singh	Punjab and Sind Bank
13. R. Subramania Kumar	Indian Overseas Bank
14. Arun Shrivastava	Syndicate Bank
15. Arun Shrivastava	Syndicate Bank
16. Pawan Kumar Bajaj	United Bank of India
17. Ravi Krishan Takkar	UCO Bank
18. Kishore Kumar Sansi	Vijaya Bank
19. S.M. Swathi	Bhartiya Mahila Bank
20. Kishor Kharat	IDBI Bank

**Directors of Maharatna/Navaratna Companies**

1. B. Ashok	Indian Oil Corporation Limited
2. B.C. Tripathi	Gas Authority of India Limited
3. Atul Sobti	Bharat Heavy Electricals Limited
4. D.K. Sarraf	Oil and Natural Gas Corporation

5. S. Bhattacharya	Coal India Limited
6. Gurdeep Singh	National Thermal Power Corporation
7. Anil Kumar Gupta	Container Corporation of India Limited
8. A.K. Mittal	National Buildings Construction Corporation
9. P.K. Singh	Steel Authority of India Limited
10. S.K. Sharma	Bharat Electricals Limited
11. S. Varadarajan/D. Rajkumar	Bharat Petroleum Corporation Limited
12. Sanjaya Gupta	Engineers India Limited
13. M.K. Surana	Hindustan Aeronautics Limited
14. T. Suvama Raju	Hindustan Aeronautics Limited
15. P.K. Purwar	Mahanagar Telephone Nigam Limited
16. Rajiv Sharma	Power Finance Corporation
17. I.S. Jha	Power Grid Corporation
18. P. Madhusudan	Rashtriya Ispat Nigam Limited
19. Arun Kumar Gupta/ Anoop Kumar Sharma	Shipping Corporation of India
20. Surat Kumar Acharya	Neyveli Lignite Corporation Limited
21. Utpal Bora	Oil India Limited
22. Rajiv Sharma/P.V. Ramesh	Rural Electrification Corporation Limited
23. T.K. Chand	National Aluminium Company Limited
24. Bharathi S. Sihag/ Syedain Abbasi	National Mineral Development Corporation

### COUNTRIES & THEIR HEADS

State	Head of state	Head of Government
Afghanistan	Ashraf Ghani	Abdullah Abdullah
Albania	Bujar Nishani	Edi Rama
Algeria	Abdelaziz Bouteflika	Abdelmalek Sellal
Angola	Jos Eduardo dos Santos	
Argentina	Mauricio Macri	
Armenia	Serzh Sargsyan	Karen Karapetyan
Australia	Elizabeth II	Malcolm Turnbull
Austria	Vacant	Christian Kern
Azerbaijan	Ilham Aliyev	Artur Rasizade
Bahrain	Sheikh Hamad bin Isa Al Khalifa	Prince Khalifa bin Salman Al Khalifa
Bangladesh	Abdul Hamid	Sheikh Hasina
Belarus	Alexander Lukashenko	Andrei Kobyakov
Belgium	Philippe	Charles Michel
Bhutan	Jigme Khesar Namgyel Wangchuck	Tshering Tobgay
Bosnia and Herzegovina	Valentin Inzko	
Brazil	Michel Temer	
Brunei	Hassanal Bolkiah	
Bulgaria	Rumen Radev	Boyko Borissov
Burundi	Pierre Nkurunziza	
Cambodia	Norodom Sihamoni	Hun Sen
Cameroon	Paul Biya	Philémon Yang
Canada	Elizabeth II	Justin Trudeau
Central African Republic	Faustin-Archange Touadéra	Simplice Sarandji

Chile	Michelle Bachelet
Colombia	Juan Manuel Santos
Congo (Democratic Republic)	Joseph Kabila
Congo (Republic)	Denis Sassou Nguesso
Costa Rica	Luis Guillermo Sol's
Croatia	Kolinda Grabar-Kitarović
Cuba	Raúl Castro
Cyprus	Nicos Anastasiades
Czech Republic	Miloš Zeman
Denmark	Margrethe II
Egypt	Abdel Fattah el-Sisi
Ethiopia	Mulatu Teshome
Fiji	George Konrote
Finland	Sauli Niinistö
France	François Hollande
Gambia	Adama Barrow
Georgia	Giorgi Margvelashvili
Germany	Joachim Gauck
Ghana	Nana Akufo-Addo
Greece	Prokopis Pavlopoulos
Grenada	Elizabeth II
Guatemala	Jimmy Morales
Guinea	Alpha Condé
Guyana	David A. Granger
Haiti	Jocelerme Privert
Hungary	János Áder
Iceland	Guðni Th. Jóhannesson
India	Pranab Mukherjee
Indonesia	Joko Widodo
Iran	Ali Khamenei
Iraq	Fuad Masum
Ireland	Michael D. Higgins
Israel	Reuven Rivlin
Italy	Sergio Mattarella
Jamaica	Elizabeth II
Japan	Akihito
Jordan	Abdullah II
Kazakhstan	Nursultan Nazarbayev
Kenya	Uhuru Kenyatta
Kuwait	Sheikh Sabah Al-Ahmad Al-Jaber Al-Sabah
Kyrgyzstan	Almazbek Atambayev
Libya	Fayez al-Sarraj
Liechtenstein	Hans-Adam II
Lithuania	Dalia Grybauskaitė
Luxembourg	Henri
Macedonia	Gjorge Ivanov
Malaysia	Muhammad V
Maldives	Abdulla Yameen
	Samy Badibanga
	Clément Mouamba
	Andrej Plenković
	Bohuslav Sobotka
	Lars Løkke Rasmussen
	Sherif Ismail
	Hailemariam Desalegn
	Frank Bainimarama
	Juha Sipilä
	Bernard Cazeneuve
	Giorgi Kvirkashvili
	Angela Merkel
	Alexis Tsipras
	Keith Mitchell
	Mamady Youla
	Moses Nagamootoo
	Enex Jean-Charles
	Viktor Orbán
	Bjarni Benediktsson
	Narendra Modi
	Hassan Rouhani
	Haider al-Abadi
	Enda Kenny
	Benjamin Netanyahu
	Paolo Gentiloni
	Andrew Holness
	Shinzō Abe
	Hani Al-Mulki
	Bakhytzhan Sagintayev
	Sheikh Jaber Al-Mubarak Al-Hamad Al-Sabah
	Sooronbay Jeenbekov
	Adrian Hasler
	Saulius Skvernelis
	Xavier Bettel
	Emil Dimitrov
	Najib Razak

Mauritius	Ameenah Gurib	Pravind Jugnauth
Mexico	Enrique Peña Nieto	
Mongolia	Tsakhiagiin Elbegdorj	Jargaltulgyn Erdenebat
Morocco	Mohammed VI	Abdelilah Benkirane
Mozambique	Filipe Nyusi	Carlos Agostinho do Rosário
Myanmar	Htin Kyaw	Aung San Suu Kyi
Namibia	Hage Geingob	Saara Kuugongelwa
Nepal	Bidhya Devi Bhandari	Pushpa Kamal Dahal
Netherlands	Willem-Alexander	Mark Rutte
New Zealand	Elizabeth II	Bill English
Nicaragua	Daniel Ortega	
Nigeria	Muhammadu Buhari	
North Korea	Kim Jong-un	
Norway	Harald V	Erna Solberg
Oman	Qaboos bin Said al Said	
Pakistan	Mamnoon Hussain	Nawaz Sharif
Palestine	Mahmoud Abbas	Rami Hamdallah
Panama	Juan Carlos Varela	
Paraguay	Horacio Cartes	
Peru	Pedro Pablo Kuczynski	Fernando Zavala
Philippines	Rodrigo Duterte	
Poland	Andrzej Duda	Beata Szydło
Portugal	Marcelo Rebelo de Sousa	António Costa
Qatar	Sheikh Tamim bin Hamad Al Thani	Sheikh Abdullah bin Nasser bin Khalifa Al Thani
Romania	Klaus Iohannis	Sorin Grindeanu
Russia	Vladimir Putin	Dmitry Medvedev
Rwanda	Paul Kagame	Anastase Murekezi
Saudi Arabia	Salman	
Senegal	Macky Sall	Mohammed Dionne
Serbia	Tomislav Nikolić	Aleksandar Vučić
Singapore	Tony Tan	Lee Hsien Loong
Slovakia	Andrej Kiska	Robert Fico
Slovenia	Borut Pahor	Miro Cerar
Somalia	Hassan Sheikh Mohamud	Omar Abdirashid Ali Sharmarke
South Africa	Jacob Zuma	
South Korea	Park Geun-hye	Hwang Kyo-ahn
Spain	Felipe VI	Mariano Rajoy
Sri Lanka	Maithripala Sirisena	Ranil Wickremesinghe
Sudan	Omar al-Bashir	
Sweden	Carl XVI Gustaf	Stefan Lofven
Switzerland		
Syria	Bashar al-Assad	Imad Khamis
Taiwan	Tsai Ing-wen	Lin Chuan
Tajikistan	Emomali Rahmon	Kokhir Rasulzoda
Tanzania	John Magufuli	Kassim Majaliwa
Thailand	Maha Vajiralongkorn	Prayut Chan-o-cha
Tunisia	Beji Caid Essebsi	Youssef Chahed
Turkey	Recep Tayyip Erdoğan	Binali Yıldırım

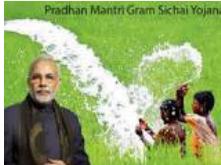
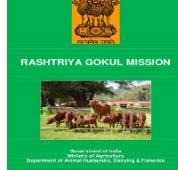
Turkmenistan	Gurbanguly Berdimuhamedow	
Uganda	Yoweri Museveni	Ruhakana Rugunda
Ukraine	Petro Poroshenko	Volodymyr Groysman
United Arab Emirates	Sheikh Khalifa bin Zayed Al Nahyan	Sheikh Mohammed bin Rashid Al Maktoum
United Kingdom	Elizabeth II	Theresa May
United States	Donald Trump	
Uzbekistan	Shavkat Mirziyoyev	Abdulla Aripov
Vatican City	Pope Francis	Cardinal Giuseppe Bertello
Venezuela	Nicolas Maduro	
Vietnam	Nguy_n Phoe Tr_ng	
Yemen	Abdrabbuh Mansur Hadi	Ahmed Obeid bin Daghr
Zambia	Edgar Lungu	
Zimbabwe	Robert Mugabe	

### IMPORTANT INTERNATIONAL OFFICIALS

1. Antonio Guterres	Secretary-General, United Nations Organisation
2. Hiroshi Naka	Vice-President, World Bank
3. Roberto Azevedo	Director-General, World Trade Organisation
4. Mogens Lykketoff/ Peter Thomson	President, UN General Assembly
5. Irina Bokova	Director-General, United Nations Educational, Scientific and Cultural Organisation (UNESCO)
6. Christine Lagarde	Managing Director, International Monetary Fund (IMF)
7. Antony Lake	Executive Director, United Nations International Children's Emergency Fund (UNICEF)
8. Jim Yong Kim	President, World Bank
9. Ronny Abraham	President, International Court of Justice (ICJ)
10. Takehiko Nakao	President, Asian Development Bank
11. Thomas Bach	President, International Olympic Committee
12. Charles F. Bolden	Administrator, NASA
13. Choi Kyonglim	President, UN Human Rights Council
14. Yukiya Amano	Director-General, International Atomic Energy Agency
15. Jens Stoltenberg	Secretary-General, North Atlantic Treaty Organisation
16. Lee Luang Minh	Secretary-General, ASEAN
17. Arjun Bahadur Thapa	Secretary-General, SAARC
18. The Baroness Scotland of Asthal/Patricia Scotland	Secretary-General, Commonwealth
19. Zaheer Abbas	President, International Cricket Council
20. Shashank Manohar/ Dave Richardson	Chairman, International Cricket Council
21. Philip Vraven	President, International Paralympic Committee
22. Sebastian Coe	President, International Paralympic Committee
23. Iyad Bin Madani	Secretary-General, OIC
24. Abdul Rahman ibn/ Abdullatif bin Rashid Al Zayani	Secretary-General, Gulf Cooperation Council
25. Jose Graziano da Silva	Director-General, FAO
26. Li Yong	Director-General, UNIDO
27. Ertharin Cousin	Head, World Food Programme

## NATIONAL SCHEMES/ PROGRAMMES 2014-17

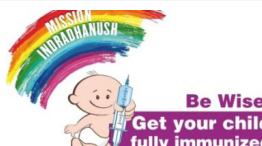
Schemes/ Programs	Launched Date	Symbol	Objectives
<b>Pradhan Mantri Jan Dhan Yojana (PMJDY)</b>	August 28, 2014		Financial inclusion and access to financial services for all households in the country.
<b>Pradhan Mantri Sukanya Samriddhi Yojana (PMSSY)</b>	January 22, 2015		To secure the future of girl child and it is linked to "Beti Bachao-Beti Padhao"
<b>Pradhan Mantri Mudra Yojana (PMMY)</b>	April 8, 2015		Financial support for growth of micro enterprises sector.
<b>Pradhan Mantri Jeevan Jyoti Yojana (PMJJY)</b>	May 9, 2015		Provide life insurance cover to all Indian citizens.
<b>Pradhan Mantri Suraksha Bima Yojana (PMSBY)</b>	May 9, 2015		Provide accidental cover to all Indian citizens
<b>Atal Pension Yojana (APY)</b>	May 9, 2015		Increase the number of people covered under any kind of pension scheme.
<b>Kisan Vikas Patra (KVP)</b>	March 3, 2015 (Re-launched)		To provide safe and secure investment avenues to the small investors.
<b>Gold Monetization Scheme (GMS)</b>	November 4, 2015		To secure the reliance on gold imports over time.

<b>Pradhan Mantri Fasal Bima Yojana (PMFBY)</b>	October 11, 2014		Provide insurance cover to rabi and kharif crops and financial support to farmers in case of damage of crops.
<b>Pradhan Mantri Gram Sinchai yojana (PMGSY)</b>	July, 1, 2015		Irrigating the field of every farmer and improving water use efficiency to provide "Per Drop More Crop".
<b>Sansand Adarsh Gram Yojana (SAGY)</b>	October 11, 2014		Social, cultural, economic infrastructure development in the villages.
<b>Soil Health Card Scheme (SHCS)</b>	February 17, 2015		To help farmers to improve productivity by using fertilizers.
<b>Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY)</b>	July 25, 2015		Electric supply feeder separation and distribution infrastructure including metering at all levels in rural areas.
<b>Shyama Prasad Mukherji Rurban Mission (SPMRM)</b>	February 21, 2016		To create 300 clusters across the country and strengthen financial, job, and lifestyle facilities in rural area.
<b>Rashtriya Gram Swaraj Abhiyan (RGSA)</b>	-----	-----	To strengthen the panchayati raj system across the country.
<b>Rashtriya Gokul Mission (RGM)</b>	December 16, 2014		To conserve and develop indigenous bovine breeds.

<b>Gram Uday Se bharat Uday Abhiyan (GUSBUA)</b>	14 <sup>th</sup> to 24 <sup>th</sup> April		This scheme strengthens panchayati raj villages and ensures social harmony in villages.
<b>Pradhan Mantri Awas Yojana (PMAY)</b>	June 25, 2015		Achieve housing for all by the year 2022, 2 crore in urban and 3 crore in homes in rural areas.
<b>Pradhan Mantri Awas Yojana-Gramin</b>	-----		Government to construct 1 crore permanent house for the rural poor in the next three years.
<b>Atal Mission for Rejuvenation and Urban Transformation</b>	June 24, 2015		To provide basic services (water supply, sewerage, urban transport) to households and build amenities in cities.
<b>National Heritage City Development and Augmentation</b>	January 21, 2015		Bringing together urban planning, economic growth and heritage conservation.
<b>Smart City Mission</b>	June 25, 2015		To develop 100 cities all over the country, making them citizen friendly and sustainable.
<b>PMAY-G Home Loan Scheme 2017</b>	November 30, 2016	-----	The beneficiaries will be provided interest subvention of 3% on home loan of up to 2 lakhs taken in 2017.
<b>Smart Ganga City Scheme (SGCS)</b>	August 13, 2016		Union minister for water resources, river development and Ganges Rejuvenation.

<b>Digital India</b>	July 1, 2015	 <b>Digital India</b> Power To Empower	To deliver government services to citizens electronically by improving online infrastructures and by increasing internet connectivity.
<b>Skill India</b>	July 16, 2015	 <b>Skill India</b> कौशल भारत - कुशल भारत	Train over 40 crore people in India in different skills by 2022.
<b>Deen dyala Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)</b>	July 25, 2016	 <b>DDU-GKY</b> Deen Dayal Upadhyaya Grameen Kaushalya Yojana Empowering India • Powering the World	To achieve inclusive growth, by developing skills and productive capacity of the rural youth from poor families.
<b>Udaan Scheme</b>	November 14, 2014	 <b>UDAAN</b> A program to give wings to girl students	Encouraging girls for higher technical education.
<b>Unnat Bharat Abhiyan</b>	-----	 <b>UNNAT BHARAT ABHIYAN</b>	Aims to connect institutions of higher education including IITs, NITs and IISERs.
<b>Pradhan Mantri Kaushal Vikas yojana</b>	January 8, 2017	 <b>PMKVY</b> प्रधानमंत्री कौशल विकास योजना PRADHAN MANTRI KAUSHAL VIKAS YOJANA	Aims to train Indian youth for overseas employment.
<b>National Apprenticeship Promotion Scheme (NAPS)</b>	August 19, 2016	 National Apprenticeship Promotion Scheme	Providing apprenticeship training to over 50 lakh youngsters in order to create more jobs.

<b>Vidyanjali Scheme</b>	-----		To boost community participation in government schools eg: cultural and social program
<b>SWAYAM Prabha</b>	July 18, 2016		Operationalising 32 direct to home television channels for providing high quality educational content to all.
<b>Pradhan Mantri Yuva Yojana (PMYY)</b>	-----		To scale up an ecosystem of entrepreneurship for youngsters.
<b>Make in India</b>	September 25, 2014		To encourage multinational and domestic companies to manufacture their products in India and create jobs and skill enhancement in 25 sectors
<b>Startup India, Standup India</b>	January 16, 2016		To provide support to all start up businesses in all aspects of doing business in India.
<b>Pradhan Mantri Garib Kalyan Yojana (PMGKY)</b>	April, 2015		Implement the pro-poor welfare schemes in more effective way and reaches out to more poor population across the country.
<b>Swachh Bharat Abhiyan (SBA)</b>	October 2, 2014		To fulfill Mahatma Gandhi's dream of clean and hygienic India.

<b>Namami Gange Project (NGP)</b>	July 10, 2014		To integrate the efforts to clean and protect the Ganga river in a comprehensive manner.
<b>Mission Indradhanush</b>	December 25, 2014		To immunize all children as well as pregnant women against diseases by 2020.
<b>National Bal Swachhta Mission</b>	November 14, 2014	-----	To provide hygienic and clean environment, food, drinking water, toilets, schools and other surroundings to the children.
<b>Pradhan Mantri Jan Aushadhi Yojana (PMJAY)</b>	March, 2016 (expected)		Provides drugs/medicines at affordable cost across the country.
<b>Pradhan Mantri Surakshit Matritva Abhiyan</b>	-----		Aims at boosting the health care facilities for the pregnant women, especially the poor.
<b>Integrated Power Development Scheme (IPDS)</b>	September 18, 2015		To ensure 24*7 power for all.
<b>Prakash Path-Way to Light-the National LED Programme</b>	Januray 5, 2015		To distribute LED bulbs and decrease the power consumption.

<b>UJWAL Discom Assurance Yojana (UDAY)</b>	November 20, 2015		To obtain operational and financial turnaround of state owned power distribution companies (DISCOMs)
<b>Pradhan Mantri Ujwal Yojana</b>	May 1, 2016		To distribute free LPG connections to the women belonging to 5 crore BPL families across the country.
<b>Swadesh Darshan Yojana (SDY)</b>	March 9, 2015		To develop world class tourism infrastructure
<b>PRASAD (Pilgrimage Rejuvenation and Spiritual Augmentation Drive)</b>	March 9, 2015		To develop world class tourism infrastructure across India.
<b>Beti Bacchao, Beti Padhao Yojana (BBPY)</b>	January 22, 2015		To generate awareness and improving the efficiency of welfare services meant for women.
<b>Pandit Deendhaya Upadhyaya Shramev Jayate Yojana (PDUSJY)</b>	October 16, 2014		To consolidate information of labor inspection and its enforcement through a unified web portal.

<b>Sagarmala Project</b>	July 31, 2015		To transform the existing ports into modern world class ports. It's to promote transport of goods.
<b>Vikalp Scheme</b>	November 1, 2015		For confirmed accommodation in next alternative train for the waitlisted passengers.
<b>National Sports Talent Search Scheme (NSTSS)</b>	February 20, 2015		To identify sporting talent among students in the age group of 8-12 years
<b>PAHAL -Direct Benefits Transfer for LPG (DBTL) Consumers Scheme</b>	January 1, 2015		To send the subsidy money of LPG cylinders directly into the bank accounts of the consumers.
<b>Pradhan Mantri Khanij Kshetra Kalyan Yojana</b>	September 17, 2015		To safeguard health, environment and economic conditions of the tribals.
<b>Setu Bharatam Project</b>	March 3, 2016		To free all national highways from railway level crossings and renovate the old bridges on national highways by 2019.

## Current Affairs MCQs

1. The Swachh Swasth Sarvatra is a part of the Union Government's flagship Swachh Bharat Mission. Out of the following which of these are its main objectives?
  - (a) Drinking Water and Sanitation to achieve better health outcomes through improved sanitation and increase awareness on healthy lifestyles.
  - (b) Pledged for a neat and cleaner India.
  - (c) Maintaining a hygienic environment.
  - (d) cleaning up the garbage, focusing on sanitation
2. Union Government launched which of the following systems to tackle call drops in the year 2016?
  - (a) MAC OS X
  - (b) IVRS
  - (c) MINIX
  - (d) UNIX/LINUX
3. Among which of the countries launched high resolution remote sensing satellites in the year 2016?
  - (a) India
  - (b) Sri Lanka
  - (c) China
  - (d) United States
4. Who was appointed as 21st Lt. Governor of Delhi?
  - (a) Gopal Rai
  - (b) Imran Hussain
  - (c) Kapil Misra
  - (d) Anil Baijal
5. International Astronomers discovered which of the following cluster near the Milky Way?
  - (a) Vela Super Cluster
  - (b) Cygnus A Cluster
  - (c) Abell 370 Cluster
  - (d) Messier 87 Cluster
6. Who among the following leader of AIADMK passed away in December 2016?
  - (a) Pannarsilvam
  - (b) Sasikala
  - (c) Jayalalithaa
  - (d) V.M.Rao
7. Demonetization announced as a measure to curb terror against which of the following?
  - (a) To decrease the supply of money
  - (b) To disrupt the growth of the economy.
  - (c) Financing, black money and counterfeit currency.
  - (d) To increase the interest rates in banks
8. Assam Government launched which of the following health care scheme?
  - (a) Atal Pension Yojana
  - (b) Atal-Amrit Abhiyan
  - (c) Sawachh bharat Abhiyan
  - (d) National Bal Swachta mission
9. Scientists developed Biological Pacemaker using which of the following biological component?
  - (a) Bacterial DNA
  - (b) Human DNA
  - (c) Human Bone marrow tissue
  - (d) Human Stem cells.
10. What is the full form of the given acronym SAAW?
  - (a) Synthetic Anti-Airfield Weapon
  - (b) Systematic Aero-Airfield Weapon
  - (c) Smart Anti-Airfield Weapon
  - (d) Synced Anti-Airfield Weapon.
11. Railway Budget for the year 2016-2017 was represented by which of the following minister?
  - (a) Finance Minister
  - (b) Home Minister
  - (c) Chief Minister
  - (d) Prime Minister
12. Surgical strike by India was against which of the following country?
  - (a) Bangladesh
  - (b) China
  - (c) Pakistan
  - (d) Baluchistan

13. Who became the 45th U.S. President?  
 (a) Peter Trump  
 (b) George W. Bush  
 (c) Donald Trump  
 (d) Bill Clinton
14. Jaish-e-Mohammed attacked an Indian Air Force base in which of the following areas of Punjab?  
 (a) Pathankot, Punjab  
 (b) Jalandhar, Punjab  
 (c) Ludhiana, Punjab  
 (d) Patiala, Punjab
15. Which of the following Pay Commission was ratified by Prime Minister Narendra Modi?  
 (a) 5th Pay Commission  
 (b) 7th Pay commission'  
 (c) 6th Pay Commission  
 (d) 8th Pay Commission
16. Which taxes at the Central level are being subsumed into GST?  
 (a) Service tax  
 (b) Luxury tax  
 (c) Taxes on lottery  
 (d) Entertainment tax
17. When Reliance Jio was first launched?  
 (a) 9th September  
 (b) 6th September  
 (c) 8th September  
 (d) 5th September
18. What is the correct objective of the scheme "Pradhan Mantri MUDRA Yojana" launched by Finance Minister, Arun Jaitley?  
 (a) Shishu Loan upto 10,000  
 (b) Shishu loan upto 50,000  
 (c) Shishu loan upto 20,000  
 (d) Shishu loan upto 80,000
19. Who is the author of the book "The Legend of Lakshmi Prasad"?  
 (a) Vijay Lokapally  
 (b) Hamid Ansari  
 (c) Govind Pansare  
 (d) Twinkle Khanna
20. What is the full form of the acronym given, CIVETS?  
 (a) Colombia, Indonesia, Vietnam, Egypt, Turkey and South Africa
- (b) China, India, Venezuela, England, Tajikistan and Singapore  
 (c) Chile, Iceland, Vanuatu, Ethiopia, South Korea  
 (d) Canada, Iran, Vienna, Ecuador and South America
21. Who received the 47th Dada Saheb Phalke Award in the 2016?  
 (a) Shashi Kapoor  
 (b) Manoj Kumar  
 (c) Rishi Kapoor  
 (d) Amitabh Bachchan
22. Who among the following own the 51st Jnanpith Award?  
 (a) Kedarnath Singh  
 (b) Balchandra Nemade  
 (c) Raghuvir Chaudhary  
 (d) Shankha Gosh
23. Who won the Nobel Prize 2016, under the category of medicine?  
 (a) Oliver Hart  
 (b) Yoshinori Ohsumi  
 (c) Bob Dylan  
 (d) Bernard L. Feringa
24. P.V. Sindhu an ace badminton player, won which of the following award in the year 2016?  
 (a) Dronacharya Award  
 (b) Arjuna Award  
 (c) Dhyan Chand Award  
 (d) Rajiv Gandhi Khel Ratna Award
25. Who among the following was appointed as the new chief of AIADMK?  
 (a) Sasikala  
 (b) Panneersilvam  
 (c) Vijay Rao  
 (d) Rajeshwar Rao
26. Who among the following is the richest person in India according to the net worth?  
 (a) Lakshmi Mittal  
 (b) Amitabh Bachchan  
 (c) Mukesh Ambani  
 (d) Kumar Birla
27. Who among the following is the richest person in the world according to the net worth?  
 (a) Mark Zuckerberg  
 (b) Bill Gates  
 (c) Lilliane Bettencourt  
 (d) Charles Koch

28. Which of the following represents the top university of India with respect to its score?
- Delhi university
  - IISc
  - IGNOU
  - JNU (Jawahar Lal Nehru University)
29. Among the following industries, which industry has the highest growth %?
- Nestle India
  - Sun Pharma
  - Biocon
  - Apollo Hospitals
30. Who among the following gave the slogan "Inquilab Zindabad (Long Live the Revolution)?
- Mahatma Gandhi
  - Bhagat Singh
  - Chandra Shekar Azad
  - Subhash Chandra Bose
31. COP22 (conference of Parties) held in which of the following country?
- Vienna
  - Morocco
  - United Kingdom
  - Rome
32. The program "Namami Gange" aims at which one of the following objectives launched by the Union Government?
- Cleaning of the holy water
  - Development of dams
  - Development of
  - Cleaning of sewage water
33. Who is known as "Iron Lady" of Manipur?
- Indira Gandhi
  - Mamta Banerjee
  - Irom Sharmila
  - Jayalalithaa
34. The replica of the Nobel Prize won, was stolen from which of the following persons?
- Yoshinori Ohsumi
  - Bob Dylan
  - Oliver Hart
  - Kailash Satyarthi
35. Who among the following led the Patidar reservation agitation ?
- Keshubai Patel
  - Anandiben Patel
  - Babubhai Bokhiria
  - Hardik Patel
36. What are the main objectives of Paris Agreement?
- Aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels.
  - To reduce the amount and the consumption of CFCs.
  - In order to remove the particulate matters from the environment.
  - To increase the amount of carbon credits.
37. Among the following states in India, which of the following was marked as the first digital state of India?
- Andhra Pradesh
  - Tamil Nadu
  - Karnataka
  - Kerala
38. Who is known as the "Iron Man" of India?
- Mahatma Gandhi
  - Sardar Vallabhai Patel
  - Bhagat Singh
  - Jawahar Lal Nehru
39. Which currency notes are Demonetized?
- ₹ 10 notes
  - ₹ 50 notes
  - ₹ 500 & ₹ 1000 notes
  - ₹ 20 notes
40. The Tata Sons Board voted to remove who among the following from the Chairmanship of Tata Sons.
- Ishaat Hussain
  - Cyrus Mistry
  - Venu Srinivasan
  - Natarajan Chandrasekaran

41. Who among the following played the role of Mahavir Singh Phogat in the movie "Dangal"?
- Shahrukh Khan
  - Amir Khan
  - Salman Khan
  - Arbaz Khan
42. What was the theme of the 2016 Rio Olympics?
- Peace for inner soul
  - Live sports, live freedom
  - Nothing can be achieved without peace
  - World peace and environment
43. State Assembly Elections 2017 is not held in which of the following states?
- Himachal Pradesh
  - Punjab
  - Uttarakhand
  - Uttar Pradesh
44. When is the next Summer Olympics to be held in 2020?
- Beijing, China
  - Tokyo, Japan
  - Peoyonchang, South Korea
  - Budapest, Hungary
45. Who among the following is the leader of Samajwadi Party?
- Akhilesh Yadav
  - Mulayam Singh Yadav
  - Shivpal Yadav
  - Ram Gopal Yadav
46. Who was the Democratic candidate in the US Elections 2016?
- Donald Trump
  - John Kerry
  - Hillary Clinton
  - Betty Tucker
47. Ozone layer depletion is associated with which one of the following?
- Kyoto Protocol
  - Ciwa Protocol
  - Montreal Protocol
  - Basel Protocol
48. The Acronym, UNFCC stands for which one of the following
- United Nations Framework on Climate Change and Convention
  - United Nations Framework Convention on Climate Change
  - United Nations Federation on Climate Change and Carbon elimination
  - United Nations Foundation of Climate Change Convention
49. Who among the following US President banned the entry of Muslims Community from seven countries?
- Donald Trump
  - George Bush
  - Barack Obama
  - Bill Clinton
50. National Green Highway Mission features which of the following?
- Developing green highways by planting trees.
  - Encouraging the agricultural and rural economy
  - To develop the national highways.
  - To provide the green canopy along 100,000 km of highways and create jobs for 1million youth.
51. Which of the following sports is practiced in the Indian state of Tamil Nadu as a part of Pongal celebrations?
- Jallikattu
  - Vallamkali
  - Thoda
  - Silambam
52. Which of the following straits is located between North and South Islands of New Zealand?
- Cook Strait
  - Bass Strait
  - Foveaux Strait
  - Torres Strait
53. Which one of the following is the largest city of Africa?
- Durban
  - Lagos
  - Nairobi
  - Cairo
54. In which of the following countries you will find a marshy swamp called "Sudd"?
- Egypt
  - South Sudan
  - Algeria
  - Somalia

55. Amnesty International has declared who among the following as a prisoner of conscience?  
 (a) Irom Sharmila  
 (b) Mamta Banerjee  
 (c) Kim Gangte  
 (d) Okrump Ibobi Singh
56. When is National Education Day celebrated?  
 (a) 10th November  
 (b) 11th November  
 (c) 14th November  
 (d) 15th November
57. World's AIDS day is celebrated on?  
 (a) 1st December  
 (b) 2nd December  
 (c) 3rd December  
 (d) 5th December
58. Who won the Ramon Magsaysay Award for Peace and International Understanding?  
 (a) Nancy Reagan  
 (b) Derek O'Brien  
 (c) Mother Teresa  
 (d) Charles Keating
59. Which of the following is known as the floating garden of India?  
 (a) Loktak Lake  
 (b) Dal Lake  
 (c) Pangong Tso  
 (d) Tsomgo Lake
60. Which of the following was declared as city animal of Guwahati?  
 (a) Indian Rhinoceros  
 (b) Indian Elephant  
 (c) Gayal  
 (d) Gangetic Dolphin
61. Mangroves are found in which of the following area?  
 (a) Rajasthan  
 (b) Gujarat  
 (c) Sundarbans  
 (d) Andhra Pradesh
62. Out of the following, which of these is not a carnivorous plant?  
 (a) Pitcher Plant  
 (b) Venus Flytrap  
 (c) Nepenthes  
 (d) Dahlia
63. Which of the following is considered as a central university?  
 (a) Jamia Islamia University  
 (b) Jamia Hamdard University  
 (c) Guru Gobind Indraprastha University  
 (d) Maharashtra University
64. World's smallest pacemaker was obtained from which one of the following?  
 (a) Bacterial cells  
 (b) Bacterial DNA  
 (c) Human stem cells  
 (d) Viral DNA
65. Which one of the following is known as green planet?  
 (a) Earth (b) Pluto  
 (c) Mars (d) Uranus
66. Which of the following fruit discovered has high rate of toxin, hypoglycin A?  
 (a) Strawberry  
 (b) Litchi  
 (c) Chikoo  
 (d) Grapes
67. How many types of nucleotides are present in human DNA?  
 (a) 4 (b) 2  
 (c) 3 (d) 5
68. Dengue is caused by which of the following mosquito?  
 (a) Aedes aegypti  
 (b) Anopheles  
 (c) Culex mosquito  
 (d) Aedes albopictus
69. Scientist has labeled which one of the following as a risk in causing cancer?  
 (a) Brown bread  
 (b) Oats  
 (c) Multi grained bread  
 (d) Wheat
70. The acronym NASA stands for?  
 (a) National Aeronautical Space Air land  
 (b) National Aeronautics and Space Administration  
 (c) National Aircraft and Space Administration  
 (d) National Aircraft and Space Area

71. Which of the following is the missing element in the earth's core?  
 (a) Zircon (b) Iron  
 (c) Nickel (d) Silicon
72. Which of the following organ is known as the "safe house" of the human body?  
 (a) Heart  
 (b) Lungs  
 (c) Gall bladder  
 (d) Appendix
73. Among the following, which country is the most polluted country in the world?  
 (a) India (b) Russia  
 (c) USA (d) China
74. Which is the world's most heat resistant material  
 (a) Hafnium carbide  
 (b) Titanium carbide  
 (c) Hydrogen carbide  
 (d) Tantalum carbide
75. Ozone formation occurs in which layer?  
 (a) Troposphere  
 (b) Mesosphere  
 (c) Stratosphere  
 (d) Ionosphere
76. Who among the following gave the slogan "Jai Hind"?  
 (a) Netaji Subhash Chandra Bose  
 (b) Mahatma Gandhi  
 (c) Bhagat Singh  
 (d) Pt. Jawahar Lal Nehru
77. Chikungunya vaccine is obtained from which of the following virus?  
 (a) Ebola virus  
 (b) Zika virus  
 (c) HIV virus  
 (d) Eilat virus
78. Which day is celebrated as National Productivity Day in India?  
 (a) 10th February  
 (b) 11th February  
 (c) 12th February  
 (d) 13th February
79. Kerala's which teak tree is to get geographical indication tag?  
 (a) Nimalbur teak  
 (b) Shisham teak  
 (c) Rose wood teak  
 (d) Sandalwood teak
80. What is the full form of the acronym provided, SAARC?  
 (a) South Africa Argentina Russia Canada  
 (b) South Asian Association for Regional Corporation  
 (c) South Asian African for Regional Campaigning  
 (d) South American Association for Regional Corporation
81. Which of the following state got separated from its parent state on the basis of language in 2014?  
 (a) Karnataka  
 (b) Telangana  
 (c) Tamil Nadu  
 (d) Puducherry
82. Bharatnatyam dance belongs to which state?  
 (a) Kerala  
 (b) Karnataka  
 (c) Tamil Nadu  
 (d) Andhra Pradesh
83. IUCN stands for?  
 (a) International Union of Nature and Natural Resources  
 (b) International Union of Natural Resources  
 (c) Inter-government Union of Natural Resources  
 (d) International Union of Natural Research
84. Which of the following is a non-statuary body of Indian constitution?  
 (a) National Green Tribunal  
 (b) National Commission for Women  
 (c) National Human Rights Commission  
 (d) Planning Commission

85. Who among the following won the Rio Paralympics 2016?  
 (a) P.V.Sindhu  
 (b) Sakshi Malik  
 (c) Deepa Malik  
 (d) Dipa Singh
86. Dr. Vijay Bhatkar appointed as new vice-chancellor of which of the following university?  
 (a) Delhi University  
 (b) Banaras Hindu University  
 (c) Nalanda University  
 (d) Aligarh Muslim University
87. Banwari Lala was appointed as Governor of which state?  
 (a) Manipur (b) Meghalaya  
 (c) Assam (d) Kolkata
88. Who won the second highest civilian award, Padma Vibhushan in 2017?  
 (a) K J Yesudas  
 (b) Vishwa Mohan Bhatt  
 (c) Cho Ramaswamy  
 (d) Tehemton Udhwadia
89. Which of the following element was detected in troposphere?  
 (a) Ammonia  
 (b) Nitrogen oxides  
 (c) Nitrogen dioxides  
 (d) Ozone
90. What is the full form of the given acronym PSLV?  
 (a) Polar Sun Launched Van  
 (b) Polar Satellite Long Vehicle  
 (c) Polar Satellite Launched Vehicle  
 (d) Polar Sun Long van
91. Which of the following country launched World Robot Olympiad for the first time?  
 (a) United States  
 (b) Germany  
 (c) Russia  
 (d) India
92. BRICS stands for?  
 (a) Brazil Russia India China and South Africa  
 (b) Bangladesh Rome Indonesia Colombia and South America  
 (c) Bhutan Romania Italy and Sri Lanka  
 (d) Belgium Rwanda India South America
93. NITI Ayog stands for?  
 (a) National Indian Tribal Institute  
 (b) National Institution for Training Institute  
 (c) National Institution for Transforming India  
 (d) National Institute for Tribal Institute
94. Which of the following sports is banned on the occasion pongal?  
 (a) Kalaripayattu  
 (b) Jallikattu  
 (c) Silambam  
 (d) Pachisi
95. Glass wares are thrown in which colored bags recommended by the government?  
 (a) Yellow (b) Red  
 (c) Black (d) Blue
96. Plastic wastes, syringes are thrown in which colored bags recommended by the government?  
 (a) Yellow (b) Blue  
 (c) Red (d) Black
97. Brain implants was performed by which of the following country?  
 (a) India  
 (b) China  
 (c) Unites States  
 (d) Netherlands
98. Super moon is also known as?  
 (a) Perigee full moon  
 (b) Crescent moon  
 (c) Full moon  
 (d) Red moon

99. Which bank launched its first banking robot, "Lakshmi"?  
(a) Bank of India  
(b) Union Bank  
(c) City Union Bank  
(d) State Bank of India

100. World Science Day for Peace and Development is observed on?  
(a) 10th November  
(b) 11th November  
(c) 12th November  
(d) 9th November

## **ANSWERS KEY**

# GENERAL KNOWLEDGE

## Indian Panorama

### NATIONAL SYMBOLS OF INDIA

<b>National Flag</b>		The national flag consists of a horizontal rectangular tricolour with saffron at the top, white in the middle and India green at the bottom. The centre has a navy blue wheel with twenty-four spokes, known as the Ashoka Chakra. The flag was designed by Pingali Venkayya.
<b>National Emblem</b>	 सत्यमेव जयते	The national emblem is the Lion Capital of Asoka at Sarnath which was adopted on 26 <sup>th</sup> January 1950. The motto inscribed on the emblem is in Devanagari script: "Satyameva jayate" which means <i>Truth Alone Triumphs</i> .
<b>National Anthem</b>	Jana Gana Mana	The anthem was composed by Rabindranath Tagore; adopted by the Constituent Assembly on 24 <sup>th</sup> January 1950.
<b>National Song</b>	Vande Mataram	Vande Mataram was composed by Bankim Chandra Chatterjee. It was adopted as the National song of India in 1950.
<b>National Flower</b>		Indian lotus ( <i>Nelumbo nucifera</i> ) is the national flower. It is the representation of purity as it remains flawless despite growing in mud and water.
<b>National Fruit</b>		Mango ( <i>Mangifera indica</i> ) also known as the 'King of Fruits', is the National Fruit of India.
<b>National River</b>		Ganga is the national river of India. It is also the longest river of the country.
<b>National Tree</b>		The Indian Banyan ( <i>Ficus bengalensis</i> ) is the national tree.
<b>National Bird</b>		Indian Peacock ( <i>Pavo cristatus</i> ) is the national bird of India.
<b>National Animal</b>		The Tiger ( <i>Panthera tigris</i> ) known as the Lord of the Jungle is the national animal of India.
<b>National Calendar</b>	Saka calendar	Saka calendar was introduced as the National calendar by the Calendar Committee in 1957.

## INDIAN STATES AND UNION TERRITORIES

India/State	Capital	Area (Sq. Km)	Language	Establishment Year	Sex Ratio /1000	Litera- cy Average %	Pop. Density (Sq. Km)	INDIAN STATES & UNION TERRITORIES			Tribes
								Festivals	Dance		
INDIA	New Delhi	3.3 Million	No National Language	15-08-1947	940	73%	382	G.Jayanti, J.Day, - & R.Day			-
1. Andhra Pradesh	Hyderabad	160205	Telugu, Urdu	01-10-1953	992	67.7%	308	Sankranti, Ugadi	Kuchipudi	Andh, Bagata, Bhil, Konda	
2. Arunachal Pradesh	Itanagar	83,743	English	20-02-1987	920/ 1000	66.95%	17	"Losar" or The New Year	Bardo Chham	Abor, Aka, Apatani	
3. Assam (Assom)	Dispur	78,550	Assamese, Bengali, 1912	1st April	-	-	397	Bihu	Ankia Naat (Onkeeyaa)	Mikirs, Khasis, Nagas, Boro	
4. Bihar	Patna	99,200	Bhojpuri, Maithili	1st April 1936	916	63.4%	1,102	Chhath	Bidesia Kajari	Gonda, Mundas, Gaur	
5. Chhattisgarh	Raipur	135,194	Chattisgarhi, Hindi	1-11-2000	991	71.04%	189	Bastar Dussere, Bhoramdeo	Panthi, Rawat Nacha	Agariya, Andh, Baiga, Bhaina, Dekhnni, Dhodia, Dubla (Halpati), Fugdi	
6. Goa	Panaji	3,702	Konkani	30-05- 1987	968	88.70% sq km.	394 per sq km.	Ganesh Chaturthi	Makar Sankranti	Rass-garba	Bhils, Barda, Bavacha
7. Gujarat	Gandhinagar	196,204	Gujarati	01-05-1960	918	79.31%	310	Haryali Teej, Lohri, Saang Dhama	Meo, Ror		
8. Haryana	Chandigarh	44,212	Punjabi, Haryanvi	01-11-1966	877	76.64%	573	Kullu, Shoolini	Losar Shona Chuksam	Bhot, Bodh, Gaddi, Gujjar	
9. Himachal Pradesh	Shimla	55,673	Pahari, Kangri	25-01-1971	974	83.78%	123				

10.J & K	Srinagar	222,236	Kashmiri, Urdu	26-10-1947	883	66.7%	56	Hemis, Urs	Dumhal, Rouff	Balti, Beda, Bot, Boto
11.Jharkhand	Ranchi	79,714	Santhali, Mundari, Ho	15-11-2000	947	67.6%	414	Jhumar, Paika, Chau, Agni	Karam, Vat savitri	Asur, Agaria, Baiga, Banjara
12.Karnataka	Bengaluru	191,791	Kannada	01-11-1956	968	75.60%	320	Mysore Dasara, Ugadi	Bharatanatyam, Bolakāat	Adiyān, Barda, Bavachā, Bhil
13.Kerala	Thiruvanantha-puram	38,863	Malayalam, English	01-07-1949	1,084	93.91%	860	Onam	Kathakali	Adiyān, Arandan
14.Madhya Pradesh	Bhopal	308,245	Hindi	01-11-1956	930	70.60%	236	Shivratri, Bahgoriya	Badhai, Rai, Saira	Bhil, Bhunjia, Biar, Binjhwar
15.Maharashtra	Mumbai	307,713	Marathi	01-05-1960	929	82.9%	370	Vijayadashami or Dasara	Lavani, Koli	Andh, Baiga, Barda
16.Manipur	Imphal	22,327	Meeteilon	21-01-1972	987	79.21%	120	Lui-pegai-ni Ningol Chakouba, Yaoshang	Manipuri	Aimol, Anal, Angami
17.Meghalaya	Shillong	22,429	Khasi, Garo	21-01-1972	986	75.84%	130	Nongkrem, Wangala	Nongkrem`	Chakma, Dimasa, Garo
18.Mizoram	Aizawl	21,087	Mizo	20-02-1987	975	91.58%	52	Chapchar Kut, Thafavang Kut,	Cheraw, Khuallam	Chakma, Dimasa, Garo
19.Nagaland	Kohima	16,579	English	01-12-1963	931	80.11%	119	Hornbill, Sekrenyi	Zeliang	Naga, Kuki, Mikir, Garo
20.Odisha	Bhubaneshwar	155,820	Odia, English	01-04-1936	978	73.45%	270	Ganesh Chaturthi	Odissi	Agata, Bathudi, Birhor
21.Punjab	Chandigarh	50,362	Punjabi	15-08-1947	893	76.68%	550	Bandi Chhor, Vaisakhi, Lohri	Bhangra, Giddha	-
22.Rajasthan	Japur	342,239	Hindi, Rajasthani	01-11-1956	926	67.68%	201	Gangaur, Teej, Gogaji	Ghoomar	-

23. Sikkim	Gangtok	7,096	Nepali, Bhutia	16-5-1975	889	82.2%	86	Maghe, Losar	Singhi Chham	Bhutia, Lepcha, Limboo
24. Tamil Nadu	Chennai	130,058	Tamil	26-01-1950	995	80.33 %	550	Pongal	Bharata-natyam	Adiyar, Aranadan,
25. Telangana	Hyderabad	114,840	Telugu, Urdu	02-06-2014 -	66.50%	310	Ugadi	Kuchipudi	Andh, Konda	
26. Tripura	Agartala	1049169	Bengali, Kokborok	21-01-1972	961	94.65%	350	-	Goria, Jhum	Bhil, Bhutia, Chaimal
27. Utarakhand	Dehradun	53,483	Garhwali, Kumaoni	9-11-2000	963	79.63%	189	Kandali, Ramman	Langvir	Bhotia, Buksa, Jaunsari, Raji
28. Uttar Pradesh	Lucknow	243,286	Hindi, Urdu	01-04-1937	908	69.7%	820	Makar Sankranti, Chhath	Kathak	Bhotia, Buksa, Tharu, Baiga
29. West Bengal	Kolkata	88,752	Bengali and English	15-08-1947	947	77.08%	1,000	Durga Puja, Kali Puja	Chau dance	Asur, Baiga, Bedia, Chero
<b>Union Territory</b>										
1. Andaman and Nicobar Islands	Port Blair	8,073	English, Hindi	01-11-1956	878	86.27%	46	-	-	Andamanese, Chari Jar, Chari
2. Chandigarh	Chandigarh	114	Punjabi	01-11-1966	818	81.9%	9,300 /	Lohri	Bhangra	-
3. Dadra and Nagar Haveli	Silvassa	102	English, Gujarati	11-08-1961	775	77.65%	698	Pongal	Tarpa, Bhavada	Wariis, dubias
4. Daman and Diu	Daman	102	Gujarati, Marathi	30-05-1987	618	87.07%	2169	Garba	Mando, Vira	Dhodia, Dubla (Halpati)
5. Lakshadweep	Kavaratti	32	English, Malayalam	01-11-1956	946	92.28%	2013	Eid-Ul-Fitr, Muharram	Lava, Kolkali	Koya, Mahmi
6. NCT of Delhi	New Delhi	1,484.0	Hindi	01-02-1992	866	86.34%	11,297	Diwali, Eid ul-Fitr	-	-
7. Puducherry	Pondicherry	492	Malayalam, Tamil	07-01-1963	1,038	86.34%	2,500	Pongal	Garadi	Grulas, Villi

### Four Ends of India

Easternmost point of India is known as Kibithu; situated on right bank of river Lohit separating India from China-Tibet region. It is a small village at the altitude of 3,350 metre in Arunachal Pradesh. **Westernmost point** is situated in Kuch area of Gujarat called as Ghuar Mota. The region is famous for its harsh climate with 45°C in summer and 20°C in winter. During monsoon season this region looks like a tortoise surrounded by sea water. **Northernmost** point of India has been in controversies ever since India's independence. The Siachen Glacier in the state of J&K is the northern boundary of India according to the official division of India during the time of independence. The **Southernmost** point of the mainland of India is Kanyakumari District in the state of Tamil Nadu. Kanyakumari, formerly was known as **Cape Comorin**. It is the second largest and urbanized of Tamil Nadu. Indira Point is a village in the Nicobar district of Andaman and Nicobar Islands, India. It is located in the Great Nicobar tehsil. It is the location of the **southernmost** point of India's territory.

### Foundation day of States

1st January	Nagaland Day
21st January	Manipur, Meghalaya and Tripura Day
6th February	Jammu and Kashmir Day
20th February	Mizoram and Arunachal Pradesh day
11th March	Andman and Nicobar Islands Day
22nd March	Bihar Day (Bihar Diwas)
30th March	Rajasthan Day
1st April	Utkal (Odisha) Day
14th April	Tamil Nadu Day
15th April	Himachal Pradesh Day
1st May	Gujarat and Maharashtra Day
16th May	Sikkim Day
1st November	Chattisgarh
9th November	Uttaranchal (Now Uttarakhand) Day
15th November	Jharkhand Day (Jharkhand Diwas)
2nd June (2014)	Telangana Day

### AWARDS AND HONOURS

#### Gallantry Awards

**Param Vir Chakra:** The highest Gallantry Award

**Mahavir Chakra:** The second highest Gallantry Award

**Vir Chakra:** The third highest Gallantry Award

**Ashok Chakra:** The highest peacetime Gallantry award

**Kirti Chakra:** For conspicuous Gallantry

**Shaurya Chakra:** For an act of Gallantry

#### Bharat Ratna

The highest civilian award of India.

- The first three recipients of Bharat Ratna: C. Rajagopalchari, Dr. S. Radhakrishnan and DR. C.V.Raman (1954)

#### Padma Awards

- Padma Vibhushan : The second highest civilian award given for exceptional and distinguished service.
- Padma Bhushan : The third highest civilian award given for distinguished service of a high order.
- Padma Shri : The fourth highest civilian award given for distinguished service.

### **Bharatiya Jnanpith Award**

- Instituted in 22 May, 1961, carries a cash prize of ₹ 11 lakh, a citation and a bronze replica of Vagdevi (Saraswati).
- This award is given for the best literary writing by an Indian citizen in a language listed in eight schedule of the Indian Constitution.

### **Gandhi Peace Prize**

- Established in 2 October, 1994. It carries a cash prize of ₹ 1 crore.

### **Indira Gandhi Prize for Peace, Disarmament and Development**

- Instituted in 1985, this prestigious award is regarded as 'Nobel'

and over the years it has been awarded to those persons who have done outstanding work for international peace, disarmament and development.

### **Borlaug Award**

- Instituted in 1973, carries a cash prize of ₹ 5 lakh.
- Instituted to honour outstanding agricultural scientists.

### **Sahitya Akademi Award**

- Awarded for outstanding literary work and carries a cash prize of ₹ 1 lakh.
- Sahitya Akademi gives 22 awards for literary works in the languages which has recognized works.

## **IMPORTANT BOOKS AND AUTHORS**

### **Transcendence: My Spiritual Experiences with Pramukh Swamiji:**

Abdul Kalam

### **Unbelievable – Delhi to Islamabad:**

Prof Bhim Singh

### **Two Years Eight Months and Twenty Eight Nights:**

Salman Rushdie

### **Globalisation, Democratization and Distributive Justice:**

Professor Mool Chand Sharma

### **Making India Awesome:**

Chetan Bhagat

### **Flood of fire:**

Amitav Ghosh

### **Neither a Hawk nor a Dove:**

Khurshid M Kasuri

### **The Red Sari:**

Javier Moro

### **Sourav Ganguly: Cricket, Captaincy and Controversy:**

Saptarshi Sarkar

### **China – Confucius in the Shadows:**

Poonam Surie

### **Mrs Funnybones:**

Twinkle Khanna

### **R.D. Burman: The Prince of Music:**

Khagesh Dev Burman

### **Beyond Doubt: A Dossier on Gandhi's Assassination:**

Teesta Setalvad

### **Benazir Bhutto: A Multidimensional Portrait:**

Dr Anna Suvorova

### **Modi - Incredible emergence of a star:**

Tarun Vijay

### **The Accidental Prime Minister – The making and unmaking of Manmohan Singh:**

Sanjaya Baru

### **Hard Choices (Autobiography):**

Hillary Rodham Clinton

### **I am Malala (Autobiography):**

Malala Yousafzai

### **And Then One Day:**

Naseerudin Shah

### **Playing It My Way:**

Sachin Tendulkar

### **The Narrow Road To the Deep North:**

Richard Flangan

### **Go Set a Watchman:**

Harper Lee

### **Super Economies:**

Raghav Bahl

### **Family Life:**

Akhil Sharma

### **Lucknow Boy: A Memoir:**

Late Vinod Mehta

### **A Brief History of Seven Killings:**

Marlon James

### **Beyond 2020: A Vision for Tomorrow's India:**

A. P. J. Abdul Kalam and Y. S. Rajan

### **Leading:**

Alex Ferguson With Michael Moritz

### **The Outsider:**

Frederick Forsyth

- The Courage to Act – A Memoir of a Crisis and Its Aftermath:** Ben S. Bernanke
- Ruled or Misruled: Story and Destiny of Bihar:** Santosh Singh
- Hungry Bengal: War, Famine, Riots and the End of Empire:** Janam Mukherjee
- To the Brink and Back: India's 1991 Story:** Jairam Ramesh
- The Pakistan Paradox:** Christophe Jaffrelot
- Crusader or Conspirator:** P.C. Parakh
- Born Again On the Mountain:** Arunima Sinha
- The China Model:** Daniel A bell
- Scion of Ikshvaku:** Amish Tripathi
- Purity:** Jonathan Franzen
- God Help the Child:** Toni Morrison
- Love + Hate: Stories and Essays:** Hanif Kureishi
- The Heart Goes Last:** Margaret Atwood
- Deep South:** Paul Theroux
- The Country of First Boys: Amartya Sen**
- A Strangeness in My Mind: Orhan Pamuk**
- Autumn of the Matriarch: Indira Gandhi's Final Term in Office:** Diego Maiorano
- Gods of Corruption:** Promilla Shankar
- Restart: The Last Chance for the Indian Economy:** Mihir S. Sharma
- The Tears of the Rajas:** Ferdinand Mount
- The Z factor - My journey as the wrong man at the Right Time :** Subhash Chandra
- Nathuram Godse - The Story of an Assassin :** Anup Ashok Sardesai
- The turbulent year - 1980-1996 (Volume II) :** Pranab Mukherjee.
- Jawaharlal Nehru and The Indian Polity is Perspective :** Prof (Dr) P.J. Alexander
- The Kiss of life - How a superhero and my son defeated cancer :** Emraan Hashmi

### INDIA'S DEMOGRAPHIC JOURNEY 70 YEARS

Parameters	Course of Journey
<b>Population</b>	<ul style="list-style-type: none"> <li>• <b>1947</b> – Population of India was 340 million</li> <li>• Between <b>1947 – 1981</b>, population doubled.</li> <li>• By <b>2001</b> – it surpassed 1 billion</li> <li>• <b>2011</b> – Population was 1210 million</li> <li>• India's population increasing at the rate of 16 million per year</li> <li>• India has 17% of world's population.</li> <li>• Highest populated state : Uttar Pradesh.</li> <li>• Lowest populated State – Sikkim</li> <li>• Highest populated Union Territory – Delhi</li> <li>• Lowest populated UT – Lakshadweep</li> <li>• Average Density of population in India – 382 person/sq km.</li> </ul> <p><b>2011</b>–Population in Rural Areas – 68.84 %</p> <ul style="list-style-type: none"> <li>• Population in Urban Areas – 31.16%</li> <li>• 18.62% of country's population in Uttar Pradesh.</li> </ul>
<b>Fertility rate</b>	<ul style="list-style-type: none"> <li>• Total Fertility Rate in <b>1966-71</b> : 5.78 %</li> <li>TFR in <b>1971-76</b> : 5.37%</li> <li>TFR in <b>1976-81</b> : 4.65%</li> <li>TFR in Kerala : 2.1%</li> <li>TFR in Tamil Nadu : 1.8%</li> </ul> <p><b>2001</b> : Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan accounted for 45% of the total population.</p>

<b>Birth and Death Rate :</b>	<b>1951-1961 :</b> Death Rate - 24 /1000 Birth Rate - 42 /1000 <b>1971-1981 :</b> Death Rate - 15/1000 Birth Rate - 38 /1000 <b>1996-2001 :</b> Death Rate – 9/1000 Birth Rate - 24/1000
<b>Population policy in India</b>	<b>1952</b> – National family Programme launched. <b>Features:</b> <ul style="list-style-type: none"><li>• To slow down population growth rate through Birth Control Measures</li><li>• To Improve public Health Standards</li><li>• To Increase Public Awareness about public health Issues.</li></ul> <b>1975-1976</b> – Period of National Emergency <ul style="list-style-type: none"><li>• Introduced coercive programme of mass sterilization.</li></ul> <b>1978</b> – National family welfare Programme launched. <ul style="list-style-type: none"><li>• <b>2010</b> – National Socio-demographic Goals launched :<ul style="list-style-type: none"><li>• Free Compulsory Education upto age of 14</li><li>• Reduce IMR to below 30/1000 live birth.</li><li>• Delayed marriages for girls</li><li>• 100% registration of birth, death, marriage and Pregnancy.</li></ul></li></ul>
<b>Literacy</b>	<b>1951</b> – Literacy Rate in India – 18.3% <b>1991</b> – Increased to 52.2% <b>2001</b> – Literacy Rate – 65.4% <b>2011</b> – Literacy Rate – 74.04% <ul style="list-style-type: none"><li>• Male Literacy Rate – 82.14%</li><li>• Female Literacy Rate – 65. 46%</li><li>• State with Universal Literacy – KERALA (93.7)</li><li>• Least Literate State – BIHAR (63.82%)</li><li>• State with Lowest female literacy Rate – HARYANA</li><li>• RIGHT TO EDUCATION (Article 21A) has been made fundamental Right in India via 86th Constitution Amendment Act.</li></ul>
<b>Religion</b>	<ul style="list-style-type: none"><li>• Share of Hindu Population in India – 80%</li><li>• India has world's 3<sup>rd</sup> most biggest Muslim population (While Pakistan–second &amp; Indonesia–first)</li><li>• Concentration of Muslim population in India in LAKSHADWEEP and JAMMU &amp; KASHMIR.</li><li>• Concentration of Christian population – MEGHALAYA, MIZORAM, NAGALAND.</li><li>• Concentration of Sikh population – PUNJAB</li></ul>
<b>Declining Sex Ratio</b>	<b>1951</b> – 946 F / 1000 M <b>1971</b> – 930 F / 1000 M <b>1981</b> – 934 F / 1000 M <b>1991</b> – 925 F / 1000 M <b>2001</b> – 933 F / 1000 M <b>2011</b> – 940 F / 1000 M

	<ul style="list-style-type: none"> <li>• Lowest Child Sex Ratio – PUNJAB (793)</li> <li>• Lowest female Sex Ratio – HARYANA (877)</li> <li>• Highest female Sex Ratio – KERALA (1084)</li> <li>• States with declining Sex Ratio – HARYANA, CHANDIGARH, DELHI, GUJARAT and HIMACHAL PRADESH.</li> </ul> <p>Efforts taken: PRE-NATAL DIAGNOSTIC TECHNIQUE (Regulation and prevention of misuse) ACT passed in 1996.</p>
<b>Age Structure</b>	<ul style="list-style-type: none"> <li>• INDIA has a very young population.</li> </ul> <p>* UNDER 15 AGE GROUP  <b>1971</b> – 42% of total population  <b>2001</b> – 35% of total population  <b>2011</b> – 29.7% of total population</p> <p>* 15 – 60 AGE GROUP  <b>1971</b> – 53% of total population  <b>2001</b> – 59% of total population  <b>2011</b> – 64.9% of total population</p> <p>60 + AGE GROUP  <b>1971</b> – 5% of total population  <b>2001</b> – 7% of total population  <b>2011</b> – 5.5% of total population</p> <ul style="list-style-type: none"> <li>• State with high proportion in younger age group – UTTAR PRADESH</li> <li>• 1/3<sup>rd</sup> of India's population below 15 yrs of age in 2000.</li> </ul>
<b>Life Expectancy</b>	<p><b>1951</b> – Males (32.45 yrs) Female (31.66 yrs)  <b>1971</b> – Males (46.40 yrs) Female (44.70 yrs)  <b>1991</b> – Males (59.70 yrs) Female (60.50 yrs)  <b>2001</b> – Males (63.90 yrs) Female (66.90 yrs)  <b>2011</b> – Average life expectancy – 65.48 yrs</p>
<b>Rural Urban Preferences</b>	<p><b>1951</b> – Rural Population : 299 million  Urban Population: 62 million</p> <p><b>1981</b> – Rural Population : 524 million  Urban Population: 159 million</p> <p><b>2001</b> – Rural Population : 743 million  Urban Population: 286 million</p>
<b>INDIA'S DEMOGRAPHIC ACHIEVEMENT</b>	
<ul style="list-style-type: none"> <li>• Reduced CRUDE BIRTH RATE from 40.8 (1951) to 24.1 (2004)</li> <li>• Reduced IMR from 146/1000 live birth (1951) to 58/1000 live birth (2004)</li> <li>• Reduced Crude death rate from 25 (1951) to 7.5 (2004)</li> <li>• Added 25 yrs to life expectancy from 37 yrs to 62 yrs.</li> <li>• Halved the TFR from 6.0 (1951) to 3.0 (2004)</li> <li>• Quadrupled the couple protection rate from 10.4% (1971) to 44% (1999).</li> </ul>	

## SPACE SCIENCE

### Space mission 1975-2016

Satellite	Launch Date	Launch Vehicle
Aryabhata	19-Apr-75	u-11 Interkosmos
Bhaskara-I	7-Jun-79	C-1 Interkosmos
Rohini Technology Payload	10-Aug-79	SLV-3
Rohini RS-1	18-Jul-80	SLV-3
Rohini RS-D1	31-May-81	SLV-3
Ariane Passenger Payload Experiment	19-Jun-81	Ariane-1 (V-3)
Bhaskara -II	20-Nov-81	C-1 Intercosmos
INSAT-1A	10-Apr-82	Delta 3910 PAM-D
Rohini RS-D2	17-Apr-83	SLV-3
INSAT-1B	30-Aug-83	Shuttle [PAM-D]
Stretched Rohini Satellite Series (SROSS-1)	24-Mar-87	ASLV
IRS-1A	17-Mar-88	Vostok
Stretched Rohini Satellite Series (SROSS-2)	13-Jul-88	ASLV
INSAT-1C	21-Jul-88	Ariane-3
INSAT-1D	12-Jun-90	Delta 4925
IRS-1B	29-Aug-91	Vostok
INSAT-2DT	26-Feb-92	Ariane-44L H10
Stretched Rohini Satellite Series (SROSS-C)	20-May-92	ASLV
INSAT-2A	10-Jul-92	Ariane-44L H10
INSAT-2B	23-Jul-93	Ariane-44L H10+
IRS-1E	20-Sep-93	PSLV-D1
Stretched Rohini Satellite Series (SROSS-C2)	4-May-94	ASLV
IRS-P2	15-Oct-94	PSLV-D2
INSAT-2C	7-Dec-95	Ariane-44L H10-3
IRS-1C	29-Dec-95	Molniya
IRS-P3	21-Mar-96	PSLV-D3
INSAT-2D	4-Jun-97	Ariane-44L H10-3
IRS-1D	29-Sep-97	PSLV-C1
INSAT-2E	3-Apr-99	Ariane-42P H10-3
Oceansat-1 (IRS-P4)	26-May-99	PSLV-C2
INSAT-3B	22-Mar-00	Ariane-5G
GSAT-1	18-Apr-01	GSLV-D1

Technology Experiment Satellite (TES)	22-Oct-01	PSLV-C3
INSAT-3C	24-Jan-02	Ariane-42L H10-3
Kalpana-1 (METSAT)	12-Sep-02	PSLV-C4
INSAT-3A	10-Apr-03	Ariane-5G
GSAT-2	8-May-03	GSLV-D2
INSAT-3E	28-Sep-03	Ariane-5G
RESOURCESAT-1 (IRS-P6)	17-Oct-03	PSLV-C5
EDUSAT	20-Oct-04	GSLV-F01
HAMSAT	5-May-05	PSLV-C6
CARTOSAT-1	5-May-05	PSLV-C6
INSAT-4A	22-Dec-05	Ariane-5GS
INSAT-4C	10-Jul-06	GSLV-F02
CARTOSAT-2	10-Jan-07	PSLV-C7
Space Capsule Recovery Experiment (SRE-1)	10-Jan-07	PSLV-C7
INSAT-4B	12-Mar-07	Ariane-5ECA
INSAT-4CR	2-Sep-07	GSLV-F04
CARTOSAT-2A	28-Apr-08	PSLV-C9
IMS-1 (Third World Satellite - TWsat)	28-Apr-08	PSLV-C9
Chandrayaan-1	22-Oct-08	PSLV-C11
RISAT-2	20-Apr-09	PSLV-C12
ANUSAT	20-Apr-09	PSLV-C12
Oceansat-2 (IRS-P4)	23-Sep-09	PSLV-C14
GSAT-4	15-Apr-10	GSLV-D3
CARTOSAT-2B	12-Jul-10	PSLV-C15
StudSat	12-Jul-10	PSLV-C15
GSAT-5P / INSAT-4D	25-Dec-10	GSLV-F06
RESOURCESAT-2	20-Apr-11	PSLV-C16
Youthsat	20-Apr-11	PSLV-C16
GSAT-8 / INSAT-4G	21-May-11	Ariane-5 VA-202
GSAT-12	15-Jul-11	PSLV-C17
Megha-Tropiques	12-Oct-11	PSLV-C18
Jugnu	12-Oct-11	PSLV-C18
RISAT-1	26-Apr-12	PSLV-C19
SRMSAT	26-Apr-12	PSLV-C18
GSAT-10	29-Sep-12	Ariane-5 VA-209
SARAL	25-Feb-13	PSLV-C20
IRNSS-1A	1-Jul-13	PSLV-C22
INSAT-3D	26-Jul-13	Ariane-5

GSAT-7	30-Aug-13	Ariane-5
Mars Orbiter Mission (MOM)	5-Nov-13	PSLV-C25
GSAT-14	5-Jan-14	GSLV-D5
IRNSS-1B	4-Apr-14	PSLV-C24
IRNSS-1C	10-Nov-14	PSLV-C26
GSAT-16	7-Dec-14	Ariane-5
IRNSS-1D	28-Mar-15	PSLV-C27
GSAT-6	27-Aug-15	GSLV-D6
Astrosat	28-Sep-15	PSLV-C30
GSAT-15	11-Nov-15	Ariane 5 VA-227
IRNSS-1E	20-Jan-16	PSLV-C31
IRNSS-1F	10-Mar-16	PSLV-C32
IRNSS-1G	28-Apr-16	PSLV-C33
Corbo Set-2C	22-Jun-16	PSLV-C34
Insat 3DR	8-Sep-16	GSLV-F05
SCATSAT-1	26-Sep-16	PSLV-C35
GSAT-18	5-Oct-16	Ariane 5 ECA VA-231

### Space Centres and Units

- Vikram Sarabhai Space Centre (VSSC) - Thumba (Thiruvananthapuram)
- ISRO Satellite Centre (ISAC) - Bengaluru
- SHAR Centre - Sriharikota (Andhra Pradesh)
- Liquid Propulsion Systems Centre (LPSC) - Bengaluru
- Space Application Centre - Ahmedabad
- Developmental and Educational Communication - Ahmedabad unit (DECU)
- ISRO Telemetry Tracking and Command Network (ISTRAC) - Bengaluru
- National Remote Sensing Agency (NRSA) - Hyderabad
- Master Control Facility (MCF) - Hassan (Karnataka)
- The Antrix Corporation Limited - Bengaluru
- North Eastern-Space Applications Centre (NE-SAC) - Shillong
- Physical Research Laboratory (PRL) - Ahmedabad

### Indian Remote Sensing (IRS) Satellite System

The Indian Remote Sensing (IRS) satellite system is one of the largest constellations of remote sensing satellites in operation in the world today. The IRS programme commissioned with the launch of **IRS-1A in 1988** presently includes eleven satellites that continue to provide imageries in a variety of spatial resolutions ranging from better than one metre upto 500 metres.

### Indian Regional Navigation Satellite System

The new of Navigation Satellite system was launched in 2013 aimed at providing accurate real time positioning and timing services over India and its surroundings upto a range of 1500 km. The fully deployed system consists of 3 satellites in GEO orbit and 4 satellites in GSO orbits placed approximately at an altitude of 36000 km. The constellation has total 7 satellites.

**Mars Orbiter Mission (MOM)** is a space probe, launched on 24 September, 2014. The mission focuses on developing the technologies for designing, planning, management and operations of an interplanetary mission. The probe carries five instruments for gathering knowledge about Mars. The space craft is now jointly monitored by ISRO Telemetry, Tracking and Command Network (ISTRAC) in Bangalore, and Indian Deep Space Network antennae at Byalalu.

### GLOBAL SPACE PROBES

- **Venus :**

**Venera 1** – USSR Venus flyby, Feb 12, 1961; Now in a solar orbit.

**Mariner 2** – USA Venus flyby, Aug 27, 1962; Now in a solar orbit.

**Magellan** – USA Venus orbiter, May 4, 1989 – 1994

- **Mars :**

**Mariner 3** – USA Mars flyby, Nov. 5, 1964.

**Viking 1** – USA Mars orbiter/ Lander, Aug 20, 1975.

**Phobos 1** – USSR Mars orbiter/ Lander, July 7, 1988.

**Mars Odyssey** – USA Mars orbiter, Apr. 7, 2001

**Spirit (MER-A)** – USA Mars Rover, June 10, 2003

**Opportunity (MER-B)** – USA Mars Rover, July 7, 2003.

**Mars Phoenix Lander** – USA Mars Lander, Aug. 4, 2007.

- **Jupiter :**

**Galileo** – USA and Europe probe, Oct. 18, 1989.

**Hubble space Telescope** – USA and Europe, Apr. 25, 1990.

**New Horizons** – USA Kuiper belt flyby, Jan. 19, 2006.

- **Moon :**

**Pioneer 0** – USA Lunar orbiter, Aug. 17, 1958.

**Apollo 17** – USA manned lunar lander, Dec. 7, 1972

**Chang'e - 1** – China's lunar orbiter, Oct 24, 2007.

**Chandrayaan 1** – India PSLV – C 11, Oct 22, 2008. India's first moon mission and the cheapest moon mission in the world.

### POWER STATION IN INDIA

Power station	Operator	Establishment Date	Location	State
Tarapur Atomic Power Station	NPCIL	1969	Tarapur	Maharashtra
Rajasthan Atomic Power Station	NPCIL	1973	Rawatbhata	Rajasthan
Kakrapar Atomic Power Station	NPCIL	1993	Kakrapar	Gujarat
Kudankulam Nuclear Power Plant	NPCIL	2013	Kudankulam	Tamil Nadu
Kaiga Nuclear Power Plant	NPCIL	2000	Kaiga	Karnataka
Madras Atomic Power Station	NPCIL	1984	Kalpakkam	Tamil Nadu

Narora Atomic Power Station	NPCIL	1991	Narora	Uttar Pradesh
Gorakhpur Atomic Power Station	NPCIL		Fatehabad	Haryana
Talcher Super Thermal Power Station	NTPC	1995	Kaniha	Odisha
Sipat Thermal Power Plant	NTPC	2008	Sipat	Chhattisgarh
Vindhyachal Super Thermal Power Station	NTPC	2013	Singrauli	Madhya Pradesh
Mundra Ultra Mega Power Project	Tata Power	2009	Mundra	Gujarat
Korba Super Thermal Power Plant	NTPC	1983	Jamani Palli	Chhattisgarh
Bhusawal Thermal Power Station	MA-HAGEN-CO	1968	Deepnagar	Maharashtra
Satpura Thermal Power Station	MPPGCL	1967	Sarni	Madhya Pradesh
Sterlite Jharsuguda Power Station	Vedanta	2006	Jharsuguda	Odisha
Durgapur Thermal Power Station	DVC	1996	Durgapur	West Bengal

### FIRST IN MALE

First Governor of Bengal	Lord Clive(1757-60)
Last Governor of Bengal	Warren Hastings(1772-74)
The first British Governor General of Bengal	Lord Warren Hasting(1774-1885)
The first British Governor General of India	Lord William Bentinck(1833-1835)
The first British Viceroy of India	Lord Canning(1856-62)
The first Governor General of free India	Lord Mountbatten(1947-1948)
The first and the last Indian to be Governor General of free India	C. Rajgopalachari(1948-1950)
The first President of Indian Republic	Dr. Rajendra Prasad
The first Prime Minister of free India	Pt. Jawahar Lal Nehru
The first Indian to win Nobel Prize	Rabindranath Tagore
The first President of Indian National Congress	W.C. Banerjee
The first Muslim President of Indian National Congress	Badruddin Tayyabji
The first Muslim President of India	Dr. Zakir Hussain

The first man who introduced printing press in India	James Hicky
The first Indian to join the I.C.S	Satyendra Nath Tagore
India's first man in Space	Rakesh Sharma
The first Prime Minister of India who resigned without completing the full term	Morarji Desai
The first Indian Commander-in-Chief of India	General Cariappa
The first Chief of Army Staff	Gen. Maharaj Rajendra Singhji
The first Indian Member of the Viceroy's Executive Council	S.P.Sinha
The first President of India who died while in office	Dr. Zakir Hussain
The first Prime Minister of India who did not face the Parliament	Charan Singh
The first Field Marshal of India	S.H.F. Manekshaw
The first Indian to get Nobel Prize in Physics	C.V.Raman
The first Indian to receive Bharat Ratna award	Dr. Radhakrishnan
The first Indian to cross English Channel	Mihir Sen
The first Person to receive Jnanpith award	Sri Shankar Kurup
The first Speaker of the Lok Sabha	Ganesh Vasudeva Mavalankar
The first Vice-President of India	Dr. Radhakrishnan
The first Education Minister	Abdul Kalam Azad
The first Home Minister of India	Sardar Vallabh Bhai Patel
The first Indian Air Chief Marshal	S. Mukherjee
The first Indian Naval Chief	Vice Admiral R.D. Katari
The first Judge of International Court of Justice	Dr. Nagendra Singh
The first person to reach Mt. Everest without oxygen	Sherpa Anga Dorjee
The first person to get Param Vir Chakra	Major Somnath Sharma
The first Chief Election Commissioner	Sukumar Sen
The first person to receive Magsaysay Award	Acharya Vinoba Bhave
The first person of Indian origin to receive Nobel Prize in Medicine	Hargovind Khurana
The first Chinese traveller to visit India	Fa-hein
The first person to receive Stalin Prize	Saifuddin Kitchlu
The first person to resign from the Central Cabinet	Shyama Prasad Mukherjee
The first person to receive Nobel Prize in Economics	Amartya Sen
The first Chief Justice of Supreme Court	Justice Hirala J. Kania
The first Indian Pilot	J.R.D. Tata (1929)

### FIRST IN FEMALE

The first lady to become Miss World	Rita Faria
The first woman judge in Supreme Court	Mrs. Meera Sahib Fatima Bibi
The first woman Ambassador	Miss C.B. Muthamma
The first woman Governor of a state in free India	Mrs Sarojini Naidu
The first woman Speaker of a State Assembly	Shanno Devi
The first woman Prime Minister	Mrs Indira Gandhi
The first woman Minister in a Government	Rajkumari Amrit Kaur
The first woman to climb Mount Everest	Bachhendri Pal
The first woman to climb Mount Everest twice	Santosh Yadav
The first woman President of Indian National Congress	Mrs Annie Besant
The first woman pilot in Indian Air Force	Harita Kaur Dayal
The first woman Graduates	Kadambini Ganguly and Chandramukhi Basu, 1883
The first woman Airline Pilot	Durga Banerjee
The first woman Honours Graduate	Kamini Roy, 1886
The first woman Olympic medal Winner	Karnam Malleswari, 2000
The first woman Asian Games Gold Medal Winner	Kamlijit Sandhu
The first woman Lawyer	Cornelia Sorabjee
The first woman President of United Nations General Assembly	Mrs Vijaya Laxmi Pandit
The first woman Chief Minister of an Indian State	Mrs Sucheta Kripalani
The first woman Chairman of Union Public Service Commission	Roze Millian Bethew
The first woman Director General of Police	Kanchan Chaudhary Bhattacharya
The first woman Judge	Anna Chandy (She became judge in a district court in 1937)
The first woman Chief Justice of High Court	Mrs Leela Seth (Himachal Pradesh High Court)
The first woman Judge in Supreme Court of India	Kumari Justice M. Fathima Beevi
The first woman Lieutenant General	Puneeta Arora
The first woman Air Vice Marshal	P. Bandopadhyaya
The first woman chairperson of Indian Airlines	Sushma Chawla
The first woman IPS officer	Mrs. Kiran Bedi
The first and last Muslim woman ruler of India	Razia Sultan
The first woman to receive Ashoka Chakra	Neerja Bhanot
The first woman to receive Jnanpith Award	Ashapurna Devi

The first woman to cross English Channel	Aarti Saha
The first woman to receive Nobel Prize	Mother Teresa
The first woman to receive Bharat Ratna	Mrs Indira Gandhi
The first woman to receive Jnanpith Award	Ashapurna Devi

**FIRST IN OTHERS**

First Wax statue of a Living Indian	Mahatma Gandhi at Madame Tussaud's in 1939
First Exclusive internet magazine	Bharat Samachar
First Miss India to participate in Miss Universe	Indrani Rehman
First Judge in International Court of Justice	Dr. Nagender Singh
First Graduate in Medicine	Soorjo Coomar Goodeve Chukerbutty
India's First University	Nalanda University
India's First Open University	Andhra Pradesh Open University
India's First Lok Sabha Member to be elected with a record maximum number of votes	P.V.Narasimha Rao
First Indian to reach Antarctica	Lt. Ram Charan
First Test tube baby of India	Indira (Baby Harsha)
First Post Office opened in India	Kolkata(1727)

**SUPERLATIVES****Structures**

- Highest Tower ( Minaret ) – Qutub Minar
- Higher Gateway – Buland Darwaza at Fatehpur Sikri near Agra. Built by Akbar (53.5 m / 175 ft High)
- Highest Dam – Bhakra Dam
- Highest Bridge – Chenab Bridge
- Highest Airport- Leh Air Port in Ladakh (3256 m/ 16080 ft high)
- Highest Hydel Power Station- Rongtong Hydel Project in Kinnaur district of Himachal Pradesh.
- Highest Mountain Peak- Kanchenjunga
- Highest Road- Road at Khardungla in the Leh-Manali Sector
- Highest Waterfall- Jog Waterfall, Karnataka
- Largest Residence – Antilia Bhawan built by Mukesh Ambani
- Largest Cinema Hall – Prasad Max, Hyderabad
- Largest Museum – National Museum Delhi
- Largest River Barrage – Farakka Barrage
- Biggest Auditorium (Mumbai) – Sri Shanmukhanand Hall
- Largest zoo – Arignar Anna Zoological Park
- Largest Cave Temple – Ellora
- Largest Gurudwara – Golden Temple, Amritsar
- Largest Mosque – Jama Masjid, Delhi (built by Shah Jahan in 1644-58)
- Largest Man-made Lake – Govind Sagar (Bhakra)
- Largest Dome – Gol Gumbaz (Karnataka)
- Largest Cantilever Bridge – Howrah Bridge

- Longest Railway Tunnel- Pir Panjal Railway Tunnel (11 km)
  - Longest Road Tunnel - 9.2 km long tunnel on Jammu-Srinagar National Highway
  - Largest Public Sector Bank- State Bank of India
  - Largest Botanical Garden - National Botanical Garden in Kolkata
  - Largest Church- Se Cathedral at Old Goa, 10 km from Panaji.
  - Largest Delta- Sunderbans (75,000 sq km) formed by the Ganga and Brahmaputra in West Bengal and Bangladesh
  - Largest Stupa- Kesariya Stupa in Bihar
  - Largest Library- National Library, Kolkata
  - Largest Planetarium- Birla Planetarium, Kolkata.
  - Largest Prison- Tihar Jail, Delhi
  - Largest Concentration of Scheduled Tribes- Madhya Pradesh
  - Largest Scheduled Caste- Community Santhal
  - Longest River Bridge – Bandra-Worli sea link which is 5.6 km.
  - Largest Corridor – Rameshwaram Temple Corridor
  - Largest irrigation Canal-Indira Gandhi Canal or Rajasthan Canal (959 km long)
  - Longest Dam-Hirakund Dam on Mahanadi river in Odisha (24.4 km long)
  - Longest Glacier-Siachen Glacier on the Indo-Pakistan border (75.6 km long and 2.8 km wide)
  - Longest Railway Bridge Nehru Setu Bridge (4.62 km) long
  - Fastest Train-Gatiman Express between New Delhi and Agra at a speed of 160 kmph
  - Tallest Light House – Jakhau, light hour, Gujarat
  - Tallest Statues – Statue of Jain Saint Gomateswara at Sravanabelagola in Karnataka
  - Tallest Chimber – Hanuman Swami statue with 135ft. tall.
  - Oldest Church- St. Thomas Church at Palayar in Trichur district in Kerala built in 52 AD.
  - Oldest Monastery- Buddhist Monastery, (situated at an altitude of 3,048 m /10,000 ft) at Tawang in Arunachal Pradesh.
  - Largest mall- Lulu Mall Kochi
  - Most Populous City- Mumbai
- Natural**
- Longest River – Ganges
  - Largest Desert – Thar ( Rajasthan)
  - Largest Lake – Wular Rajasthan
  - Largest Fresh Water Lake-Kolleru in Andhra Pradesh
  - Largest Cave- Amarnath (about 44 km from Pahalgam in Jammu and Kashmir)
- Founders of Indian Institutions**
- Arya Samaj-Swami Dayanand Saraswati
  - Athmiya Sabha-Raja Ram Mohan Roy
  - Brahma Samaj-Raja Ram Mohan Roy
  - Deccan Education Society-G.G.Agarwal, M.G.Ranade, V.G.Gibhongar
  - Dharma Sabha-Radhakanthadev
  - Indian Brahma Samaj-Keshav Chandra Sen
  - Manavadharma Sabha-Durgaram Mangaram
  - Prarthana Samaj-Athmaram Pandurang
  - Pune Sewa Sadan-Smt.Remabhai Ranade, G.K.Devdhar
  - Ramakrishna Mission-Swami Vivekananda
  - Sadharan Brahma Samaj-Shivananda Sashtri, Anand Mohan Bose
  - Servants of India Society-Gopala Krishna Gokhale

- Sewa Sadan-Bahuramji M.Malabari
- Sewa Samithi-H.N.Kunsru
- Social Service League-N.M.Joshi
- Thathwabodhini Sabha-Debendranatha Tagore
- Theosophical Society-Madam H.P. Blavadski, Col.H.L.Olkott

- Calcutta- Job Charnock
- Delhi- Anankapalan
- Fatehpur Sikri - Akbar
- Hisar- Ferozshah Tuglaq
- Hyderabad - Quli Qutabshah
- Jodhpur- Rao Jodha
- Mahabalipuram
- Narasimhawarman
- Siri- Alauddin Khilji
- Vijayanagaram - Hariharan 1

### **Leader of Nations-Famous Father**

- America—George Washington
- Bangladesh—Mujibur Rehman
- China—Sunyatse
- India—Gandhi
- Indonesia—Sukarno
- Mauritius—Ramgoolam
- Namibia—Sam Nujoma
- Pakistan—Muhammad Ali Jinna
- Sri Lanka—D.S.Senanayake
- Tanzania—Julius Nerera
- Turkey—Mustafa Kamal

### **Agricultural Revolution**

- Blue Revolution - Fisheries Development
- Brown Revolution - Leather Production
- Grey Revolution - Housing Development
- Green Revolution - Agriculture Production
- Pink Revolution - Drugs & Pharmaceuticals
- Silver Revolution - Egg Production
- White Revolution - Dairy Development
- Yellow Revolution - Oil Seed Production

### **Founders of Towns in India**

- Agra- Sikandar Lodhi
- Ahmedabad - Ahmed Shah
- Ajmer- Ajaypal Chauhan
- Allahabad- Akbar

### **SOBRIQUETS**

A sobriquet is a nickname, occasionally assumed and often given by another.

<b>Person</b>	<b>Primary Names</b>
Anna	C N Annadurai
Badshah Khan/ Frontier Gandhi	Abdul Ghaffar Khan
Buddha	Siddhartha Gautama
Chacha	Jawahar Lal Nehru
Deenabandhu	C F Andrews
Deshbandhu	C. R. Das
Father of the Nation	Mohandas Karamchand Gandhi
Grand Old Man of India	Dadabhai Naoroji
Gurudev	Rabindranath Tagore
Guruji	M S Gohlwalkar
Kaviguru	Rabindranath Tagore
Lokmanya	Bal Gangadhar Tilak
Loknayak	Jayaprakash Narayan
Mahatma Gandhi	Mohandas K. Gandhi
Man of Peace	Lal Bahadur Shastri
Manitas de Plate	Flamenco guitarist Ricardo Baliardo

Netaji	Subhash Chandra Bose
Nightingale of India	Sarojini Naidu
Panditji	Jawahar Lal Nehru
Punjab Kesari	Lala Lajpat Rai
Rajaji	C Rajagopalachari
Saint of the Gutters	Mother Teresa
Father of the Nation	Mohandas Karamchand Gandhi
Haryana Hurricane	Kapil Dev
Prince of Kolkata	Saurav Ganguly
<b>Places</b>	<b>Primary Names</b>
Bengal's Sorrow	Damodar River
Blue Mountain	Niligiri Hills
City of Golden Temple	Amritsar
City of Palaces	Kolkata
Diamond City in India	Surat, Gujarat
Garden City of India	Bengaluru
Garden of India	Kashmir
Gateway of India	Mumbai
God's Own Country	Kerala
Land of Five Rivers	Punjab
Pink City	Jaipur
Queen of Arabian Sea	Kochi
Spice Garden of India	Kerala
The City of Joy	Kolkata
The City of Palaces	Kolkata
Venice of East	Alleppey
Queen of Arabian Sea	Kochi
Garden City of India	Bangalore
Blue Mountains	Niligiri Hills
Silicon Valley of India	Bengaluru
Planned City of India	Chandigarh

### States & its Slogans

- Rice bowl of India, Egg bowl of Asia – Andhra Pradesh.
- The Orchid state of India or the paradise of the Botanists- Arunachal Pradesh.
- Rice bowl of Central India – Chhattisgarh.
- Jewel of the Western part of India- Gujarat.
- State of Apples, Dev Bhoomi (Adobe of Gods) – Himachal Pradesh
- Heaven on Earth – Jammu and Kashmir.
- The Land of Jungles & Jharis (Bushes) – Jharkhand
- God's own country – Kerala
- Heart of India – Madhya Pradesh
- Gateway of the East – Manipur
- The adobe of the clouds – Meghalaya
- Land of the hill people – Mizoram

- Falcon capital of the world - Nagaland
- Granary of India, India's bread-basket - Punjab
- Land of the Gods - Uttarakhand
- Hindi Heartland of India - Uttar Pradesh

### List of Slogans by Freedom Fighters & Others

Quit India	Mahatma Gandhi
Do or Die (Karo Ya Maro)	Mahatma Gandhi
Humne Ghutne Tekkar Roti Mangi Kintu Pathar Mile	Mahatma Gandhi
Don't Pay Tax (During Satyagraha)	Mahatma Gandhi
Tum Mujhe Khoon Do Main Tumhe Azaadi Dunga	Netaji Subhash Chandra Bose
Jai Hind	Netaji Subhash Chandra Bose
Dilli Chalo	Netaji Subhash Chandra Bose
Vande Matram (I Bow to Thee Mother)	Bankim Chandra Chatterjee
Inqlaab Zindabad (Long Live the Revolution)	Bhagat Singh
Jan Gan Man Adhinayak Jay Hai	Rabindranath Tagore
Sarfaroshi Ki Tamanna Ab Hamare Dil Me Hai	Pandit Ram Prasad Bismil
Swaraj Hamara Janamsidh Adhika Hai, Aur	Lokmanya Bal Gangadhar Tilak
Main Ise Lekar Rahunga (Swarajya is my birthright, and I shall have it)	
Sare Jahan Se Accha Hindustan Hamara	Iqbal
Samuhca Bharat Ek Vishal Bandigrah Hai	RC Das
Simon Go Back	Lajpat Rai
Satyamev Jayate	Pt. Madan Mohan Malviya
Jai Jawan Jai Kisan	Lal Bahadur Shastri
Araam Haraam Hai	Pt. Jawahar Lal Nehru
Main Apni Jhansi Nahi Doongi	Rani Laxmibai
Dushman Ki Goliyon Ka Hum Saamna Karenge,	Chandra Shekhar Azad
Azaad hi Rahe Hai, Azaad Hi Rahenge	
Jai Jawan, Jai Kisan, Jai Vigyan	Atal Bihari Vajpayee
Garihi Hatao	Indira Gandhi
Ma Mati Manush	Mamta Banerjee
Indira Hatao Desh Bachao	Jaiya prakash Narayan
Hindi-Chini Bhai-Bhai	Jawaharlal Nehru
Back to Vedas	Swami Dayanand Saraswati
One religion, One caste and One God for Mankind	Narayan Guru
Kings are made for the people, not people for their Kings	Dadabhai Naoroji

# World Panorama

## WORLD COUNTRIES, CAPITAL, LANGUAGE & THEIR CURRENCY

<b>Country</b>	<b>Capital</b>	<b>Chief Language</b>	<b>Currency</b>
Afghanistan	Kabul	Pushtu Dari	Afghani
Algeria	Algiers	Arabic, French	Algerian Dinar
Argentina	Buenos Aires	Spanish	Argentine Peso
Australia	Canberra	English	Australian Dollar
Azerbaijan	Baku	Azeri	Manat
Bahrain	Manama	Arabic, English	Bahraini Dinar
Bangladesh	Dhaka	Bangla	Taka
Belgium	Brussels	Flemish (Dutch), French, German	Euro
Bhutan	Thimphu	Dzongkha	Ngultrum
Bolivia	La Paz; Sucre	Aymara Spanish, Quechua	Boliviano
Bosnia and Herzegovina	Sarajevo	Serbo-Croatian	Conv. Mark
Brazil	Brazilia	Portuguese	Real
Bulgaria	Sofia	Bulgarian	Lev
Burkina Faso	Ouagadougou	French	Franc
Cambodia	Phnom-Penh	Khmer	Riel
Canada	Ottawa	French, English	Canadian Dollar
Chile	Santiago	Spanish	Peso
China	Beijing	Chinese (Mandarin)	Yuan
Colombia	Bogota	Spanish	Peso
Congo Formerly Zaire	Kinshasa	French	Congolese Franc
Costa Rica	San Jose	Spanish	Colon
Croatia	Zagreb	Croatian	Kuna
Cuba	Havana	Spanish	Peso
Czech Republic	Prague	Czech	Koruna
Denmark	Copenhagen	Danish	Krone
Ecuador	Quito	Spanish	United States dollar
Egypt	Cairo	Arabic	Egyptian Pound
Ethiopia	Addis Ababa	Amharic	Birr
Fiji	Suva	English	Fijian Dollar
Finland	Helsinki	Finnish, Swedish	Euro
France	Paris	French	Euro
French Guiana	Cayenne	French	Euro

<b>Country</b>	<b>Capital</b>	<b>Chief Language</b>	<b>Currency</b>
Georgia	Tbilisi	Georgian	Lari
Germany	Berlin	German	Euro
Ghana	Accra	English	Ghana Cedi
Greece	Athens	Greek	Euro
Guatemala	Guatemala City	Spanish	Quetzal
Guyana	Georgetown	English	Guyana Dollar
Haiti	Port-au-Prince	French	Gourde
Honduras	Tegucigalpa	Spanish	Lempira
Hong Kong	Victoria	English, Chinese	Hong Kong Dollar
Hungary	Budapest	Hungarian	Forint
India	New Delhi	Hindi (official), English and 22 officially recognised regional languages	Rupee
Indonesia	Jakarta	Bahasa Indonesian, Dutch, English Javanese	Rupiah
Iran	Tehran	Persian (Farsi), Turk, Kurdish, Arabic	Rial
Iraq	Baghdad	Arabic, Kurdish	Iraqi Dinar
Ireland	Dublin	Irish, English	Euro
Israel	Jerusalem	Hebrew, Arabic	Shekel
Italy	Rome	Italian	Euro
Japan	Tokyo	Japanese	Yen
Jordan	Amman	Arabic, English	Jordan Dinar
Kazakhstan	Astana	Kazakh, Russian, German	Tenge
Kenya	Nairobi	Kiswahili, English, Kikuyu	Shilling
Korea, North	Pyongyang	Korean	Won
Korea, South	Seoul	Korean	Won
Kuwait	Kuwait city	Arabic, English	Kuwait Dinar
Lebanon	Beirut	Arabic, French, English	Pound
Libya	Tripoli	Arabic	Libyan Dinar
Luxembourg	Luxembourg	French, German, English, Luxembourgish	Euro
Malaysia	Putrajaya (formerly Kuala Lumpur)	Malay, English, Chinese, Tamil	Ringgit
Mauritius	Port Louis	English, French, Creole, Hindustani	Rupee Mauritian
Mexico	Mexico city	Spanish, Amerindian languages	Mexico Peso
Mongolia	Ulan Bator	Mangolian	Togrog

<b>Country</b>	<b>Capital</b>	<b>Chief Language</b>	<b>Currency</b>
Myanmar	Naypyidaw or Pyinmana (formerly Yangon)	Burmese and tribal languages	Kyat
Netherlands	Amsterdam	Dutch	Euro
New Zealand	Wellington	English and Maori dialect	New Zealand Dollar
Nigeria	Abuja	English, Hausa, Ibo, Yoruba	Naira
Norway	Oslo	Norwegian	Krone
Oman	Muscat	Arabic	Omani Rial
Pakistan	Islamabad	Urdu, Punjabi, Sindhi, Pushtu, Baluchi, Brahvi, English	Pakistani Rupee
Peru	Lima	Spanish, Quechua, Aymara	Nuero Sol
Philippines	Manila	Filipino, English, Spanish	Peso
Poland	Warsaw	Polish	Zloty
Portugal	Lisbon	Portuguese	Euro
Qatar	Doha	Arabic, English	Riyal (QAR)
Russia	Moscow	Russian	Russian ruble
Saudi Arabia	Riyadh	Arabic	Rial (SAR)
Serbia	Belgrade	Serbo-Croatian (official), Albanian	Dinar
Singapore	Singapore city	Malay, Chinese, Tamil, English	Singapore Dollar
Somalia	Mogadishu	Arabic, English, Italian	Somali Shilling
South Africa	Capetown	Afrikaans, English	Rand
Spain	Madrid	Spanish, Catalan, Basque, Galician	Euro
Sri Lanka	Colombo	Sinhala, Tamil, English	Sri Lankan Rupee
Sudan	Khartoum	Arabic, English, Dinka, Nubian	Sudanese Pound
Sweden	Stockholm	Swedish	Krona
Switzerland	Bern	German, French, Italian, Romansch	Swiss Franc
Syria	Damascus	Arabic, Kurdish, Armenian	Syrian Pound
Taiwan	Taipei	Mandarian Chinese, Taiwan, Hakka dialects	New Taiwan Dollar
Thailand	Bangkok	Thai, Chinese, English, Malay	Thai Baht
Tunisia	Tunis	Arabic, French	Dinar
Turkey	Ankara	Turkish, Kurdish, Arabic	Turkish Lira
Uganda	Kampala	English, Luganda, Swahili	Ugandan Shilling
United Arab Emirates	Abu Dhabi	Arabic	Dirham

Country	Capital	Chief Language	Currency
United Kingdom	London	English, Welsh, Scots, Gaelic	Pound Sterling
United States of America	Washington D.C.	English	Dollar
Venezuela	Caracas	Spanish	Bolivar
Vietnam	Hanoi	Vietnamese, French, English, Chinese	Dong
Yemen	Sana'a	Arabic	Rial
Zimbabwe	Harare	English, Shona, Ndebelo	Dollar (ZWD)

### NATIONAL ANIMALS OF THE MAJOR COUNTRIES

Country	Animals	Country	Animal
Afghanistan	Snow Leopard	Nepal	Cow
Albania	Golden Eagle	New Zealand	Kiwi
Australia	Kangaroo	Pakistan	Markhor
Bangladesh	Royal Bengal tiger	South Africa	Springbok
Brazil	Macaw	Spain	Bull
Canada	North American beaver	United Kingdom	Barbary Lion
China	Panda, Red Crowned Crane	United States	Bald Eagle
Denmark	Mute Swan	India	Bengal Tiger
Japan	Green Pheasant	Kuwait	Camel
Myanmar	Tiger	Belgium	Lion

### OFFICIAL BOOKS

**Blue Book :** An official report of the British Government

**Green Book :** An official publication of Italy and Persia

**Grey Book :** An official reports of the Government of Japan and Belgium

**Orange Book :** An official Publications of the Government of Netherlands

**White Book :** An official Publications of China, Germany and Portugal

**Yellow Book :** French official Book

**White Paper :** An official paper of the Government of Britain and India on a particular issue

**Red Data Book :** Russian official book which contains lists of species whose continued existence is threatened.

### INTERNATIONAL AWARDS

#### **Nobel Prize**

- It was set up in 1895 under the will of **Alfred Nobel**.
- The Nobel prizes are presented annually on 10 December (The death anniversary of the founder).
- It is given in the fields of **Peace, Literature, Physics, Chemistry, Physiology or Medicine** (from 1901) and **Economics** (from 1969).

<b>Nobel Prize (Indian/Indian origin)</b>	
1913: Literature:	Rabindranath Tagore; was the first Asian to win the prize
1930: Physics:	C. V. Raman
1968: Medicine:	Har Gobind Khorana; US citizen of Indian origin
1979: Peace:	Mother Teresa; Indian citizen of Albanian origin
1998: Economics:	Amartya Sen
2009: Chemistry:	Venkatraman Ramakrishnan; US citizen of Indian origin
2014: Peace:	Kailash Sathyarthi

### Pulitzer Prize

- Instituted in 1917 and named after US publisher **Joseph Pulitzer**.
- It is conferred annually in the United States for the accomplishments in journalism, literature and music.

### Magsaysay Awards

- Instituted in 1957. Named after **Ramon Magsaysay**, the former President of Philippines.
- The award is given annually on August 31, the birth anniversary of Magsaysay, for outstanding contributions in Public service, Community Leadership, Journalism, Literature & Creative Arts and International Understanding.

### Man Booker Prize

- Instituted in 1968, is the highest

literary award of the world, set up by the **Booker Company** and the British Publishers Association along the lines of the Pulitzer Prize of USA.

### Right Livelihood Award

- The Right Livelihood Award was established in 1980.
- It is also referred as "Alternative Nobel Prize".
- It is given to honour those "working on practical and exemplary solutions to the most urgent challenges facing the world today."

### Oscar Awards

- Instituted in 1929, are conferred annually by the **Academy of Motion Pictures, Arts and Sciences**, USA, in recognition of outstanding contribution in the various fields of film making.

### UN Human Rights Award

- Instituted in 1966, this award is given every 5 years for individual contributions to the establishment of human rights.

### UNESCO Madanjeet Singh Prize

- Instituted by UNESCO (1995) for the promotion of tolerance and non-violence on the occasion of the UN Year of Tolerance and the 125th birth Anniversary of Mahatma Gandhi funded by a donation from Madanjeet Singh.

## WORLD'S MOST POWERFUL INTELLIGENCE AGENCIES

Detective Agency	Country	Detective Agency	Country
Ministry of State Security	China	VAJA	Iran
Australian Secret Intelligence Service (ASIS)	Australia	MOSSAD	Israel
FSB	Russia	Egyptian Homeland Security	Egypt
State Security Agency	South Africa	PSIA	Japan
Inter Service Intelligence (ISI)	Pakistan	Iraqi National Intelligence Service	Iraq

MI (Military Intelligence) 5 and 6, Special Branch, Joint Intelligence org	UK	Central Intelligence Agency (CIA), Federal Bureau of investigation (FBI)	USA
Research and Analysis wing (RAW), Intelligence Bureau (IB)	India	DGSE (Direction General Dela Securite Exterieure	France

**FATHER OF VARIOUS FIELDS**

Field	Father	Field	Father
Atom Bomb	Dr. Robert Oppenheimer	Computer	Charles Babbage
Aviation	Sir George Cayley	Biology	Aristotle
Chemistry	Robert Boyle	Microbiology	Louis Pasteur and Robert Koch
Comedy	Aristophanes	Political Science	Aristotle
Economics	Adam Smith	Modern Philosophy	Rene Descartes
English Poetry	Geoffrey Chaucer	Psychology	Wilhelmm Wundt
Greek Tragedy	Aeschylus	Modern Observational Astronomy	Galileo Galilei
Immunology	Edward Jenner	Modern Physics Science	Galileo Galilei
Modern Chemistry	Antoini Lavoisier	Modern Science	Galileo Galilei
Nuclear Physics	Ernest Rutherford	Nano technology	Richard Smalley
Sanskrit Grammar	Panini	Indian Nuclear Science	Homi Jehangir Bhabha
Geography	Eratosthenes	Anatomy	Andreas Vesalius
Sociology	Auguste Comte	Geometry	Euclid
Mathematics	Archimedes	Internet	Vinton Cerf

**ADDITIONAL FACTS**

- The largest coffee growing country in the World is - **Brazil**
- The biggest delta in the World is the - **Sunderbans**
- The Japanese call their country as - **Nippon**
- The biggest Island of the World is - **Greenland**
- The river which carries maximum quantity of water into the sea is the - **Mississippi**
- Mount Everest was named after Sir George - **Everest**
- The biggest stadium in the world is the - **Strahov Stadium, Prague**
- The world's largest diamond producing country is - **South Africa**
- The Eggel tower was built by - **Alexander Eiffel**
- The Red Cross was founded by - **Jean Henri Durant**
- The permanent secretariat of the SAARC is located at - **Kathmandu**
- The earlier name of Sri Lanka was **Ceylon**
- The founder of the Republic of China was - **San Yat Sen**

## FIRST IN THE WORLD

The first person to reach Mount Everest	Sherpa Tenzing, Edmund Hillary
The first person to reach North Pole	Robert Peary
The first person to reach South Pole	Amundsen
The first religion of the world	Hinduism
The first country to print book	China
The first country to issue paper currency	China
The first country to commence competitive examination in civil services	China
The first President of the U.S.A	George Washington
The first Prime Minister of Britain	Robert Walpole
The first Secretary General of the United Nations	Trygve Lie
The first country to win football World cup	Uruguay
The first country to prepare a constitution	U.S.A
The first Governor General of Pakistan	Mohd. Ali Jinnah
The first country to host NAM summit	Belgrade (Yugoslavia)
The first European to attack India	Alexander, The Great
The first European to reach China	Marco Polo
The first person to fly aeroplane	Wright Brothers
The first person to sail round the world	Magellan
The first country to send man to the moon	U.S.A
The first country to launch Artificial satellite in the space	Russia
The first country to host the modern Olympics	Greece
The first city on which the atom bomb was dropped	Hiroshima (Japan)
The first person to land on the moon	Neil Armstrong followed by Edwin E. Aldrin
The first shuttle to go in space	Columbia
The first spacecraft to reach on Mars	Viking-I
The first woman Prime Minister of England	Margaret Thatcher
The first Muslim Woman Prime Minister of a country	Benazir Bhutto (Pakistan)
The first woman Woman Prime Minister of a country	Mrs. S. Bandamaike (Sri Lanka)
The first woman to climb Mount Everest	Mrs. Junko Tabei (Japan)
The first woman cosmonaut of the world	Valentina Tereshkova (Russia)
The first woman President of the U.N. General Assembly	Vijaya Lakshmi Pandit
The first man to fly into space	Yuri Gagarin (Russia)

The first batsman to score three test century in three successive tests on debut	Mohd. Azharuddin
The first man to have climbed Mount Everest twice	Nawang Gombu
The first U.S. President to resign Presidency	Richard Nixon

### SUPERLATIVES

Tallest Animal on (land)	Giraffe
Biggest Bell	Great Bell at Moscow
Fastest Bird	Swift
Largest Bird	Ostrich
Smallest Bird	Humming Bird
Longest Bridge (Railway)	Lower Zambezi (Africa )
Tallest Building	Burj Khalifa, Dubai (U.A.E)
Tallest Office Building	Patronas Twin Towers Kuala Lumpur (Malaysia)
Longest Big Ship Canal	Seuz Canal (Linkin red sea & Mediterranean)
Busiest Canal (Ship)	Baltic White Sea Canal (152 miles)
Biggest Cinema House	Roxy (New York)
Highest City	Wen Chuwan (Tibet, China) 16,732 ft.
Largest City (in population)	Tokyo [(3,42,00000), Est. population in 2006]
Biggest City in (area)	Mount Isa, Queensland, Australia (41225 sq. km.)
Largest Continent	Asia
Smallest Continent	Australia
Largest Country (in population)	China
Largest Country (in area)	Russia
Largest Coral Formation	The Great Barrier Reef (Australia)
Largest Dam	Grand Coulee- Concrete Dam (U.S.A)
Longest Day	June 21 (in Northern Hemisphere)
Shortest Day	Dec. 22(in Northern Hemisphere)
Largest Delta	Sundarbans, India (8000 sq. miles)
Longest Desert (World)	Sahara, Africa (84, 00,000 sq. km.)
Largest Diamond	The Cullinan (over 1 ½ 1b.)
Biggest Dome	Gol Gumbaz (Bijapur), (Old archi) 144 ft. diameter.
Biggest Dome (New Archi)	Astrodome, Sports
Longest Epic	The Mahabharata
Largest Island	Greenland (renamed Kalaallit Nunaat)
Largest Lake (Artificial)	Lake Mead (Boulder)
Deepest Lake	Baikal (Siberia); average depth 2300 ft.
Highest Lake	Titicaca (Bolivia) 12645 ft. above sea level.
Largest Lake (Fresh Water)	Lake Superior, U.S.A
Largest Lake (Salt Water)	Caspian Sea 3, 71,000 sq. km.)

Largest Mosque	Masjid-al-Haram (Mecca-Saudi Arabia) surrounds the Kaaba
Biggest Library	National Kiev Library, Moscow & Library of the Congress, Washington)
Highest Mountain peak (World)	Mt. Everest, Himalayas
Longest Mountain Range	Andes (S. America) 5,500 miles in length
Biggest Museum	British Museum (London)
Tallest Minaret (Free Standing)	Qutub Minar, Delhi 238 ft.
Tallest Minaret	Great Hassan Mosque, Casablanca, Morocco
Deepest & Biggest Ocean	The Pacific
Largest Palace	Imperial Palace (Gugong), Beijing (China)
Largest Park	National Park, Greenland
Largest Peninsula	Arabic (32,50,000 sq. km.)
Coldest Place or Region	Verkhoyansk (Syberia), Temperature - 85° C
Driest Place	Death Valley (California); rainfall 1 ½ inch.
Hottest Place (World)	Al-Aziziyah (Libya, Africa) 136°F
Largest Planet	Jupiter
Brightest and Hottest Planet (also nearest to Earth)	Venus
Farthest planet (from the Sun)	Neptune
Nearest Planet (to the Sun)	Mercury
Smallest Planet	Mercury
Highest Plateau	Pamir (Tibet)
Longest Platform (Railway)	Kharagpur W.B, India (833m)
Largest Platform (Railway)	Grand Central terminal, New York (U.S.A)
Largest Port	Port of New York & New Jersey (U.S.A)
Busiest Port	Rotterdam (the Netherlands)
Longest Railway	Trans-Siberian Railway (6,000 miles Long)
Longest River	Nile (6690 km), Amazon (6570 km.)
Longest River Dam	Hirakund Dam (Odisha), India 15.8 miles.
Largest sea-bird	Albatross
Largest Sea (inland)	Mediterranean Sea
Brightest Star	Sirius (also called Dog star)
Tallest statue	Statue of Liberty, New York (U.S.A), 150 ft. high.
Tallest Statue (Bronze)	Bronze Statue of Lord Buddha, Tokyo (Japan).
Longest Swimming Course	English Channel
Tallest Tower	C.N Tower Toronto (Canada)
Longest Train nonstop	Flying Scoutsman
Longest Tunnel (Railway)	Seikan Rail Tunnel (Japan), (53.85 km.)

Longest & Largest Canal Tunnel	Le Rove Tunnel (South of France)
Longest Tunnel (Road)	Laerdal, Norway
Highest Volcano	Ojos Del Salado, Andes Argentine-Chile (6,885 m.)
Largest Volcano	Mauna Lao (Hawaii)
Longest Wall	Great Wall of China (1500 miles)
Highest Waterfall	Salto Angel Falls (Venezuela)
Longest Strait	Tartar Strait (Sakhalin Island & the Russian mainland)
Broadest Strait	Davis Straits (Greenland & Baffin Island, (Canada)
Narrowest strait	Chaliks-45 yards (Between the Greek mainland the island of Euboea in the Aegean Sea)
Largest Bay	Hudson Bay, Canada (Shore line 7623 miles)
Largest Gulf	Gulf of Mexico,( shoreline 2100 miles)
Largest Archipelago	Indonesia (over 3,000 Islands)
Tallest Active Geyser	Giant (Geyser ) Yellowstone Park, U.S.A 200 ft. high
Largest River Basin	Amazon Basin- 27, 20,000 sq. mile.
World Rainiest Spot	Cherrapunji (Mawsynram), India
Largest Gorge	Grand Canyon, on the Colorado River, U.S.A
Lightest gas	Hydrogen
Lightest Metal	Lithium
Highest Melting Point	Tungsten, 3,410°C
Hardest Substance	Diamond
Longest Animal	Blue Whale, (recorded length 106 ft. weight-195 tons)
Longest Life Span of an Animal	190 to 200 years, (Giant tortoise)
Largest Land Animal	African Bush Elephant
Fastest Animal	Cheetah (Leopard ) 70 m.p.h
Longest Jump Animal	Kangaroo
Longest wing Spread Bird	Albatross
Slowest Animal	Snail
Domestic Dog	Irish Wolf Hound
Fastest Dog	Persian Grey Hound (speed 43 m.p.h)
Longest poisonous snake	King Cobra
Biggest Flower	Rafflesia (Java)
Largest Stadium	Strahov stadium in Prague, (the Czech Republic)
Largest Church	Basilica of St. Peter, Vatican City, Rome, Italy
Largest Temple	Angkor Vat (Cambodia)
Largest Diamond mine	Kimbarley (S. Africa)
Largest River in volume	Amazon, Brazil
Longest Corridor	Rameshwaram Temple's Corridor (5000 ft.)

Highest Straight Dam	Bhakra Dam
Highest Capital City	La Paz (Bolivia)
Largest Asian Desert	Gobi, Mongolia
Largest Democracy	India
Longest Thoroughfare	Verazano-Narrows, New York City Harbour
Largest Neck Animal	Giraffe
Largest Animal of the Cat Family	Lion
Most Intelligent Animal	Chimpanzee
Bird, that never makes its nests	Cuckoo
Wingless Bird	Kiwi
Reptile which changes its colours	Chameleon
Largest Mammal	Whale

### FAMOUS LANDMARKS AROUND THE WORLD

- The **Statue of Liberty** in New York: USA
- The **Eiffel tower** in Paris: France
- St. **Basil's Cathedral** in Moscow: Russia
- The **Great Sphinx** at Giza, The Pyramids of Giza: Egypt
- Neptune and the **Place of Versailles**: France
- The **Great wall** of China: China
- The **Taj Mahal** in Agra: India
- Christ the **Redeemer**: Rio de Janeiro
- Mecca**: Saudi Arabia
- Brandenburg** Gate in Berlin: Germany

- Acropolis** of Athens: Greece
- Niagara** Falls: Border of Ontario (Canada) and New York (USA)
- Angkor Wat**: Cambodia
- St. Peter's Cathedral**: Vatican City
- Mount **Rushmore**: South Dakota
- The Grand **Canyon**: Arizona
- Sydney **Opera House**: Australia
- Forbidden City**: Beijing
- The **Colosseum**: Rome, Italy
- The **Empire State Building**: New York
- Abu Simbel**: Egypt
- Tower of Pisa**: Italy
- The **Burj al Arab Hotel**: Dubai
- Stonehenge: Wiltshire, United Kingdom
- Big Ben**: London

### THE NATIONAL EMBLEMS OF DIFFERENT COUNTRIES

Country	Emblem	Country	Emblem
Australia	Kangaroo	Bangladesh	Water Lily
Barbados	Head of a Trident	Belgium	Lion
Canada	White Lily	Chile	Candor & Huemul
Denmark	Beach	Dominica	Sisserou Parrot
France	Lily	Germany	Corn Flower
Guyana	Canje Pheasant	Hong Kong	Bauhinia (Orchid Tree)
India	Lion	Iran	Rose
Ireland	Shamrock	Israel	Candelabrum

<b>Italy</b>	White Lily	<b>Ivory Coast</b>	Elephant
<b>Japan</b>	Chrysanthemum	<b>Lebanon</b>	Cedar Tree
<b>Luxembourg</b>	Lion with Crown	<b>Mongolia</b>	The Soyombo
<b>Netherlands</b>	Lion	<b>New Zealand</b>	Southern Cross, Kiwi, Fern
<b>Norway</b>	Lion	<b>Pakistan</b>	Crescent
<b>Papua New Guinea</b>	Bird of paradise	<b>Spain</b>	Eagle
<b>Sierra Leone</b>		<b>Sierra Leone</b>	Lion
<b>Sri Lanka</b>	Lion	<b>Sudan</b>	Secretary Bird
<b>Syria</b>	Eagle	<b>Turkey</b>	Crescent & Star
<b>U.K.</b>	Rose		

## IMPORTANT DAYS OF THE YEAR

### JANUARY

Louis Braille Day	January 4
Pravasi Bharatiya Day	January 9
World Laughter Day	January 10
National Youth Day	January 12
Army Day	January 15
Girl Child Day (India)	January 24
Indian Tourism Day	January 25
National Voters Day	January 25
International Customs and Excise Day	January 26
Republic Day	January 26
Leprosy Prevention Day	January 30
Martyrs' Day	January 30
World Leprosy Eradication Day	January 31

### FEBRUARY

World Marriage Day	2nd Sunday of February
World Cancer Day	February 4
International Mother Tongue Day	February 21
Central Excise Day	February 24
National Science Day	February 28
World Marriage Day	1st Sunday of February

### MARCH

National Defence Day	March 3
National Safety/Security Day	March 4
International Women's Day	March 8
World Kidney Day	2nd Thursday of March
CISF Day	March 12
World Consumers' Rights Day	March 15
National Vaccination Day	March 16

World Forestry Day	March 21
World Day for Water	March 22
World Meteorological Day	March 23
World TB Day	March 24

**APRIL**

National Maritime Day	April 5
World Health Day	April 7
World Homeopathy Day	April 10
Jallianwallah Bagh Massacre Day (1919)	April 13
World Hemophilia Day	April 17
World Heritage Day	April 18
Indian Civil Service Day	April 21
World Earth Day	April 22
World Book and Copyright Day	April 23
World Malaria Day	April 25

**MAY**

International Labour Day	May 1
World Press Freedom Day	May 3
International Energy Day	May 3
World Asthma Day	1st Tuesday of May
World Family Day	May 8
International Red Cross Day	May 8
World Thalassemia Day	May 9
National Technology Day	May 11
International Nurses Day/World Hypertension Day	May 12
World Migratory Bird Day	May 14
International Family Day	May 15
World Telecom Day/World Information Day	May 17
Anti-terrorism Day	May 21
International Day for Biological Diversity	May 22
Commonwealth Day	May 24
World Thyroid Day	May 25
World No-Tobacco Day	May 31

**JUNE**

International Children's Day/World Milk Day	June 1
International Day of Innocent Children victims of Aggression	June 4
World Environment Day	June 5
World Day Against Child Labour	June 12
World Blood Donor Day	June 14
World Day to Combat Desertification and Drought	June 17
World Refugee Day	June 20

International Yoga Day	June 21
International Window's Day	June 23
International Day Against Drugs Abuse and Illicit Trafficking	June 26
National Diabetes Day	June 27
National Statistics Day	June 29

**JULY**

Vanmahotsava Day	July 1
National Doctor's Day	July 1
World Population Day	July 11
Kargil Victory Day	July 26
World Hepatitis Day	July 28
International Tiger Day	July 29

**AUGUST**

World Breast Feeding Day	August 1
Hiroshima Day	August 6
National Handloom Day	August 7
International Day of Indigenous People/Nagasaki Day	August 9
Quit India Movement Day	August 9
International Youth Day	August 12
World Organ Donation Day	August 13
India's Independence Day	August 15
World Humanitarian Day	August 19
World Photography Day	August 19
World Mosquito Day/Sadbhavana Day	August 20
National Sports Day	August 29
Small Industry Day	August 30

**SEPTEMBER**

India's Teacher's Day	September 5
International Literacy Day	September 8
World Suicide Prevention/Abolition Day	September 10
Hindi Day	September 14
World First Aid Day	September 14
World Ozone Day	September 16
World Water Monitoring Day	September 18
Wife Appreciation Day	3rd Sunday of September
World Alzheimer's Day/International Day of Peace	September 21
Social Justice Day	September 25
Day of the Deaf	September 26
World Tourism Day	September 27
World Rabies Day	September 28
World Heart Day	September 29

**OCTOBER**

World Habitat Day	1st Monday of October
World Vision Day	2nd Thursday of October
International Day for the Elderly (UN)	October 1
International Day of Non-violence	October 2
Gandhi Jayanti	October 2
World Nature Day	October 3
World Habitat Day	October 3
World Animal Welfare Day	October 4
World Teacher's Day	October 5
World Wildlife Day	October 6
World Food Security Day	October 6
World Elderly Day	October 7
Air Force Day	October 8
World Postal Day	October 9
World Mental Health Day	October 10
Natioal Postal Day	October 10
World Sight Day	October 12
International Day for Disaster Reduction	October 13
World Calamity Control Day (UN)	October 13
World Standard Day	October 14
World White Cane Day	October 15
International Poverty Day	October 17
World Statistics Day/National Solidarity Day	October 20
United Nations Day	October 24
World ThriftDay	October 30

**NOVEMBER**

Infant Protection Day	November 7
World Cancer Awareness Day	November 7
Legal Service Day	November 9
Malala Day	November 10
Transport Day	November 10
National Education Day	November 11
World Diabetes Day	November 14
Children's Day	November 14
World Tolerance Day	November 16
Water Conservation Day/National Integration Day	November 19
Universal Children Day	November 20
World Television Day	November 21
National Law Day	November 26

**DECEMBER**

World AIDS Day	December 1
International Day for the Abolition of Slavery	December 2
World Day of the Handicapped	December 3
World Disabled Day	December 3
Navy Day	December 4
Armed Force Flag Day	December 7
International Anti-Corruption Day (UN)	December 9
International Day of Broadcasting	December 10
Human Rights Day	December 10
International Mountain Day	December 11
UNICEF Day	December 11
National Energy Conservation Day	December 14
International Migrants Day	December 18
Minorities Rights Day	December 18
Farmer's Day (Kisan Divas)	December 23

# History

## Pre Historic Ages

### Stone Age

- Pre - historic period is divided into three sections- Stone age, Bronze age and Iron age.
- **Stone age** is divided into three periods i.e. Palaeolithic Age, Mesolithic Age and Neolithic Age.
- **Lower Palaeolithic Age** covers the greater part of the Ice Age.
- The people of this age used to eat fruits, birds, raw animal flesh etc.
- The tools were usually made of hard rock.
- In **Middle Palaeolithic age**, a change occurred in the shape of tools which were made of stones or bones.
- In **Upper Palaeolithic age**, human lived as nomadic hunter and gatherers.
- **Mesolithic Age** was an intermediate stage in the stone age. It ended with the introduction of **agriculture**.
- **Neolithic age** was an age of **polished tool** culture.
- Tool making became an important profession and a variety of polished tools were manufactured.
- They learnt the art of **pottery** and their pots were well made and decorated with **paintings**.
- They discovered the art of producing **fire** by the friction of stones and the **wheel** was also an important discovery of this age.

### Chalcolithic Age

- Chalcolithic Age is marked by the use of copper as **copper age**.
- The economy was based on subsistence agriculture, stock-raising, hunting and fishing.

- Neither they milked animals for dairy products.
- It was a transitional stage when both **bronze**, **copper** and **stone** tools were used and humans started living **settled life**.

### Bronze Age

- It began with the development of Indus valley civilization around 3000 BC and continued up to 1300 BC.
- People started using weapons and agricultural tools made of **Bronze**, an **alloy of copper and tin**.
- It had opened the **trade networks** of Mesopotamia civilization to reach out in various directions.
- The age came to an end primarily because of the fact that the metals used as alloy in manufacturing bronze were not very common and widely found. More over the expenses of making bronze were high at that time.

### Iron Age

- It was the last principal period among the three-age system of prehistoric societies, preceded by the Bronze age.
- The development of this era was due to the weapons and tools made by iron. Other changes in the society such as agricultural practices, religious belief and inclinations towards art were started.
- The age began in the 6th century BCE in northern Europe and 8th century BCE in central Europe and by 12th century BCE in the East, i.e. ancient Iran, ancient India, and ancient Greece.

- In India the late **Harappan Culture** was marked with the Iron Age archaeological cultures of India with emphasis given on the **Painted Grey Ware** culture (1200 to 600 BCE) and the Northern Black Polished Ware (700 to 200 BCE).

### Indus Valley Civilization

Indus Valley Civilization was the most ancient urban civilization in this world which flourished on the bank of Indus River during Bronze Age Period. The important cities under this civilizations were :

**IMPORTANT SITES OF INDUS VALLEY CIVILIZATION**

Name of Sites	Year of Excavation	Excavators	Features
<b>Harappa Punjab (Pakistan) River Ravi</b>	1921	Daya Ram Sahni, Madho Sarup Vatsa, Wheeler	<ul style="list-style-type: none"> <li>City followed grid planning</li> <li>Row of six granaries</li> <li>Only place having evidences of coffin burial</li> <li>Evidence of fractional burial and coffin burial</li> <li>Cemetery-H of alien people.</li> <li>Virgin-Goddess (Seal)</li> <li>Stone symbol of Lingam and Yoni</li> <li>Painted Pottery</li> </ul>
<b>Mohenjodaro Sindh (Pakistan) River Indus</b>	1922	R.D. Banerjee, Mackay, Wheeler	<ul style="list-style-type: none"> <li>Great Granary, Great Bath Assembly hall</li> <li>Pashupati Mahadeva Seal</li> <li>Bronze image of nude woman dancer</li> <li>Human Skeltons huddled together</li> <li>Clay figures of Mother Goddess</li> <li>A fragment of woven cotton</li> <li>Brick Kilns and Dice</li> </ul>
<b>Chanhudaro Sindh (Pakistan) River Indus</b>	1931	N. Gopal Majumdar, Mackay	<ul style="list-style-type: none"> <li>A city without citadel</li> <li>Inkpot, Lipstick</li> <li>Shell ornament makers' shop and bead makers' shop</li> <li>Footprint of dog on a brick</li> <li>Terracotta model of a bullock cart, Bronze toy cart</li> <li>Town was flooded more than seven times.</li> </ul>

<b>Kalibangan Rajasthan (India) River Ghaggar</b>	1953	A. Ghosh, B.V. Lal, B.K. Thapar	<ul style="list-style-type: none"> <li>Shows both Pre Harappan and Harappan phase</li> <li>Evidence of furrowed land</li> <li>Evidence of seven fire altars and camel bones</li> <li>Many houses had their own well</li> <li>Kalibangan stand for black bangles</li> <li>Evidence of wooden furrow</li> </ul>
<b>Lothal Gujarat (India) River Bhogava</b>	1953	S.R. Rao	<ul style="list-style-type: none"> <li>A titled floor which bears intersecting design of circles</li> <li>Remains of rice husk</li> <li>Evidence of horse from a terracotta figurine</li> <li>A ship designed on a seal</li> <li>Beads &amp; trade ports</li> <li>An instrument for measuring angles, pointing to modern day compass</li> <li>Dockyard</li> </ul>
<b>Banwali Hisar Haryana</b>	1974	R.S. Bisht	<ul style="list-style-type: none"> <li>Shows both Pre-Harappan and Harappan phase</li> <li>Good quantity of barley found here</li> </ul>
<b>Amri Sindh</b>	1935	N.G. Majumdar	<ul style="list-style-type: none"> <li>Evidence of antelope</li> </ul>
<b>Dholavira Gujarat</b>	1985-90	R.S. Bisht	<ul style="list-style-type: none"> <li>Seven cultural stages</li> <li>Largest site</li> <li>Three part of city</li> <li>Unique water management</li> </ul>
<b>Rangpur Gujarat River Mahar</b>	1953	M.S. Vats, B.B. Lal & S.R. Rao	<ul style="list-style-type: none"> <li>Rice was cultivated</li> </ul>
<b>Ropar Punjab River Sutlej</b>	1953	Y.D. Sharma	<ul style="list-style-type: none"> <li>Evidence of burying a dog below the human burial</li> <li>One example of rectangular mudbrick chamber was noticed</li> <li>Five fold cultures - Harappan, PGW, NBP, Kushana - Gupta and Medieval</li> </ul>
<b>Alamgirpur Ghaziabad</b>	1958	Y.D. Sharma	<ul style="list-style-type: none"> <li>The impression of cloth on a trough is discovered</li> <li>Usually considered to be the eastern boundary of the Indus culture</li> </ul>

### Gautama Buddha

He was the founder of Buddhism. He was born in 563 BC on the vaisakha purnima day at Lumbinivana, Nepal in the Sakya Kshatriya clan.

- At the age of 29, he renounced home, this was his Mahabhinish Kramana (great going forth) and became a wandering ascetic.
- After 49 days of continuous meditation under a pipal tree

at **Uruvella** (Bodh Gaya) on the bank of river **Naranjana** (modern name **Falgu**) he attained Nirvana (enlightenment).

- Buddha delivered his first sermon at **Sarnath** (Deer Park) to his five disciples, this is known as *Dharamachakra Pravartana*.
- He died at the age of 80 in 483 BC at **Kushinagar**. This is known as *Mahaparinirvana*.

### ASHOKAN 14 MAJOR ROCK EDICTS

S. No.	Informations
1.	Prohibition of animal sacrifices and festive gatherings.
2.	Measures of social welfare.
3.	Respect to Brahamanas.
4.	Courtesy to relatives, elders, consideration for animals.
5.	Appointment of Dhamma Mahamatras and their duties.
6.	Need for efficient organisation of administration (orders to Dhamma Mahamatras).
7.	Need for tolerance among all religious sects.
9	System of Dhamma-yatras.
9.	Attack on meaningless ceremonies and rituals.
10.	Conquest through Dhamma instead of war.
11.	Explanation of Dhamma-policy.
12.	Appeal for tolerance among all religious sects.
13.	Kalinga war; mention 5 contemporary Hellenic (Greek) kings.
14.	Inspiration to spend religious life.

### Bhakti Movement

- **Bhakti** means personal devotion to God. It stresses the union of the individual with God.
- **Bhakti movement** originated in South India between the 15th and the 17th centuries AD.
- The **Nayanars**, who worshipped Shiva, and the Alwars, who worshipped Vishnu, preached the idea of Bhakti.
- Saints like **Sankara**, **Ramanuja** and **Madhwa** gave their concepts of God and the individual soul.
- **Teachings of Ramanuja** were based on the **Upanishads** and **Bhagwad Gita**.
- **Ramananda** was disciple of Ramanuja. He was the first reformer to preach in Hindi.

- **Kabir** was an ardent disciple of Ramananda. He wanted unity between the Hindus and the Muslims.
- He preached that both the Hindus and the Muslims are the children of a single God.
- The devotees of Kabir were known as Kabir Panthis.
- **Namdeva** was a waterman by birth. He composed beautiful hymns in Marathi.
- **Nanak** was the founder of the Sikh religion.
- Nanak's teachings were in the form of verses. They were collected in a book called the **Adi Granth**.
- Later Adi Granth was written in a script called **Gurmukhi**.
- **Chaitanya**, a great devotee of Lord Krishna, was a saint from Bengal.
- **Meerabai** was a Rajput princess. She married the Rana of Mewar. She was a pious devotee of Lord Krishna.
- **Chatrapati Shivaji**, the great Maratha ruler, was a follower of Ramdas.
- **Tukaram** was a saint who lived in Maharashtra. He composed a large number of verses called **Abhangas**.
- **Tulsidas** composed the famous **Ramcharitamanas** in Hindi, expounding the various aspects of Hindu dharma.
- **Surdas** was a devotee of Lord Krishna and Radha. His works include **Sursagar**, **Sahitya Ratna** and **Sur Sarawali**.
- **Dadu Dayal** was a disciple of Kabir. His followers were known as Dadu Panthis.
- **Eknath** was a devotee of Vithoba. He wrote commentary on verses of the Bhagavad Gita.

### Sufi Movement

**Sufism** or **tasawwuf**, as it is called in Arabic, is generally understood by scholars and Sufis to be the inner, mystical, or psycho-spiritual dimension of Islam. Today, however, many Muslims and non-Muslims believe that Sufism is outside the sphere of Islam.

In Sufism, a perfect being is also called a **Wali (saint)**, a word that literally means 'sincere friend'. The superstructure of Sufism is built upon the concept of **teacher, pir or murshid**.

The cardinal **doctrines of the Sufism** include

1. Absorbed variety of ideas and practices from Hinduism, Christianity, Buddhism and Zorastrianism.
2. It aimed at services of mankind
3. Building cultural synthesis
4. It opposed orthodoxy and preached devotion to God
5. Discouraged materialistic life but did not support complete renunciation

These cardinal principles altogether make the **Doctrine of Fana** which means annihilation of human attributes through **Union with God**. Sufism had succeeded in inculcating the sentiments of **fraternity, equality and equity**, coupled with sense of service to humanity, in the followers, irrespective of race, community, caste, creed and colour.

**LITERATURE OF MUGHAL PERIOD**

<b>Book</b>	<b>Author</b>	<b>Contents</b>
Tuzuk-i-Baburi	Babur	Describes military tactics and administrative organisation during Babur's reign
Qanun-i-Humayu	Khwand Amair	Describes Humayun's administration, festivities and buildings of that period
Humayun Nama	Gulbadan Begum	Biography of Humayun
Akbar Nama	Abul Fazl	Gives a history of Akbar's reign
Tobaqat-i-Akbari	Khwajah Nizamuddin Ahmad Baksh	-do-
Tuzuk-i-Jahangiri	Jahangir	Memoirs of his own reign
Iqbalnama-i-Jahangiri	Muhammad Khan	History of Jahangir's reign
Chahar Chaman	Chandra Bhan Brahman	History of Shah Jahan's rule
Alamgir-nama	Munshi Mirza Muhamma Kazin	Gives an account of Aurangzeb's first 10 years of rule
Massir-i-Alamgiri	Saqi Mustaid Khan	Official history of Aurangzeb's reign written after his death
Ain-i-Akbari	Abul Fazl	History of Akbar's reign
Muntakhab-ul-Tawarikh	Badauni	History of Akbar's rule
Tawarikh-i-Alfi	Mulla Daud	-do-
Nuriyya-i-Sultaniyya	Abdul Haq	Theory of Kinship during Mughal Period
Waqt-i-Hyderabad	Nimat Khan Ali	Aurangzeb's Golconda conquest
Futuhat-i-Alamgiri	Ishwar Das	Aurangzeb's history
Nuskha-i-Dilkusha	Bhimsen Saxena	Analysis of Aurangzeb's rule and character
Khulasat-ul-Tawarikh	Sujan Raj Khatri	History of Aurangzeb's rule
Padshah Namah	Abdul Hamid Lahori	History of Shah Jahan's reign
Padshah Namah	Muhammad Waris	-do-
Shahjahan Namah	Muhammad Salih	-do-
Shahjahan Namah	Inyat Khan	-do-
Hamlai-Haidri	Muhammad Rafi Khan	History of Aurangzeb's rule

Namah-e-Alamgiri	Aquil Khan Zafar	-do-
Sirr-i-Akbar	Dara Shikoh	Urdu translation of Upanishad
Safinat-ul-Auliya	-do-	Biographies of Sufi Saints
Majma-ul-Bahrain	-do-	Philosophical ideas discussed
Raqqat-e-Alamgiri	Aurangzeb	A compendium of his letters
Hasmat-ul-Arifin	Dara Shikoh	Religious ideas discussed

SOCIAL AND CULTURAL REFORMS		
Date	Person	Event
1815	Raja Ram Mohan Roy	Established <b>Atmiya Sabha</b> . He was the first Indian to start an agitation for social, religious and political reforms.
1828	Raja Ram Mohan Roy	Established <b>Brahmo Samaj</b> to preach monotheism and purify Hinduism.
1839	Debendranath Tagore	Founded <b>Tatvabodhini Sabha</b> to propagate Ram Mohan Roy's ideas.
1850	Vidyasagar	Protest against child-marriage and promoted women education.
1850	Vishnu Shankar Pundit	Founded widow remarriage association.
1851	Naoroji Furdonji, Dadabhai Naoroji and S.S.Bengalee	Rehnumai Mazdayasan Sabha or Religious Reform Association.
1852	Kassondas Mulji	In Gujarat advocated widow remarriage.
1866	Dadabhai Naoroji	Established East India Association in London.
1872	Baba Ram Singh	Namdhari Movement originated in northwest corner of Sikh kingdom. It was also known as Kuka movement.
23 September, 1873	Mahatma Jyotirao Govindrao Phule	Formed Satyashodhak Samaj (Society of Seekers of Truth).
1875	Swami Dayanand Saraswathi	Founded <b>Arya Samaj</b> in Bombay. Called Vedas to be source of "true knowledge" and gave the motto "back to Vedas". Was against idol worship, child marriage and caste system.
1897	Vivekananda	Founded the Ramakrishna Mission to carry out humanitarian relief and social work.
1902	Swami Shraddhananda	Started Gurukul near Haridwar to propagate more traditional idea of education.

THE FREEDOM STRUGGLE TIME LINE	
1885	Pherozeshah Mehta, K.T. Telang, Badruddin Tyabji formed Bombay Presidency Association.
28 Dec. 1885	Indian National Congress was formed by <b>Allan Octavian Hume</b> .
28-31 Dec. 1885	First session of Indian National Congress was attended by 72 delegates under the presidency of <b>W.C. Bonnerjee</b> .
1896-97	<b>Bal Gangadhar Tilak</b> initiated a no-tax campaign in Maharashtra.
20 July, 1905	Partition of Bengal order was passed by <b>Lord Curzon</b> .
Dec. 1905	<b>Gokhale</b> then the president of Congress condemned the partition of Bengal and supported Swadeshi and Boycott movement.
1906	<b>Dadabhai Naoroji</b> became the president of National Congress and clearly declared their goal to be self-government or Swaraj like the other colonies.
30 Dec. 1906	<b>All India Muslim League</b> was formed by <b>Aga Khan III</b> and the founding meeting was hosted by Nawab Sir Khwaja Salimullah.
1909	The Indian Councils Act or Morley-Minto Reform was announced.
1911	Government announced the withdrawal of Partition of Bengal.
1913	<b>Ghadar Party</b> founded by Punjabi Indians in the United States and Canada aiming at securing India's independence.
April, 1915	First session of <b>Hindu Mahasabha</b> was held under the presidentship of Maharaja of Kasim Bazar.
26 Dec. 1916	<b>Lucknow Pact</b> was signed dealing with the structure of the government of India and with relation to the Hindu and Muslim communities.
1917	<b>Indigo Satyagraha</b> started by M.K. Gandhi in Champaran, Bihar.
1918	<b>Edwin Montagu</b> , then the Secretary of State and Lord Chelmsford, the Viceroy produced a scheme of constitutional reform which was called as the <b>Montague-Chelmsford</b> reforms.
1919	Enactment of the Government of India Act.
March, 1919	<b>Rowlatt Act</b> was passed which enabled government to imprison people without trial.
13 April, 1919	Unarmed crowd gathered at <b>Jallianwala Bagh</b> to protest against the arrest of <b>Dr. Saifuddin Kitchlew</b> and Dr. Satyapal was attacked by the British army as commanded by <b>General Dyer</b> .
31 August, 1920	<b>Khilafat Committee</b> launched a non-cooperation Movement.
1 February, 1922	M.K. Gandhi announced mass Civil Disobedience movement.
5 Feb. 1922	Protesters participating in the Non-cooperation Movement turned violent, leading to police opening fire in Chauri Chaura. Congress as a result halted the non-cooperation Movement.
1925	Communist Party came into existence.
Nov. 1927	Simon headed commission was set up to submit report on working of Indian constitution established by Government of India Act, 1919.

17 Nov. 1928	<b>Lala Lajpat Rai</b> died due to the injuries by the beating of local police during a protest demonstration at Lahore.
Dec. 1928	Gandhi joined back the active politics at Calcutta session.
26 Jan. 1930	Was fixed as the <b>First Independence Day</b> and since then was celebrated every year up to 1947.
Feb. 1930	Chandra Shekhar Azad was shot dead in a park called Azad Park at Allahabad, in an encounter with British police.
12 March, 1930	<b>Dandi March</b> lead by M.K. Gandhi took place. Together with 78 companions he walked 375 km from <b>Sabarmati Ashram to Dandi</b> .
6 April, 1930	Gandhi reached Dandi and broke the Salt law.
12 Nov. 1930	First round table conference was held in London, was chaired by British Prime Minister Ramsay MacDonald.
5 March, 1931	<b>Gandhi-Irwin Pact</b> was signed between Gandhi and then viceroy of India Lord Irwin. According to which British agreed to withdraw all ordinances and end prosecutions and release all political prisoners.
24 August, 1932	<b>Poona Pact</b> was signed between Gandhi and Dr. B.R. Ambedkar at <b>Yerwada Central Jail</b> .
1935	<b>Government of India Act</b> was passed according to which All India Federation was established including British India and Princely States (representative were appointed by the rulers) forming a bicameral federal legislature.
October, 1940	Gandhi gave an order for limited satyagraha (for few individuals only).
8 August, 1942	<b>Quit India Movement</b> was launched by M.K.Gandhi.
1945	Congress working committee adopted a resolution to abolish landlordism.
2 Sept. 1946	<b>Interim government</b> of India formed the newly elected Constituent Assembly of India. This idea was rejected by Muslim league.
9 Dec. 1946	The Constituent Assembly met for the first time.

#### NEWSPAPERS AND JOURNALS

Newspaper/Journal Name	Founder
Bengal Gazette (1780) (India's First Newspaper)	James Augustus Hickey.
Kesari	B.G.Tilak
Amrita Bazar Patrika	Sisir Kumar Ghosh and Motilal Ghosh
Vande Mataram	Aurobindo Ghosh, Madam Bhikaji Cama
Kavivachan Sudha	Bhartendu Harishchandra
Rast Goftar(first newspaper in Gujarati)	Dadabhai Naoroji
Statesman	Robert Knight
Hindu	Vir Raghavacharya and G.S. Aiyar
Yugantar	Bhupendranath Data and Barinder Kumar Ghosh

Bombay Chronicle	Firoze Shah Mehta
Hindustan	M.M. Malaviya
Mooknayak	B.R. Ambedkar
Comrade	Mohammad Ali
Tahzib-ul-Akhlaq	Sir Syed Ahmed Khan
Al-Hilal	Abul Kalam Azad
Al-Balagh	Abul Kalam Azad
Independent	Motilal Nehru
Punjabi	Lala Lajpat Rai
New India(Daily)	Annie Besant
Pratap	Ganesh Shankar Vidyarthi
Samvad Kaumudi (Bengali)	Ram Mohan Roy
Mirat-ul-Akbar	Ram Mohan Roy (first Persian Newspaper)
Young India	M.K Gandhi
Harijan	M.K Gandhi
Hindustan Times	K.M. Pannikar

### GREAT TRAVELERS IN INDIAN HISTORY

 <b>Megasthenes</b>	<b>Identity:</b> Greek ethnographer & ambassador. <b>Time of Visit to India:</b> During the rule of Chandragupta Maurya. <b>Duration of Stay:</b> 302-298 BC. <b>Contribution:</b> Wrote the book <i>Indica</i> .
 <b>Fa Hsien</b>	<b>Identity:</b> A Buddhist Monk who came from China. <b>Time of Visit to India:</b> Reign of Harshvardhana. <b>Duration of Stay:</b> 405-411 AD. <b>Contribution:</b> Wrote ' <b>Record of Buddhist kingdoms'</b> .
 <b>Hiuen Tsang-tsang/ Xuanzang</b>	<b>Identity:</b> Chinese Buddhist monk. <b>Time of Visit to India:</b> Reign of Harshavardhan. <b>Duration of Stay:</b> 630-645 AD. <b>Contribution:</b> Wrote <i>Si-yu-ki</i> or the 'Records of Western World'.
 <b>Al-Biruni/Abu Rayhan Muhammad</b>	<b>Identity:</b> Muslim scholar and polymath from Persia <b>Time of Visit to India:</b> Came along with Mahmud of Ghazni. <b>Duration of Stay:</b> 1024-1030 AD <b>Contribution:</b> Wrote <i>Taharikh-al-Hind</i> , about social religious, political nature of India during that time.

 <b>Marco Polo</b>	<p><b>Identity:</b> Italian merchant and traveller</p> <p><b>Time of Visit to India:</b> Came during the Period of Rudramani Devi of Kakatiya Dynasty.</p> <p><b>Duration of Stay:</b> 1292-1294 AD</p> <p><b>Contribution:</b> Wrote “<b>The book of Sir Marcopolo</b>”, describing about Indian Economy at that time.</p>
 <b>Ibn Battuta</b>	<p><b>Identity:</b> Traveller of Morocco</p> <p><b>Time of Visit to India:</b> Came in India at the reign of Muhammad bin Tughluq.</p> <p><b>Duration of Stay:</b> 1333-1347 AD</p> <p><b>Contribution:</b> write <b>Kitab-ul-rahla</b>, relating geographical, social and economical behaviour of this time.</p>
 <b>Nicolo Conti</b>	<p><b>Identity:</b> Russian merchant Traveller</p> <p><b>Time of Visit to India:</b> Came to India during the reign of Bahmani Sultanate.</p> <p><b>Duration of Stay:</b> 1469-1472</p> <p><b>Contribution:</b> ‘The Journey beyond Three Seas’.</p>
 <b>William Hawkins</b>	<p><b>Identity:</b> Ambassador of James II, king of England</p> <p><b>Time of Visit to India:</b> Came in India at the reign of Jahangir, the great mogul along with William Finch.</p> <p><b>Duration of Stay:</b> First Visit: 1421, Revisited: 1430</p>
 <b>Afanasy Nikitin</b>	<p><b>Identity:</b> Italian Traveller</p> <p><b>Time of Visit to India:</b> Came during the rule of Devaraya I of Sangam dynasty of Vijaynagar empire.</p> <p><b>Duration of Stay:</b> First Visit : 1421 Revisited: 1430</p> <p><b>Contribution:</b> Author of “<b>Voyage aux Indes</b>”.</p>
<b>Abdur Razzaq</b>	<p><b>Identity:</b> Persian traveller</p> <p><b>Time of Visit to India:</b> Came to India during Bahmani Sultanate.</p> <p><b>Duration of Stay:</b> 1443-1444 AD</p>
<b>Sulaiman Al Mahri</b>	<p><b>Identity:</b> Arab navigator</p> <p><b>Time of Visit:</b> Middle of Ninth Century during the age of Palas and Pratiharas</p> <p><b>Contribution:</b> Wrote an account on Pala Empire</p>
<b>Al-Masudi</b>	<p><b>Identity:</b> Arab historian &amp; geographer</p> <p><b>Time:</b> Visited Gujarat in 915-16 during Pratiharas Kinghom.</p> <p><b>Contribution:</b> Testified the great power and prestige of the Pratihara rulers.</p>

# Polity

## Enactment of Constitution

- Enactment and enforcement of the Constitution took place on **November 26, 1949 and January 26, 1950**, respectively. However, some parts had come into force on 26 November, 1949 itself with the passing of the motion 'the Constitution as settled by the Assembly be passed'.
- In all 284 of the Assembly signed the official copies of the Indian Constitution which came into effect on Jan 26, 1950.
- The Constitution adopted on **Nov. 26, 1949**, contained a **Preamble, 395 Articles and 8 Schedules**.
- The Constituent Assembly took **2 years 11 months and 18 days** to complete the Constitution.

## THE PREAMBLE READS

"WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN, SOCIALIST, SECULAR, DEMOCRATIC, REPUBLIC and to secure to all its citizens:  
**JUSTICE**, social, economic and political; **LIBERTY** of thought, expression, belief, faith and worship; **EQUALITY** of status and of opportunity; and to promote among them all **FRATERNITY** assuring the dignity of the individual and the unity and integrity of the nation:  
IN OUR CONSTITUENT ASSEMBLY, this 26th day of November 1949, do hereby ADOPT, ENACT and GIVE TO OURSELVES THIS CONSTITUTION."

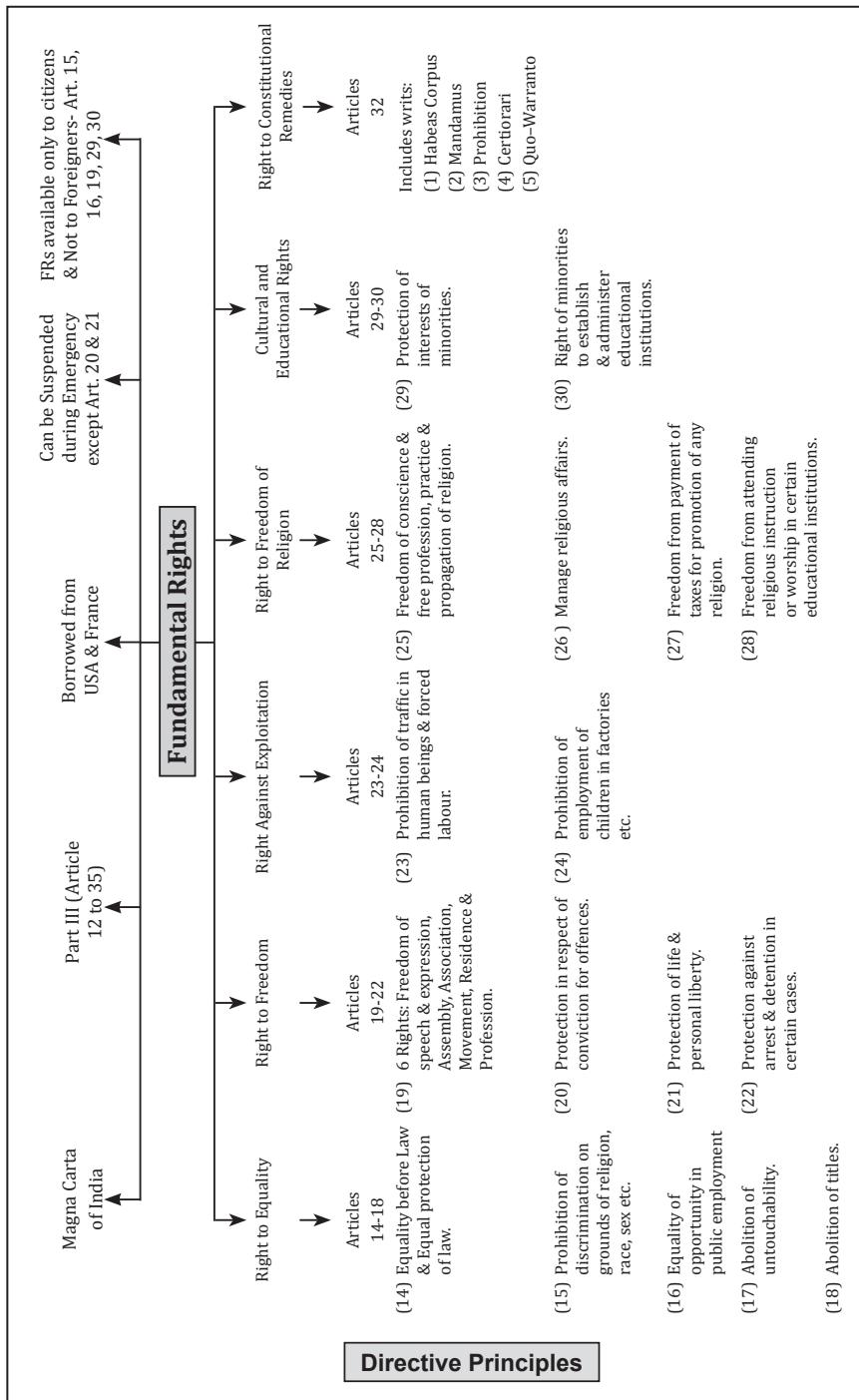
## Salient Features

- Originally our Constitution contained **395 Articles divided in 22 Parts and 8 Schedules**.
- Right from the beginning our Constitution is the most comprehensive constitution in the world.
- The Constitution, in **its current form**, consists of a **Preamble, 24 Parts containing 448 articles, 12 schedules**.

- It makes India Sovereign, Socialist, Secular, Democratic Republic.
- It is designed to work as **Federal Government in normal times and as a Unitary Government in an emergency**.
- It establishes a **Parliamentary System** of Government in India.
- It introduces **adult franchise** and the system of Government in India.
- India is a union of 29 States and 7 Union Territories.**
- It abolishes **untouchability** in India.
- It guarantees **Fundamental Rights** to all citizens of India.
- It lays down Directive Principles of State Policy for the guidance of Legislature and the Executive of the country.
- It establishes independence of judiciary from the executive.
- It declares Hindi as the National language of India which would replace English as early as possible.
- A Union Public Service Commission** has been set up to make recruitment to various services.
- Provision has been made for amending the Constitution.

**LIST OF NEW STATES & UTS  
CREATED AFTER 1956**

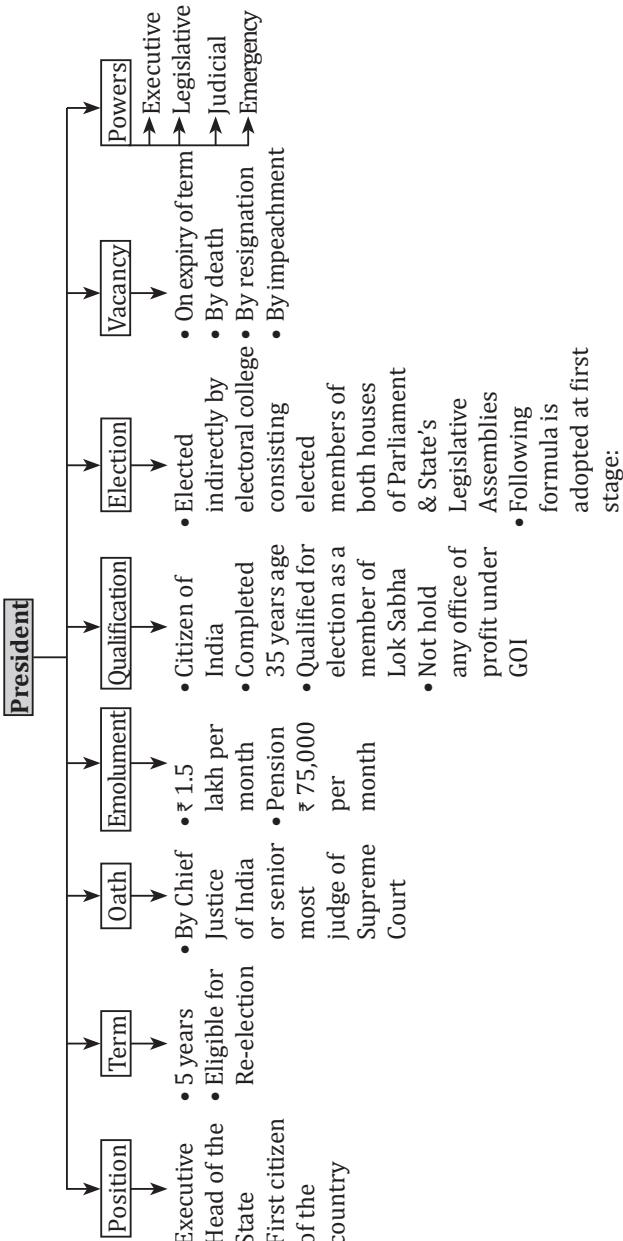
STATES/UTs	YEAR
1. Maharashtra & Gujarat	1960
2. Dadra & Nagar Haveli	1961
3. Goa, Daman & Diu	1962
4. Goa (Statehood)	1987
5. Puducherry	1962
6. Nagaland	1963
7. Haryana, Chandigarh	1966
8. Himachal Pradesh (Statehood)	1971
9. Manipur, Tripura & Meghalaya (Statehood)	1972
10. Sikkim (full - fledged State)	1975
11. Arunachal Pradesh & Mizoram	1987
12. Chhattisgarh, Uttarakhand & Jharkhand	2000
13. Telangana	2014



<b>FUNDAMENTAL DUTIES</b>	
	<b>Fundamental Duties</b>
Covered	Part IV A, Article 51-A
Borrowed from	USSR
Amendment	42 <sup>nd</sup> Amendment 1976, introduced Article 51 A in the Constitution.
Recommended by	Swaran Singh Committee.
Numbers	Originally-10 duties Now-11 duties (added by 86 <sup>th</sup> Amendment ACT, 2002)
List of F.Ds	<p>51 A (a) Abide by the Constitution and respect National Flag &amp; National Anthem</p> <p>B Follow ideals of the freedom struggle</p> <p>C Protect sovereignty &amp; integrity of India</p> <p>D Defend the country and render national services when called upon</p> <p>E Spirit of common brotherhood</p> <p>F Preserve composite culture</p> <p>G Protect natural environment</p> <p>H Develop scientific temper</p> <p>I Safeguard public property</p> <p>J Strive for excellence</p> <p>K Duty of all parents &amp; guardians to send their children in the age group of 6-14 years to school.</p>

## UNION & STATE EXECUTIVES

### President

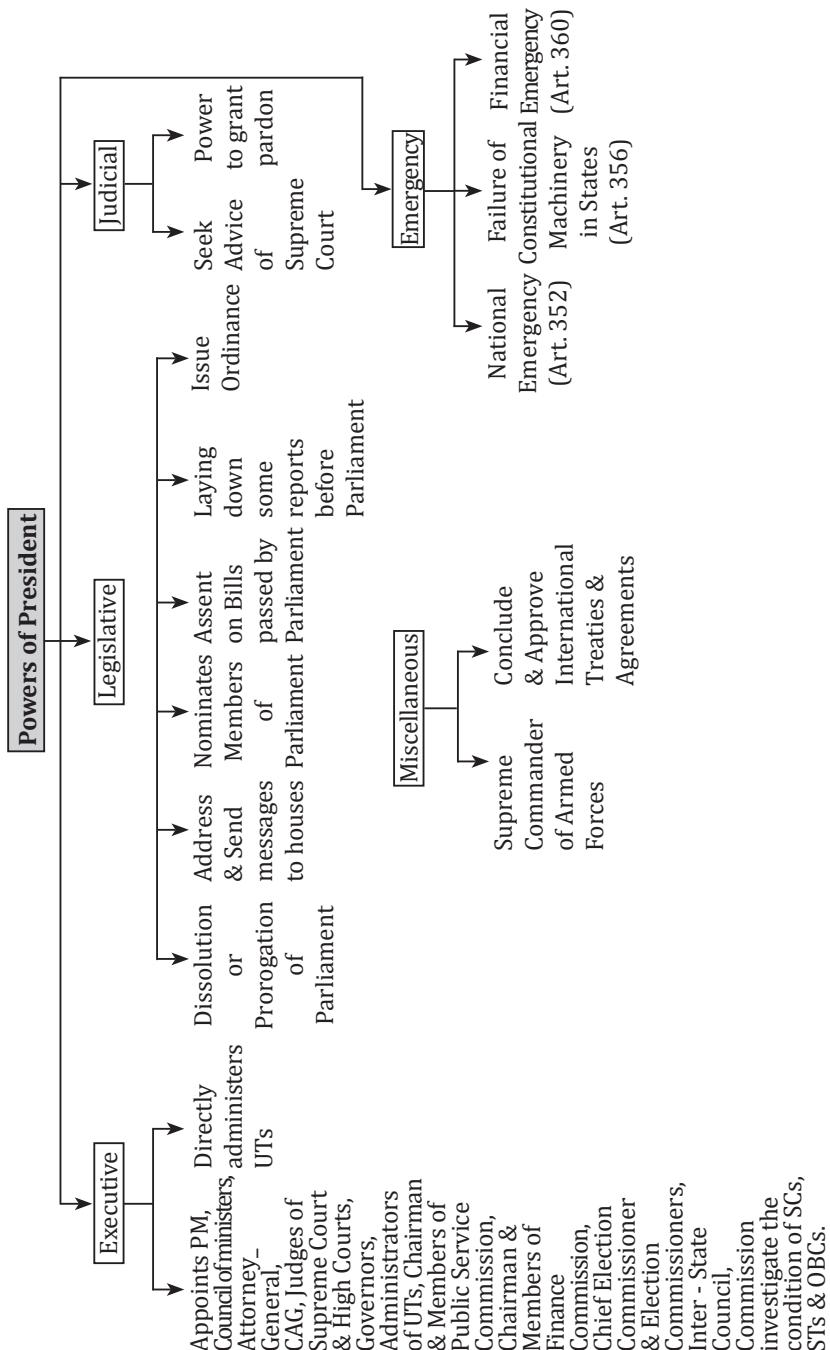


adopted at first stage:

$$\text{Value of vote of MLA} = \frac{\text{Total population of State}}{\text{Total no. of elected members in the State Legislative Assembly}} \times \frac{1}{1000}$$

$$\text{Value of vote of MP} = \frac{\text{Total value of votes of all MLAs of all States}}{\text{Total no. of elected MPs}}$$

- At second stage, a complex system of calculating Quota of individual candidate is used which is based on the order of preference of candidates.



Vice President	Prime Minister
<b>Qualification</b>	<b>Appointment</b>
(1) Citizen of India. (2) Completed 35 years. (3) Qualified for election as a member of Rajya Sabha. (4) Not hold any office of profit under Union/ State government or any Local Authority.	(1) By President
<b>Term</b>	<b>Position</b>
(1) 5 years. (2) Eligible for re-election.	(1) Real executive authority (de facto executive). (2) Head of the Government. (3) Leader of the majority party in the Lok Sabha.
<b>Oath</b>	<b>Election</b>
(1) Administered by the President.	(1) Elected directly by the people.
<b>Emoluments</b>	<b>Term</b>
(1) ₹ 1.25 Lakh per month salary.	(1) 5 years (2) The PM actually stays in office as long as he enjoys the confidence of the parliament, but the normal term is automatically reduced if the Lok Sabha is dissolved earlier.
<b>Election</b>	<b>Powers</b>
(1) Indirectly elected. (2) Elected by an electoral college consisting of the members of both Houses of Parliament & in accordance with the system of proportional representation by means of the single transferable vote.	(1) Advise the President to summon & prorogue the Parliament & dissolve the Lok Sabha. (2) Act as a Link between the cabinet & the President. (3) All the members of the Council of Ministers are appointed by the President on the recommendations of the Prime Minister. (4) Allocates Portfolios among the various ministers & reshuffles them. (5) Presides over the meetings of the Council of ministers. (6) Ask a minister to resign. (7) Coordinates the policies of the various departments & ministries.
<b>Functions</b>	
(1) Ex-officio chairman of Rajya Sabha. (2) Suspend or adjourn the business of the House(Rajya Sabha). (3) Issues direction to the Chairman of various committees. (4) Acts as President when vacancy occurs in the office of the President due to his resignation. Removal, death, or otherwise.	
<b>Removal</b>	
(1) He can be removed by a resolution of the Rajya Sabha passed by an absolute majority & agreed to by the Lok Sabha. But, no such resolution can be moved unless at least 14 days advance notice has been given.	

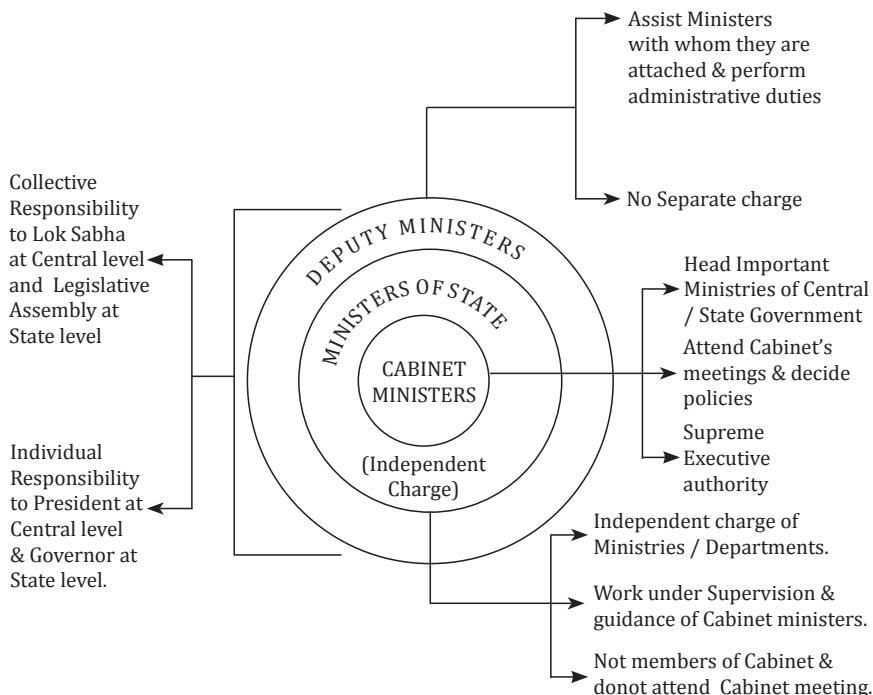
**Governor**

<b>Position</b>	<ul style="list-style-type: none"> <li>Chief Executive of the State.</li> <li>Act as an head agent of the Central Government.</li> </ul>
<b>Qualification</b>	<ul style="list-style-type: none"> <li>Citizen of India.</li> <li>Completed 35 years.</li> <li>Not hold any office of profit under government.</li> <li>Not a member of Parliament or State legislature.</li> </ul>
<b>Appointment &amp; Tenure</b>	<ul style="list-style-type: none"> <li>Appointed by President.</li> <li>Term is 5 years.</li> </ul>
<b>Oath</b>	Administered by Chief Justice of High Court
<b>Powers and Functions</b>	<p>(A) Executive Powers –</p> <ul style="list-style-type: none"> <li>Appoints Chief Minister &amp; other ministers, Advocate General, chairman &amp; Members of State PSC, State Election Commissioner &amp; Finance Commission, Vice Chancellors of Universities in State.</li> <li>Nominate one member of Anglo Indian Community to the Legislative Assembly of his State &amp; 1/6<sup>th</sup> members of State Legislative Council.</li> <li>Recommend President that government of the State cannot be carried on in accordance with the Provisions of the Constitution.</li> </ul> <p>(B) Legislative Powers –</p> <ul style="list-style-type: none"> <li>Summon, adjourn &amp; Prorogue State legislature &amp; Dissolve the State Legislative Assembly.</li> <li>Address the state legislature at the commencement of the first session after each general election and the first session of each year.</li> <li>Give or withhold Assent to the bill.</li> <li>Return or reserve the Bill.</li> <li>Submission reports from auditor General, State PSC, State Finance Commission before the legislature.</li> </ul> <p>(C) Discretionary Powers –</p> <ul style="list-style-type: none"> <li>Appointing a new Chief Minister when no Single Party Commands a clear-cut majority in Legislative Assembly.</li> <li>Dismissal of ministry if he is convinced that it has lost majority support.</li> </ul> <p>(D) Other powers –</p> <ul style="list-style-type: none"> <li>Grant Pardons &amp; Suspend the sentence of any person but cannot Pardon in case of death sentence.</li> <li>No demand of grants can be made except on the recommendation of the Governor.</li> <li>Ensures that Budget of State is laid before State legislature every year.</li> </ul>

**Chief Minister**

<b>Appointment</b>	By Governor
<b>Tenure</b>	5 years
<b>Qualification</b>	Member of either house of the State legislature
<b>Powers &amp; Functions</b>	<ul style="list-style-type: none"> <li>(1) Chief link between the Governor &amp; the Council of Ministers.</li> <li>(2) Head of the Council of Ministers.</li> <li>(3) Recommends to the Governor the names of persons to be appointed as members of the Council of Ministers</li> <li>(4) Allocates portfolios among Ministers.</li> <li>(5) Supervises &amp; coordinates Policies of the several Ministries &amp; Departments.</li> </ul>

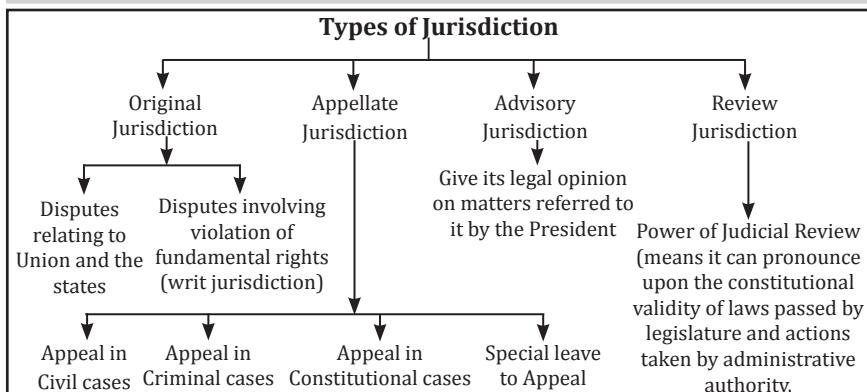
### Council of Ministers (At Centre & State Level) : Composition



### Supreme Court

- Supreme court is the final interpreter & guardian of our Constitution. It is the highest court of appeal in India.
- Presently there are 31 judges (including Chief Justice) in Supreme Court.
- The CJI is appointed by the President.
- There is no fixed period of office for SC judges. Once appointed, they hold office till the age of 65 years.
- A judge of SC can be removed from his office only by the process of impeachment.
- According to Article 129, SC is a **"Court of Record"**. It means:-
  - (a) Court records are admitted to be of evidentiary value.
  - (b) It can punish for Contempt of the Court.
- Qualification for appointment as a Judge of SC :-
  - (1) Citizen of India.
  - (2) Either be a distinguished jurist, or one who has been a High Court Judge for atleast 5 years or an advocate of a High Court (or 2 or more such courts in Succession) for atleast 10 years.

### Jurisdiction of Supreme Court



### Panchayati Raj Institution (PRI)

The term Panchayati Raj (PRI) in India signifies the system of rural local self government. It has been established in all the States of India by the Acts of the state Legislatures to build democracy at the grassroot level. It is entrusted with rural development. It was constitutionalised through the 73rd Constitutional Amendment Act 1992.

### Municipalities

For the establishment of self-government in urban areas urban bodies have been established. The urban institutions have been granted constitutional status by **74<sup>th</sup> Constitutional Amendment** (enforced with effect from January 1,1993). In the **Part IX A** of the Constitution the provisions for Municipalities have been made from Article 243 P to 243 ZG. Besides a 12<sup>th</sup> Schedule also has been incorporated in the Constitution, which contains 18 subjects relating to the jurisdiction of Municipalities.

As per this Constitutional Amendment 3 types of urban institutions have been established on the basis of population they are –

1. Nagar Panchayat for a transitional area.
2. Municipal Council for a smaller urban area.

3. Municipal Corporation for a larger urban area.

### Election Commission

It is a permanent & an independent body established by the Constitution of India directly to ensure free & fair elections in the country. Elections to Parliament, State legislatures, President & Vice-President are vested in it.

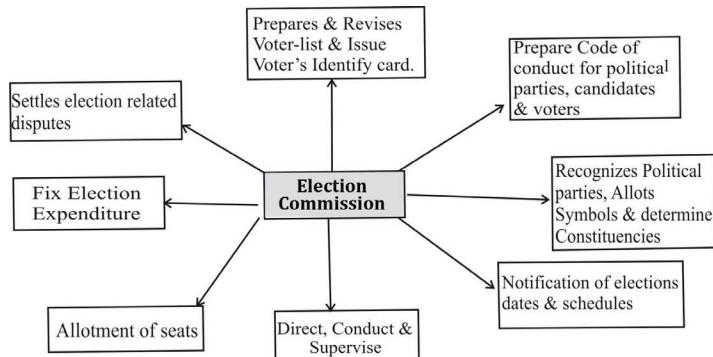
### Composition

The Election Commission consists of a Chief Election Commissioner & such other commissioners as the President may form time to time to decide.

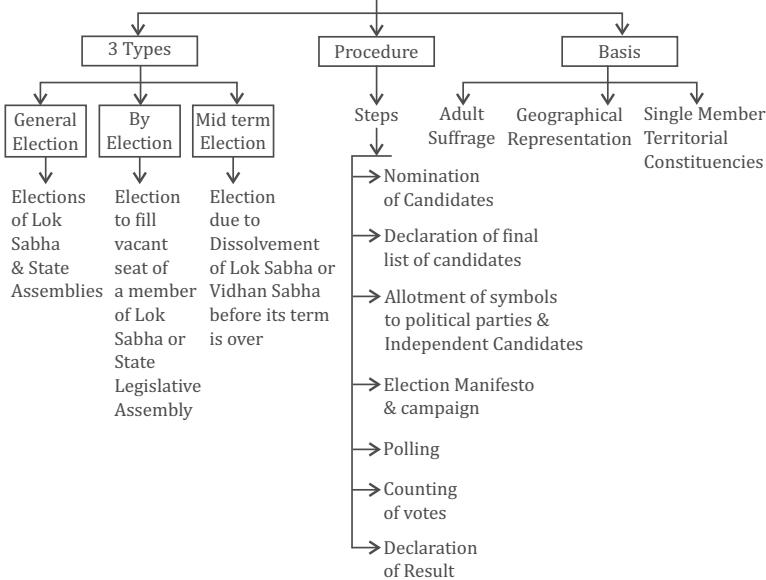
### Appointment & Term

The CEC & other Election Commissioners are appointed by the President for a term of 6 years. The Regional Commissioners may also be appointed by the President in consultation with the Election Commission for assisting the Election Commission. The CEC can be removed from office before expiry of his term by the President on the basis of a Resolution passed by the Parliament by a special majority on the ground of proved misbehavior or incapacity. The other Election Commissioners may be removed by the President on the recommendation of the CEC.

### POWERS & FUNCTIONS OF E.C.



### ELECTIONS



### Right to Information (RTI)

- RTI Act 2005 mandates timely response to citizen requests for government information.
- It has been given the status of a fundamental right under Article 19(1) of the Constitution.
- It confers right to access to information held by a Public Authority, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission States Information Commissions and for matters connected therewith or incidental thereto.

# Geography

## Planet

A planet must meet three criteria:

- (i) It must orbit the Sun,
  - (ii) It must be big enough for gravity to squash it into a round ball,
  - (iii) It must have cleared other objects out of the way in its orbital neighbourhood.
- The **Terrestrial Planets or Inner Planets** are the four innermost planets in the solar system, which include Mercury, Venus, Earth and Mars.
  - The **Jovian Planets or Outer Planets** are Jupiter, Saturn, Uranus, and Neptune because they are all gigantic compared to Earth, and they have a gaseous nature.

### Mercury

It is the smallest and the closest planet to the Sun, without a moon. Surface is full of craters.

### Venus

It is the second closest planet to the Sun, known as **evening** as well as **morning star**, rotates from east to west. It is the **hottest planet**. The atmosphere of Venus is covered with thick clouds that strongly reflects sunlight.

### Earth

It is the third planet from the Sun with one moon. Perfect place for life. It consists of 78% nitrogen, 21% oxygen, and 1% other ingredients envelops it. **Moon** is the only natural satellite of Earth.

### Mars

It is the fourth planet from the Sun with two moons (**Phobos** and **Deimos**).

It is known as the **Red Planet** because **iron** minerals in the Martian soil

oxidize, or rust, causing the soil and the dusty atmosphere to look red. The planet is characterized by volcanoes, canyon systems, riverbeds, cratered terrains.

### Jupiter

It is the fifth planet from the Sun and the largest in the solar system. Its atmosphere is made up mostly of hydrogen (H) and helium (He). It has the fastest rotational velocity, completing one rotation in less than 10 hours.

Jupiter has **67** known **satellites** and **4 Galilean moons**. It has the biggest magnetosphere in the entire solar system.

### Saturn

It is the second largest planet of the solar system and surrounded by **ring** like structures. These rings are made of primordial dust and ice particles. Moreover Saturn is a gaseous planet. The planet has **62** prominent **moons** among which the largest moon is **Titan** which is the second largest in the entire solar system.

### Uranus

It is the seventh planet from the Sun. One day on Uranus takes about 17 hours (the time it takes for Uranus to rotate or spin once). Uranus makes a complete orbit around the Sun (a year in Uranian time) in about 84 Earth years. It has 27 moons. It is characterized by usual magnetic and electric field.

### Neptune

It is the eighth planet from the Sun. Its atmosphere is made up mostly of hydrogen (H), helium (He) and methane ( $\text{CH}_4$ ). Triton is its largest

moon. It is having a earth size blemish called as **Green dark spot**. It has 14 satellites among which **Triton** and **Nereid** are the prominent ones.

**Pluto** (not a planet now). It is now considered as a dwarf planet. It has the slowest orbital velocity and hence, the longest year, Charon, is nearly half its size.

**Dwarf planet**- A dwarf planet is a planetary-mass object that is neither a planet nor a natural satellite. It shares its orbits around the Sun with other objects such as asteroids or comets. It is massive enough for its shape to be in hydrostatic equilibrium under its own gravity, but has not cleared the neighborhood around its orbit.

The first 5 recognised dwarf planets are – Ceres, Pluto, Eris, Haumea & Makemake.

**Light year**- A light-year is a unit of astronomical distance. It is the distance that light can travel in one year. It is approximately 9.5 trillion kilometres (or about 6 trillion miles).

### Planets Facts

1. Biggest Planet-Jupiter
2. Biggest Satellite-Jupiter
3. Blue Planet-Earth
4. Green Planet-Uranus
5. Brightest Planet-Venus
6. Brightest Planet outside Solar System-Sirus
7. Closest Star of Solar System-Proxima
8. Coldest Planet-Neptune
9. Evening Star-Venus
10. Farthest Planet from Sun-Neptune
11. Planet with maximum no. of satellites-Jupiter

12. Fastest revolution in solar system-Mercury
13. Hottest Planet-Venus
14. Densest Planet- Earth
15. Fastest Rotation in Solar System-Jupiter
16. Morning Star-Venus
17. Nearest Planet to Earth-Venus
18. Nearest Planet to Sun-Mercury
19. Red Planet-Mars
20. Slowest Revolution in Solar System-Neptune
21. Slowest Rotation in Solar System-Venus
22. Smallest Planet-Mercury
23. Smallest Satellite-Deimos
24. Earth's Twin-Venus
25. Atmosphere like Earth-Titan

### Cosmic World

#### Asteroid: 645,118

A small rocky body orbiting the sun is termed as asteroid. Large numbers of these, are found between the orbits of Mars and Jupiter, though some have more eccentric orbits.

#### Meteor

A meteoroid is a small rocky or metallic body travelling through space and range in size from small grains to 1 meter-wide objects. When it enters the atmosphere to become visible it is called meteor. It is also known as “shooting star” or “falling star.” One can see nearly 20 million of meteors in a day. In Huba the largest meteorite was found (Namibia – 60 tons).

#### Oort Clouds

They are roughly spherical, shell of icy objects found in the outermost reaches of the solar system is called Oort Clouds. Astronomers believe that it is remains of the disc of material that

formed the Sun and planets. Estimates put it at around 2 trillion. It is also referred to as Trans-Neptunian object applied to objects in the Kuiper Belt. Astronomers think that long-period comets have their origins in the Oort Clouds.

### Planet Earth

- The form of Earth is '**Oblate spheroid**'.
- The axis of the Earth is inclined to the plane of Earth's orbit at an angle of  $66\frac{1}{2}^{\circ}$  giving rise to different seasons and varying lengths of day and night.
- At equator, day and night are of equal length throughout the year.

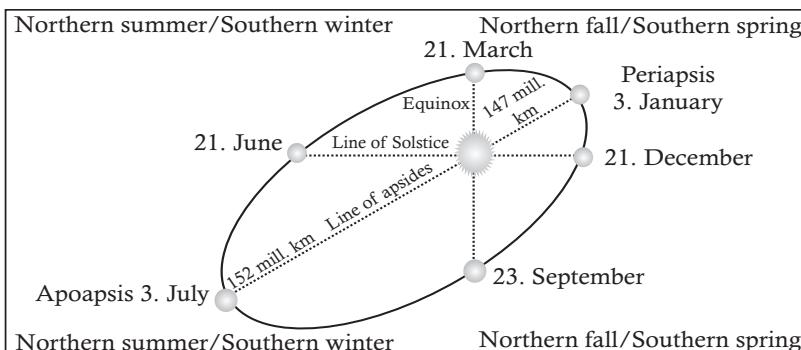
### Torrid Zone

The Mid-day Sun shines vertically overhead at least once a year between the Tropic of Cancer and the Tropic of Capricorn. Thus, this region receiving the maximum heat and is called **Torrid Zone**.

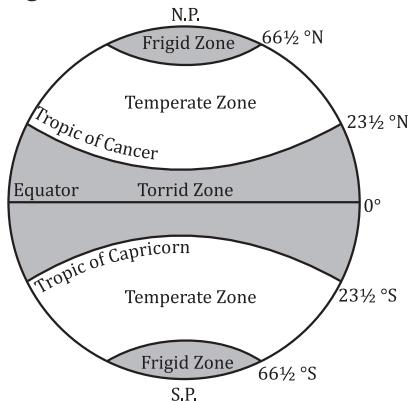
### Temperate Zones

These are the areas where climatic condition is not extreme. The area lies between the tropics and polar region ( $23\frac{1}{2}^{\circ}$  of  $66\frac{1}{2}^{\circ}$ ) having moderate climate.

### Seasons and their Formation



### Frigid Zones



These are the two extremely cold zones situated in the Polar regions extending to the Arctic circle in the North and to the Antarctic circle in the South.

### Seasons Formation

Revolution of the Earth around the Sun along with it spinning around its axis, which is tilted at an angle of 23.5 degrees, is the main cause of season's formation. Around the June Solstice, the Northern Hemisphere is tilted towards the Sun, therefore experiencing **summer**. The Southern Hemisphere on the other hand, is tilted away from the Sun and thus, experiences **winter**. The opposite occurs around the December Solstice, when the Southern Hemisphere is tilted towards the Sun, while the Northern Hemisphere is tilted away.

There are **four seasons**: Summer when the Sun's ray falls directly over the tropic of cancer. In autumn, the Sun's ray falls directly over the equator. During winter it is over tropic of Capricorn and during spring it falls back on equator.

**Equinoxes** is the day which happens twice a year and day and night are of equal length. March 21 is called as **Vernal equinox** and 23rd September is **autumnal equinox**. **Solstice** in the same ways occurs when the difference between the lengths of day and night are maximum. Occurs twice in a year firstly when the Sun's ray falls on tropic of cancer and secondly when over tropic of Capricorn.

### Eclipse

It is related to obscuring light of the sun or the moon by any other body. There are two types of eclipse.

**Lunar eclipse** occurs when the earth comes in middle of the sun and the moon. It occurs on full moon day but not every full moon day experiences lunar eclipse.

**Solar eclipse** occurs when the moon comes in middle of the sun and the earth. It occurs on the new moon day when the moon is in line with sun.

### Earthquake

Motion ranging from faint terror to wild shaking of the earth surface is called **earthquake**. It occurs mainly due to tectonic activities caused by continuous endogenetic processes inside earth's crust. The place from where it starts is called as **focus or hypocenter** and the point directly above it is known as **epicenter**. It is measured in **Richter scale** varying from 0 to 9.

### Plate Tectonic Theory

Our earth surface is made up of plates which are in motion due to the convection current flowing beneath it. This movement in the earth's plate is called as tectonic movement. This movement has been widely accepted cause of continental drift, earthquakes, volcanoes, mountains, and oceanic trenches.

### *Exogenetic/Denudational/Destructional Forces*

The forces which act above the earth surface changing relief of earth surface are known as exogenetic forces. These processes are continuously engaged in destructing the relief features created by endogenetic forces. These forces are carried on by the agents of erosion such as wind, water, glacier etc., the process through which these agents work on the earth surface are **weathering and erosion**.

- **Weathering** is a process in which breaking down of the earth surface takes place but the debris do not move from their place.
- **Erosion** refers to the movement in the weathered material.

**Denudation** is a long-term sum of processes that is caused by weathering, leading to a reduction in elevation and relief of landforms and landscapes and erosion.

### Gulf

A large area of a sea or ocean partially enclosed by land, especially a long landlocked portion of sea opening through a strait. Gulf and Bay are of economic importance as they serve as excellent harbour in most of the cases. Many important trading centers are located on gulfs. It forms a good fishing ground and oil deposits.

***The Gulf of Mexico***

Bordering the United States, Mexico, and the island nation of Cuba, is the world's largest gulf. It has a coastline of about 5,000 kilometers (3,100 miles).

***The Persian Gulf***

In Arabian Sea borders Iran, Iraq, Kuwait, Saudi Arabia, Qatar, Bahrain, the United Arab Emirates, and Oman. There a vast deposit of petroleum is found. The Gulf of Carpentaria on northeast coast of Australia, is an inlet of the Arafura Sea.

***Bay***

A bay is a small body of water or a broad inlet that is set off from a larger body of water generally where the land curves inward. Examples of bays include the **Bay of Pigs** (Cuba), **Hudson Bay** (Canada), **Chesapeake Bay** (Maryland and Virginia), and **Bay of Bengal** (near India).

***Choke Point***

When a body of water such as a strait is capable of being blocked or even closed in order to control transportation routes, the body is called a "**choke point**".

***Estuaries***

Estuaries are bodies of water and their surrounding coastal habitats typically found where rivers meet the sea. It becomes the home of numerous unique

plant and animal communities because their waters are brackish. Brackish is a mixture of fresh water draining from the land and salty seawater.

***Bar-built***

Sandbars or barrier islands built up by ocean currents and waves in coastal areas created a protected area fed by small streams or rivers. The barrier islands off the Atlantic coastline of North Carolina and Massachusetts enclose bar-built estuaries.

***Delta system***

Deltas are formed at the mouths of large rivers from sediment and silt depositing. When the river flow is restricted by the delta, an estuary may form. The Nile River in Egypt and the Mississippi River in Louisiana forms delta systems estuaries.

***Tectonic***

It is created when a major crack or a large landmass sink, often caused by earthquakes, produced a basin below sea level that fills with water. This type of estuaries usually occurs along fault lines. San Francisco Bay in California is an example of an estuary created by tectonics.

***Fjords***

Advancing glaciers ground out long, narrow valleys with steep sides. Glacier Bay in Alaska is an example of a fjord.

**MAJOR GULFS AND THEIR LOCATION**

<b>Gulf of Aden</b> of the southwestern corner of the Arabian Peninsula
---

<b>Gulf of Alaska</b> in the Pacific Ocean south of the state of Alaska
---

<b>Amundsen Gulf</b> in the Arctic Ocean northwest of Canada
--

<b>Gulf of Aqaba</b> in the northern end of the Red Sea, leading to Israel and Jordan
---

<b>Gulf of Bahrain</b> , part of the Persian Gulf
---

<b>Gulf of Bothnia</b> , part of the Baltic Sea between Sweden and Finland
--

<b>Gulf of Cádiz</b> , part of the Atlantic Ocean off the southern border of Spain and Portugal
---

<b>Gulf of California</b> in the Pacific Ocean in northwestern Mexico
<b>Gulf of Carpentaria</b> a large bay off northern Australia
<b>Gulf of Cazones</b> a large gulf in southern Cuba
<b>Gulf of Corinth</b> , which extends into Greece from the Mediterranean
<b>Davao Gulf</b> in the Philippines
<b>Gulf of the Farallones</b> , westward from the opening of the San Francisco Bay and Drakes Bay to the Farallon Islands
<b>Gulf of Finland</b> , between the southern coast of Finland and the northern coast of Estonia in the Baltic Sea.
<b>Gulf of Genoa</b> inside the Ligurian Sea on the northwestern coast of Italy
<b>Gulf of Guinea</b> in the Atlantic Ocean off the coast of Equatorial Africa
<b>Gulf of Izmir</b> in the Aegean Sea between Turkey and Greece. It was formerly called the Gulf of Smyrna.
<b>Gulf of Khambhat</b> in the Arabian Sea, formerly known as the Gulf of Cambay
<b>Gulf of Kutch</b> in the Arabian Sea
<b>Lingayen Gulf</b> of western Luzon, the Philippines, in the South China Sea
<b>Gulf of Lion</b> , a bay on the Mediterranean coastline of Languedoc-Roussillon and Provence in France
<b>Gulf of Maine</b> , off the State of Maine, New Brunswick, and Nova Scotia in the Atlantic Ocean
<b>Gulf of Mannar</b> , between India and Sri Lanka
<b>Gulf of Mexico</b> , between Mexico, the United States, and Cuba
<b>Gulf of Morbihan</b> , a natural harbour on the coast of the Département of Morbihan in the south of Brittany
<b>Gulf of Nicoya</b> , in Costa Rica, Central America.
<b>Gulf of Oman</b> , between the south eastern Arabian Peninsula, Iran, Pakistan and Arabian Sea.
<b>Gulf of Oristano</b> , near Oristano on the Western Sardinian coast
<b>Gulf of Panama</b> in the Pacific Ocean south of Panama
<b>Persian Gulf</b> between Iran and the Arabian Peninsula
<b>Gulf of Roses</b> , the most northeastern bay on the Catalan coast
<b>Gulf of Saint Lawrence</b> , the world's largest estuary and the outlet of the Saint Lawrence River into the Atlantic Ocean
<b>Gulf St Vincent</b> , separated from Spencer Gulf by the Yorke Peninsula
<b>Gulf of Sidra</b> , just north of Libya in the Mediterranean
<b>Spencer Gulf</b> , near Port Lincoln, South Australia
<b>Gulf of Suez</b> , in the northern end of the Red Sea, leading to the Suez Canal
<b>Gulf of Thailand</b> , just south of Thailand in the Indian Ocean
<b>Gulf of Tonkin</b> , just east of North Vietnam in the Pacific Ocean
<b>Gulf of Tunis</b> , in the Mediterranean off the coast of Tunisia

### Cyclones

Cyclones are the low pressure centers surrounded by closed isobars having pressure increasing outwards. Blows inward from high pressure to low pressure and hence wind movement is anti-clockwise in northern hemisphere and clockwise in southern hemisphere. They are also termed as atmospheric disturbances. Their shape varied from circular to elliptical and sometimes even V shaped. On the basis of place of origin there are two types of cyclones which are as follows:

Tropical Cyclone	Temperate / Extra-tropical cyclone
The tropical cyclones have a thermal origin, exclusively over the tropical seas.	Formed in middle or high latitudes, due to the development of front (35°-65° N and S).
A low pressure zone is created due to extreme heat and further intensifies with the increase in temperature (above 27°C). The winds from surrounding high pressure region rushes to the central low pressure (eye) area developing a powerful and destructive storm. The velocity of the cyclone varies from 32-180 km/hour.	Develops when a frontal surface separates two opposing air masses (warm and cold). As the amplitude of the wave increases, the pressure at the centre of disturbance falls, eventually intensifying to the point at which a cyclonic circulation begins.
Its velocity decreases and finally decays as they cross more land mass. Usually ends with heavy downpour of rain and wind bringing devastation to the coastal areas.	When the cold air from the poles sweeps off all the warm tropical air and entire cyclone is composed of the cold air mass temperate cyclone dies.

Famous Cities and River Banks					
City	River	City	River	City	River
Allahabad	At the confluence of the Ganga and Yamuna (Sangam)	Ferozpur	Satluj	Mathura	Yamuna
Agra	Yamuna	Guwahati	Brahmaputra	Nasik	Godavari
Ayodhya	Saryu	Haridwar	Ganga	Patna	Ganga
Ahmedabad	Sabarmati	Hyderabad	Musi	Panjim	Mandavi
Badrinath	Alaknanda	Jabalpur	Narmada	Srinagar	Jhelum
Bareilly	Ram Ganga	Jamshedpur	Swarnarekha	Surat	Tapti
Cuttack	Mahendadi	Jaunpur	Gomti	Sambalpur	Mahanadi
Kurnool	Tungabhadra	Kanpur	Ganga	Serirangapatam	Cauvery
Delhi	Yamuna	Kota	Chambal	Tiruchurapalli	Cauvery
Dibrugarh	Brahmaputra	Kolkata	Hooghly	Ujjain	Kshipra
		Lucknow	Gomti	Vijayawada	Krishna
		Ludhiana	Sutlej	Varanasi	Ganga

**Important Rivers of India**

Name	Origin From	Fall into	Length (km)
Ganges	Combined Sources	Bay of Bengal	2525
Satluj	Mansarovar Rakas Lakes	Chenab	1050
Indus	Near Mansarovar Lake	Arabian Sea	2880
Ravi	Kullu Hills near Rohtang Pass	Chenab	720
Beas	Near Rohtang Pass	Satluj	470
Jhelum	Verinag in Kashmir	Chenab	725
Yamuna	Yamunotri	Ganga	1375
Chambal	M.P.	Yamuna	1050
Ghagra	Matsatung Glacier	Ganga	1080
Kosi	Near Gosain Dham Park	Ganga	730
Betwa	Vindhyanachal	Yamuna	480
Son	Amarkantak	Ganga	780
Brahmaputra	Near Mansarovar Lake	Bay of Bengal	2900
Narmada	Amarkantak	Gulf of Khambat	1057
Tapti	Betul Distt. of M.P.	Gulf of Khambat	724
Mahanadi	Raipur Distt. in Chattisgarh	Bay of Bengal	858
Luni	Aravallis	Rann of Kuchchh	450
Ghaggar	Himalayas	Near Fatehabad	494
Sabarmati	Aravallis	Gulf of Khambat	416
Krishna	Western ghats	Bay of Bengal	1327
Godavari	Nasik distt. in Maharashtra	Bay of Bengal	1465
Cauvery	Brahmagir Range of Western Ghats	Bay of Bengal	805
Tungabhadra	Western Ghats	Krishna River	640

**Important River Valley Projects in India**

<b>Bhakra Nangal Project</b>	Situated on Sutlej in Punjab. Highest in India. Ht. 226m. Reservoir is called <b>Gobind Sagar Lake</b> .
<b>Mandi Project</b>	On Beas in Himachal Pradesh
<b>Chambal Valley Project</b>	On Chambal in Madhya Pradesh & Rajasthan, 3 dams include Gandhi Sagar Dam, Rana Pratap Sagar Dam and Jawahar Sagar Dam
<b>Damodar Valley Project</b>	On Damodar in Bihar, based on Tennessee Valley Project USA
<b>Hirakud Project</b>	On Mahanadi in Odisha, World's Longest Dam: 4801m
<b>Rihand Project</b>	On Son in Mirzapur, Reservoir is called Gobind Vallabh Pant reservoir

<b>Kosi Project</b>	On Kosi in N. Bihar
<b>Mayurkashi Project</b>	On Mayurkashi in West Bengal
<b>Kakrapara Project</b>	On Tapi in Gujarat
<b>Nizamsagar Project</b>	On Manjra in Andhra Pradesh
<b>Nagarjuna Sagar Project</b>	On Krishna in Andhra Pradesh
<b>Tungabhadra Project</b>	On Tungabhadra in Andhra Pradesh & Karnataka
<b>Shivasamudram Project</b>	On Cauvery in Karnataka. One of the oldest river valley projects in India.
<b>Tata Hydel Scheme</b>	On Bhima in Maharashtra
<b>Sharavathi Hydel Project</b>	On Jog Falls in Karnataka
<b>Kundah &amp; Periyar Project</b>	In Tamil Nadu
<b>Farakka Project</b>	On Ganga in WB. Apart from power and irrigation, also helps to remove silt for easy navigation.
<b>Ukai Project</b>	On Tapti in Gujarat
<b>Mahi Project</b>	On Mahi in Gujarat
<b>Salal Project</b>	On Chenab in J&K
<b>Mata Tila Multipurpose Project</b>	On Betwa in Uttar Pradesh and Madhya Pradesh
<b>Thein Project</b>	On Ravi, Punjab.
<b>Pong Dam</b>	On Beas, Punjab
<b>Tehri Dam</b>	On Bhagirathi, Uttarakhand
<b>Sardar Sarovar Project</b>	On Narmada, Gujarat/MP.

#### Tribal Groups of India

Tribal Group	Region	Tribal Group	Region
Abhor	Arunachal Pradesh	Kharia	Jharkhand, Odisha
Adivasi	A.P, Bihar, Odisha, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Some Northeastern States, West Bengal, Andaman and Nicobar	Kol	Madhya Pradesh
Ahgani	Manipur	Kolam	Maharashtra, Andhra Pradesh, Telengana, M.P
Apatani	Arunachal Pradesh	Kota	Karnataka
Baiga	Madhya Pradesh	Kuki	Mizoram
Bakarwal	Jammu and Kashmir	Lahaula	Himachal Pradesh
Bhil	M.P and Rajasthan	Lepcha	Sikkim
Birhor	M.P and Bihar	Lushai	Mizoram, Manipur
Chang	Nagaland	Muria	Chhattisgarh
Chenchuas	Telengana, Karnataka	Miha	Rajasthan
Sutiya	Assam	Moplah	Malabar

Gaddis	Himachal Pradesh	Munda	West Bengal, Jharkhand, Odisha, Chhattishgarh
Gallong	Arunachal Pradesh	Nishi	Assam
Garo	Meghalaya	Naga	Nagaland
Gond	M.P and Bihar	Oraon	MP, Bihar and Odisha, Chhota Nagpur, W.B,
Gujjar	Rajasthan	Onges	Andaman & Nicobar
Irula	Tamil Nadu	Singpho	Assam, Arunachal Pradesh
Jaintia	Meghalaya	Santhal	WB, Odisha, Bihar, Jharkhand, Assam
Jarawa	Andaman, Islands	Sangtam	Nagaland
Kanikar	Tamil Nadu and Kerala	Sema	Nagaland
Kalkari	Maharashtra	Sentinelese	Andaman & Nicobar
Kharia	Maharashtra	Shompen	Andaman & Nicobar
Khond	Jharkhand	Toda	Tamil Nadu
Khasi	Meghalaya	Uralis	Kerala
		Wancho	Arunachal Pradesh
		Warli	Maharashtra, Daman and Diu, Bihar, Mad- hya Pradesh, West Bengal Dadra and Nagar Haveli

### EARTH INFORMATION BULLETIN

- Total Surface Area - 510,072,000 km<sup>2</sup>
- Land Area - 148,094,000 km<sup>2</sup>
- Water Area - 361,132,000 km<sup>2</sup>
- Percentage of Land - 29.2%
- Percentage of Water - 70.8%
- Water Type - 97% salt water, 3% fresh water
- Circumference - 40,066 km at Equator, 39,992 km at Poles
- Continents - 7 recognized
- Countries - 193 recognized
- Oceans - 5
- Population - 7,214,958,996 (2015)
- Largest continent - Asia (43,810,582 km<sup>2</sup>)
- Most populated continent - Asia (4,361,416,312) 2015
- Smallest continent - Australia/ Oceania (8,112,000 km<sup>2</sup>)
- Least populated continent - Antarctica (no native population)
- Largest country - Russia (17,075,400 km<sup>2</sup>)
- Most populated country - China (1,401,586,609) 2015
- Smallest country - Vatican City (0.44 km<sup>2</sup>)
- Least populated country - Vatican City (1000) 2015
- Highest point - Mount Everest (8,848 m)
- Lowest point - Dead Sea (-409 m)
- Largest Ocean - Pacific (155,557,000 km<sup>2</sup>)
- Smallest Ocean - Arctic (14,056,000 km<sup>2</sup>)
- Largest Sea - South China sea (2,974,600 km<sup>2</sup>)
- Largest Saline Lake - Caspian Sea (371,000 km<sup>2</sup>)
- Longest River - Nile (6,695 km)

**Highest Mountain Peaks (World)**

Name	Height (in metres)	Range
1. Mount Everest	8848	Himalayas
2. K2 (Godwin Austen)	8611	Karakoram
3. Kanchenjunga	8598	Himalayas
4. Lhotse	8511	Himalayas
5. Makalu I	8481	Himalayas
6. Dhaulagiri I	8167	Himalayas
7. Manaslu I	8156	Himalayas
8. Cho Uyo	8153	Himalayas
9. Nanga Parbat	8126	Himalayas
8. Annapurana I	8091	Himalayas

**Three Deepest Oceans**

Name	Greatest depth (in metres)	Greatest depth location
1. Pacific Ocean	11,033	Mariana Trench
2. Atlantic Ocean	9,460	Puerto Rico Trench
3. Indian Ocean	7,542	Java Trench

**Some Important Boundary Lines**

Durand Line	Between Pakistan and Afghanistan
Hindenberg Line	Between Germany and Poland
49th Parallel	Between USA and Canada
Mac Mahon Line	Between India and Tibet/China
Maginot Line	Between France and Germany
38th Parallel	Between North and South Korea
Oder Neisse Line	Between Germany and Poland
Radcliffe Line	Between India and Pakistan

**Longest Rivers**

Name, Nation/Continent	Length in kms	Basin Area m <sup>2</sup> km
Nile, Africa	6695	3.25
Amazon, South America	6516	6.14
Yangtze Kiang, China	6380	1.72
Mississippi Missouri, USA	5959	3.20
Ob Irtysh, Russia	5568	2.97
Yenisey Angara Selenga, Asia	5550	2.55
Yellow (Hwang Ho), China	5464	-
Congo (Zaire), Africa	4667	-
Parana Rio de la Plata, S. America	4500	2.58
Irtysh, Asia	4440	-
Mekong, Asia	4425	-

<b>India</b>	<b>REGION</b>	<b>LENGTH</b>
Indus	Asia	3180
Brahmaputra	Asia	2948
Ganga-Hooghly-Padma	India	2620
Godawari	India	1465
Sutlej	India	1372
Krishna	India	1300
Narmada	India	1289
Chenab	India	1086
Ghaghara	India	1080

<b>Shortest River (metres)</b>		
Europe Ombia River, Croatia		30
North America, Roe River, Montana, USA		61
South America - Azvis River, Brazil		147

<b>Deepest Lakes</b>	
Baikal, Russian	1620 m
Tanganyika, Africa	1463 m
Caspian Sea, Asia-Europe	1025 m
Malawi of Nyasa, Africa	706 m
Issyk-Kul, Kyrgyzstan	702 m

### Largest Deserts of the World

<b>Subtropical</b>	
Sahara, North Africa	8,600,650 sq. km
Arabian, Middle East	2,300,000 sq. km
Great Victoria, Australia	647,475 sq. km
Kalahari, Southern Africa	582,727 sq. km
Chihuahuan, Mexico	453,232 sq. km
Thar, India/Pakistan	453,232 sq. km
Great Sandy, Australia	388,485 sq. km
Gibson, Australia	310,788 sq. km
Sonoran, S.W. USA	310,788 sq. km
Simpson/Stony, N Africa	145,034 sq. km
Mohave, S.W. USA	139,854 sq. km

<b>Cool coastal</b>	
Atacama, Chile SA	139,854 sq. km
Namib, S.W. Africa	33,668 sq. km

<b>Cold winter</b>	
Gobi, China	1,166,450 sq km
Patagonian, Argentina	673,374 sq km
Great Basin, S.W. USA	492,081 sq. km
Karakum, West Asia	349,636 sq. km
Colorado, Western USA, also called the Painted Desert	336,687 sq. km
Kyzyl-kum, West Asia	297,838 sq. km
Taklamakan, China	271,939 sq. km

# Ecology & Environment

## ENDANGERED SPECIES IN INDIA

<b>Birds</b>	White-bellied heron Great Indian bustard ( <i>Ardeotis nigriceps</i> ) Forest owlet ( <i>Athene blewitti</i> ) Baer's pochard ( <i>Aythya baeri</i> ) Spoon-billed sandpiper ( <i>Eurynorhynchus pygmeus</i> ) Siberian crane ( <i>Grus leucogeranus</i> ) White-rumped vulture ( <i>Gyps bengalensis</i> ) Indian vulture ( <i>Gyps indicus</i> ) Slender-billed vulture ( <i>Gyps tenuirostris</i> ) Bengal florican ( <i>Houbaropsis bengalensis</i> ) Himalayan quail ( <i>Ophrysia superciliosa</i> ) Jerdon's courser ( <i>Rhinoptilus bitorquatus</i> ) Pink-headed duck ( <i>Rhodonessa caryophyllacea</i> ) Red-headed vulture ( <i>Sarcogyps calvus</i> ) Sociable lapwing ( <i>Vanellus gregarius</i> ) Bugun liocichla ( <i>Liocichla bugunorum</i> )
<b>Fish</b>	Knifetooth sawfish ( <i>Anoxypristes cuspidata</i> ) Pondicherry shark ( <i>Carcharhinus hemiodon</i> ) Ganges shark ( <i>Glyphis gangeticus</i> ) Deccan labeo ( <i>Labeo potail</i> ) Largetooth sawfish ( <i>Pristis microdon</i> ) Longcomb sawfish ( <i>Pristis zijsron</i> ) Humpback mahseer
<b>Reptiles and Amphibians</b>	Northern river terrapin ( <i>Batagur baska</i> ) Red-crowned roofed turtle ( <i>Batagur kachuga</i> ) Hawksbill sea turtle ( <i>Eretmochelys imbricata</i> ) Gharial ( <i>Gavialis gangeticus</i> ) Ghats wart frog ( <i>Fejervarya murthii</i> ) Gundia Indian frog ( <i>Indirana gundia</i> ) Toad-skinned frog ( <i>Indirana phrynoderma</i> ) Charles Darwin's frog ( <i>Ingerana charlesdarwini</i> ) Rao's torrent frog ( <i>Micrixalus kottigeharensis</i> ) Amboli bush frog ( <i>Pseudophilautus amboli</i> ) White-spotted bush frog ( <i>Raorchestes chalazodes</i> ) Griet bush frog ( <i>Raorchestes griet</i> ) Munnar bush frog ( <i>Raorchestes munnarensis</i> ) Ponmudi bush frog ( <i>Raorchestes ponmudi</i> ) Sacred Grove bush frog ( <i>Raorchestes sanctisilvaticus</i> ) Shillong bubble-nest frog ( <i>Raorchestes shillongensis</i> ) Resplendent shrubfrog ( <i>Raorchestes resplendens</i> ) Anaimalai flying frog ( <i>Rhacophorus pseudomalabaricus</i> ) Patinghe Indian gecko ( <i>Geckoella jeyporensis</i> )

<b>Mammals</b>	Asiatic cheetah ( <i>Acinonyx jubatus venaticus</i> ) Namdapha flying squirrel ( <i>Biswamoyopterus biswasi</i> ) Himalayan wolf ( <i>Canis himalayensis</i> ) Andaman Shrew ( <i>Crocidura andamanensis</i> ) Jenkins' shrew ( <i>Crocidura jenkinsi</i> ) Nicobar shrew ( <i>Crocidura nicobarica</i> ) Northern Sumatran rhinoceros ( <i>Dicerorhinus sumatrensis lasiotis</i> ) Kondana soft-furred rat ( <i>Millardia kondana</i> ) Pygmy hog ( <i>Porcula salvania</i> ) Indian Javan rhinoceros ( <i>Rhinoceros sondaicus inermis</i> ) Malabar large-spotted civet ( <i>Viverra civettina</i> ) Elvira rat ( <i>Cremonomys elvira</i> ) Chinese pangolin ( <i>Manis pentadactyla</i> ) Kashmir stag ( <i>Cervus canadensis hanglu</i> )
<b>Coral</b>	Fire corals ( <i>Millepora boschmai</i> ) Spiders Rameshwaram Ornamental or Parachute Spider ( <i>Poecilotheria hanumavilasumica</i> ) Gooty Tarantula, Metallic Tarantula or ( <i>Poecilotheria metallica</i> )

### NATIONAL PARKS IN INDIA

Name	State	Notability
Bandipur National Park (1974)	Karnataka	Chital, grey langurs, Indian giant squirrel, gaur, leopard, sambar deer, Indian elephants, honey buzzard, red-headed vulture and other animals.
Bannerghatta National Park (Bannerghatta Biological Park) (1974)	Karnataka	White Tiger, Royal Bengal Tiger, Bear, other animals
Betla National Park (1986)	Jharkhand	Tiger, Sloth Bear, Peacock, Elephant, Sambar deer, mouse deer and other animals.
Bhitarkanika National Park (1988)	Odisha	Mangroves, Saltwater crocodile, white crocodile, Indian python, black ibis, wild pigs, rhesus monkeys, chital and other animals
Buxa Tiger Reserve (1992)	West Bengal	Tiger
Dachigam National Park (1981)	J&K	Only area where Kashmir stag is found
Dudhwa National Park (1977)	U.P	Swamp deer, sambar deer, barking deer, spotted deer, hog deer, tiger, Indian rhinoceros,
Gir Forest National Park (1965)	Gujarat	Asiatic lion

Great Himalayan National Park (1984)	Himachal Pradesh	UNESCO World Heritage Site
Gulf of Mannar Marine National Park (1980)	Tamil Nadu	Green turtles and Olive Ridley turtles and whales.
Indravati National Park (1981)	Chhattisgarh	Wild Asian Buffalo, Tiger Reserve, Hill Mynas
Jaldapara National Park (2012)	West Bengal	Indian one horned rhinoceros
Jim Corbett National Park (1936)	Uttarakhand	Tiger
Kanha National Park (1955)	Madhya Pradesh	Swamp Deer, Tigers
Kaziranga National Park (1905)	Assam	Indian rhinoceros, UNESCO World Heritage Site
Keibul Lamjao National Park (1977)	Manipur	Only floating park in the world
Keoladeo National Park (1981)	Rajasthan	UNESCO World Heritage Site
Manas National Park (1990)	Assam	UNESCO World Heritage Site
Mandla Plant Fossils National Park (1983)	Madhya Pradesh	Plant Fossils National Park
Marine National Park, Gulf of Kutch (1980)	Gujarat	70 species of sponges, Coral 52 species along with puffer fishes, sea horse and sting ray
Namdapha National Park (1974)	Arunachal Pradesh	Snow Leopards, Clouded Leopards, Common Leopards and Tigers
Nanda Devi National Park (1982)	Uttarakhand	UNESCO World Heritage Site
Neora Valley National Park (1986)	West Bengal	Clouded leopard, red panda and musk deer
Nokrek National Park (1986)	Meghalaya	UNESCO World Biosphere Reserve
Periyar National Park (1982)	Kerala	Tigers
Ranthambore National Park (1981)	Rajasthan	Tigers, Leopards, Striped Hyenas, Sambar deer and Chital

Sariska Tiger Reserve (1955)	Rajasthan	Tiger
Simlipal National Park (1980)	Odisha	Tiger, Leopard, Asian elephant, Sambar, Barking deer, Gaur, Jungle cat, Wild boar, and other animals
Sultanpur National Park (1989)	Haryana	Siberian crane, greater flamingo, ruff, black-winged stilt, common teal, northern pintail, and yellow wagtail
Sundarbans National Park (1984)	West Bengal	UNESCO World Heritage Site
Valley of Flowers National Park (1982)	Uttarakhand	Flying squirrel, Himalayan black bear, red fox, Himalayan weasel, Himalayan yellow-throated marten, and Himalayan goral

### WILDLIFE SANCTUARIES

India has 515 animal sanctuaries referred to as wildlife sanctuaries category IV protected areas. Among these, the 48 tiger reserves are governed by Project Tiger, and are of special significance in the conservation of the tiger.

### WILDLIFE SANCTUARIES IN INDIA

Name of the Sanctuary	Location	Major Species
Gir Wildlife Sanctuary	Sasan Gir, Junagadh, Amreli	Lion, Leopard, Chausinga, Chital, Hyena, Sambar, Chinkara, Herpetofauna, Crocodiles and birds
Wild Ass Sanctuary	Little Rann of Kachchh	Wild Ass, Chinkara, Blue bull, Houbara bustard, Wolf, Waterfowls, Herpetofauna
Hingolgadh Sanctuary	Hingolgadh, Rajkot	Chinkara, Blue bull, Wolf, Hyena, Fox, Birds, Herpetofauna
Marine Sanctuary	Gulf of Kachchh, Jamnagar	Sponges, Corals, Jellyfish, Sea horse, Octopus, Oyster, Pearloyster, Starfish, Lobster, Dolphin, Dugong, waterfowls
Simlipal Sanctuary	Odisha	Elephant, Tiger, Leopard, Gaur, Cheetal
Kutch Desert Sanctuary	Great Rann of Kachchh	Chinkara, Hyena, Fox, Flamingo, Pelicans & other waterfowls, Herpetofauna
Rampara Sanctuary	Rampara, Rajkot	Blue bull, Chinkara, Wolf, Fox, Jackal, Birds, Herpetofauna
Ghana Bird Sanctuary	Rajasthan	Water Bird, Black-buck, Cheetal, Sambar
Panchmarhi	Madhya Pradesh	Tiger, Panther, Sambhar, Nilgai, Baskeng, Deer
Dandeli Sanctuary	Karnataka	Tiger, Panther, Elephant, Cheetal, Sanbhar, Wild Boar
Kutch Bustard Sanctuary	Near Naliya, Kachchh	Great Indian Bustard, Lesser Florican, Houbara bustard, Chinkara, Blue bull, Herpetofauna

**BIOSPHERE RESERVES IN INDIA AREA-WISE**

Name	State	Key Fauna
Nilgiri Biosphere Reserve	Tamil Nadu, Kerala and Karnataka	Nilgiri tahr, lion-tailed macaque
Nanda Devi National Park & Biosphere Reserve	Uttarakhand	Himalayan musk deer, mainland serow, Himalayan tahr
Gulf of Mannar	Tamil Nadu	Dugong or sea cow
Nokrek	Meghalaya	Red panda
Sundarbans	West Bengal	Royal Bengal tiger
Manas	Assam	Golden langur, red panda
Simlipal	Odisha	Gaur, Royal Bengal tiger, elephant
Dihang-Dibang	Arunachal Pradesh	Mishmi takin, red goral, musk deer
Pachmarhi Biosphere Reserve	Madhya Pradesh	Giant squirrel, flying squirrel
Achanakmar-Amarkantak Biosphere Reserve	Madhya Pradesh, Chhattisgarh	Four horned antelope ( <i>Tetracerus quadricornis</i> ), Indian wild dog ( <i>Canis alpinus</i> ), Sarus crane ( <i>Grus antigone</i> ), Asian white-backed vulture ( <i>Gyps bengalensis</i> ), Sacred grove bush frog ( <i>Philautus sanctisilvaticus</i> )
Great Rann of Kutch	Gujarat	Indian wild ass
Cold Desert	Himachal Pradesh	Snow leopard
Khangchendzonga	Sikkim	Snow leopard, red panda
Agasthyamali Biosphere Reserve	Kerala, Tamil Nadu	Nilgiri tahr, elephants
Great Nicobar Biosphere Reserve	Andaman and Nicobar Islands	Saltwater crocodile
Dibrugarh-Saikhowa	Assam	Golden langur
Seshachalam Hills	Andhra Pradesh	Yellow-throated bulbul
Panna	Madhya Pradesh	Tiger, chital, chinkara, sambhar and sloth bear

<b>WHO IS DOING WHAT FOR CLIMATE?</b>	
---------------------------------------	--

<b>GHG emission</b>	<b>Country</b>
I <b>24%</b>	<b>CHINA</b> : Envisages a peak in emissions by around 2030, and reducing carbon intensity ( $\text{CO}_2$ emitted per unit of GDP) by 60-65% by 2030 compared with 2005 levels. The world's most populous nation will boost the share of non-fossil fuel in primary energy consumption from 11.2% in 2014 to 20%, and boost the volume of $\text{CO}_2$ -absorbing forest by about 4.5 billion cubic metres.
II <b>15.5%</b>	<b>UNITED STATES</b> : Has pledged a 26-28% reduction in emissions from 2005 levels by 2025. Power plants are to cut carbon dioxide pollution by 32% by 2030.
III <b>10.8%</b>	<b>EUROPEAN UNION</b> : The 28-member bloc tends to cut emissions by at least 40% by 2030 over 1990 levels, and has set 27% targets for renewable energy supply and efficiency gains.
IV <b>6.4%</b>	<b>INDIA</b> : Plans to reduce carbon intensity by 35% by 2030 from 2005 levels, and generate 40% of its electricity from renewable sources by the same date.
V <b>4.9%</b>	<b>RUSSIA</b> : Has mooted cutting emissions by 25-30% by 2030 from 1990 levels, conditional on the pledges of other "major emitters".
VI <b>2.9%</b>	<b>JAPAN</b> : Has pledged a 26% reduction in emissions from 2013 levels by 2030, with nuclear energy – offline since the 2011 Fukushima disaster – providing 20-22% of electricity by then. Renewable electricity production, including hydro power, would be expanded to a 22-24% share, from 11% in 2014.
VII <b>2.1%</b>	<b>BRAZIL</b> : Will cut emissions by 37% by 2025 from 2005 and 43% by 2030.
VIII <b>1.6%</b>	<b>IRAN</b> : Iran has made an unconditional pledge to reduce its greenhouse gas emissions in 2030 by four per cent compared with a "business as usual" scenario. In addition, Tehran said it would reduce emissions by another 8% if it receives financial and technology support, and if what it describes as :unjust sanctions where lifted.
IX <b>1.6%</b>	<b>INDONESIA</b> : A 29% cut in emissions by 2030 compared with what the level would have been with our any action. With financial and other help, this could be raised to 41%.
X <b>1.5%</b>	<b>CANADA</b> : Will seek to cut emissions by 30% from the 2005 levels by 2030. Canada has done its bit by cutting carbon emission and putting a curb on pollution in major cities in the country.

## CARBON BUDGET

A carbon budget is the maximum amount of carbon that can be released into the atmosphere while keeping a reasonable chance of staying below a given temperature rise. The concept of carbon budget was first time adopted by Intergovernmental Panel on Climate Change (IPCC) in its 2013 report. In its most recent synthesis report, published in early 2014 states that the Intergovernmental Panel on Climate Change (IPCC) laid out estimates of how much CO<sub>2</sub> we can emit and still keep global average temperature rise to no more than 1.5C, 2C or 3C above pre-industrial levels.

The first four carbon budgets, leading to year 2027, have been set in law. The UK is currently in the second carbon budget period (2013-17). Meeting the fourth carbon budget (2023-27) will require that emissions be reduced by 50% on 1990 levels in 2025.

Carbon Sinks are increasing with time: As Carbon dioxide is increasing day by day in the atmosphere the three major sink (atmosphere, ocean and land) are absorbing more carbon. The carbon sink are increasing alarmingly due to deforestation, fossil fuel emission and

industrialization. Although we tend to focus on growing atmospheric carbon concentrations, ocean acidification is also hugely worrying. As the world continues to warm the future function of ocean and land sinks may come under strain.

### **Global Share of CO<sub>2</sub>**

The largest producers of CO<sub>2</sub> emissions worldwide in 2015, based on their share of global CO<sub>2</sub> emissions. In recent years, there has been a tremendous surge in carbon dioxide (CO<sub>2</sub>) levels in the atmosphere. These atmospheric carbon dioxide rises are believed to be the result of the earth's industrialization. China was the biggest emitter of carbon dioxide; the country accounted for around 28.03 percent of global CO<sub>2</sub> emissions that year. In 2014 five largest CO<sub>2</sub> producers includes United States of America, Brazil, Russia India and China out of which China is at the top position in carbon dioxide emission. Today, there are a number of measures to reduce carbon dioxide emissions. These measures include reforestation, the introduction of a price for carbon, a reduction of livestock and a decreased use of fossil fuels in energy generation.

## PARIS AGREEMENT

### **Introduction**

The Paris Agreement is the outcome of 20 previous Conferences of Parties (COPs) on behalf of United Nations Framework Convention on Climate Change (UNFCCC) first held in Rio de Janeiro (Brazil) Earth Summit in 1992. For the same objective the Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered

into force on 16 February 2005. In this protocol developed countries were recognized as principally responsible for the current high levels of green house gas (GHG) emissions in the atmosphere as a result of more than 150 years of industrial activity. So the Protocol placed a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

The detailed rules for the implementation of the Kyoto Protocol were adopted at COP 7 in Marrakesh, Morocco, in 2001, and are referred to as the "Marrakesh Accords." Its first commitment period started in 2008 and ended in 2012.

The Paris Agreement came during COP21/CMP11 of United Nations Climate Change Conference (UNCCC) held in Paris (France) from 30 November to 11 December 2015. The Parties acknowledged, "climate change is a common concern of humankind, so Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity".

### **Essential Elements of Paris Agreement**

The Paris Agreement builds upon the Convention and for the first time brings all nations (Developed & developing) into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort. Some of the key aspects of the agreement are:

**Long-term Temperature Goal (Art. 2):** The Paris Agreement, in seeking to strengthen the global response to climate change, reaffirms the goal of limiting global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees.

**Global Peaking (Art.4):** To achieve this temperature goal, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing peaking will take longer for developing country Parties, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of the century.

**Mitigation (Art. 4):** The Agreement establishes binding commitments by all Parties to prepare, communicate and maintain a nationally determined contribution (NDC) and to pursue domestic measures to achieve them. It also prescribes that Parties shall communicate their NDCs every 5 years and provide information necessary for clarity and transparency. Developed countries should continue to take the lead by undertaking economywide reduction targets, while developing countries should continue enhancing their mitigation efforts, and are encouraged to move toward economywide targets over time in the light of different national circumstances.

**Sinks and Reservoirs (Art.5):** The Agreement also encourages Parties to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1(d) of the Convention, including forests.

**Market and Non-markets (Art. 6):** The Agreement establishes a mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development, as well as defining a framework for non-market approaches to sustainable development.

**Adaptation (Art. 7):** The Agreement establishes a global goal to significantly strengthen national adaptation efforts – enhancing adaptive capacity, strengthening resilience and reduction of vulnerability to climate change – through support and international cooperation. Developing country Parties will receive enhanced support for adaptation actions.

**Loss and Damage (Art. 8):** The Agreement significantly enhances the Warsaw International Mechanism on Loss and Damage, which will develop approaches to help vulnerable countries cope with the adverse effects of climate change, including extreme weather events and slow-onset events such as sea-level rise. The Agreement now provides a framework for Parties to enhance understanding, action and support with regard to loss and damage.

**Support (Art. 9, 10 and 11):** The Agreement reaffirms the obligations of developed countries to support the efforts of developing country Parties to build clean, climate-resilient futures, while for the first time encouraging voluntary contributions by other Parties. For this developed nations are called to give \$ 100 billion annually to developing nations by 2020 to help them combat climate and foster green economies with advanced technology.

**Transparency (Art. 13):** The Agreement relies on a robust transparency and accounting system to provide clarity on action and support by Parties, with flexibility for their differing capabilities. In addition to reporting information on mitigation, adaptation and support, the agreement requires that the information submitted by each Party undergoes international review. The Agreement also

includes a mechanism that will facilitate implementation and promote compliance in a non-adversarial and non-punitive manner, and will report annually to the COP.

**Global Stocktake (Art. 14):** A “global stocktake”, to take place in 2023 and every 5 years thereafter, will assess collective progress toward meeting the purpose of the Agreement in a comprehensive and facilitative manner.

**Decision** also sets out a number of measures to enhance action prior to 2020, including strengthening the technical examination process, enhancement of provision of urgent finance, technology and support and measures to strengthen high-level engagement.

The decision also welcomed the efforts of all non-Party stakeholders to address and respond to climate change, including those of civil society, the private sector, financial institutions, cities and other sub-national authorities. These stakeholders were requested to scale up their efforts and showcase them via the Non-State Actor Zone for Climate Action .

### Status of Ratification

The Paris Agreement entered into force on 4 November 2016, thirty days after the date (5 October 2016) on which at least 55% Parties to the Convention accounting in total of global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary. However, 125 Parties out of 197 ratified the Paris Convention.

The first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA 1) took place in Marrakech, Morocco from 15-18 November 2016.

# Economy

## Inflation

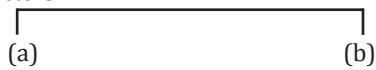
In a broad sense, inflation is that state in which the prices of goods & services rise on one hand & value of money falls on the other.

### *Types of Inflation*

1. **Demand Pull Inflation:** It is that inflation when prices rise due to higher demand for goods & services over the available supply.
2. **Cost Push Inflation:** It is the type of inflation in which prices rise due to increased input costs.

### *Causes of Inflation*

The inflation occurs due to two main factors :-



#### **(a) Factors causing an increase in demand for goods & services:**

- (i) Increase in public expenditure
- (ii) Increase in pvt. expenditure
- (iii) Increase in exports
- (iv) Reduction in taxation
- (v) Rapid growth of population
- (vi) Black money
- (vii) Deficit financing
- (viii) Cheap money policy
- (ix) Increase in consumer spending
- (x) Department of Tax internal debts.

#### **(b) Factors causing decrease in supply of goods & services:**

- (i) Shortage of supplies of factors
- (ii) Industrial disputes
- (iii) Natural calamities

- (iv) Loop-sided Production
- (v) Hoarding by traders
- (vi) Operation of Law of Diminishing Returns.

### *Impact of Inflation*

Inflation is the most regressive form of taxation as it affects the poor and vulnerable sections of the society the most. Such a situation leads to increase in income disparities.

Inflation dampens exports by making our products expensive and, conversely, makes imports attractive. Such a situation may warrant formal or informal devaluation of the currency in order to make our exports competitive.

Inflation leads to recession, as people with fixed incomes set apart an increasing share of their income to meet the growing costs of essential commodities, leaving very little for expenditure on non-essential terms. The production of such items has to be reduced, leading to shutdowns and recession.

### *Policy measure to control inflation*

The issue of inflation is addressed from both demand and supply sides. Demand management implies putting a check on the demand of the public for goods and services. Demand management is achieved by measures such as postponing public expenditure, reducing up excess liquidity either through taxes or saving schemes and restrictions on ad hoc treasury bills. While such measures help contain the money supply, there is a danger that these will contract the economy and lead to an increase in unemployment. Rationalisation of excise and import duties of essential commodities to higher the burden on poor.

RBI assists in controlling inflation through monetary measures such as quantitative and selective credit controls and by manipulating the *Cash Reserve Ratio* (CRR) and the *Statutory Liquidity Ratio* (SLR). These are the monetary policies adopted by government.

On the supply side, the mechanism of Public Distribution System (PDS) ensures availability of essential commodities for the vulnerable sections of society. This helps to maintain price levels. Fixation of maximum prices to eliminate the incentive for hoarding and speculative activity in foodgrains. Control over private trade in foodgrains. Adoption of Open General Licence (OGL) to ease the imports of sugar, pulses, etc., in case of shortages. Coupled with this is the open market sale of rice and wheat resorted to by FCI from its buffer stock in times of price rise.

#### **Related Terms**

**Deflation:** Deflation is that state in which the value of money rises & the price of goods & services falls.

**Stagflation:** It refers to the situation of coexistence of stagnation & inflation in the economy. Stagnation means low National Income growth & high unemployment.

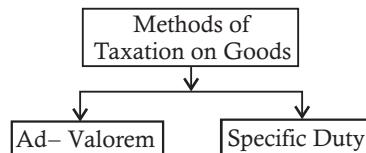
**Disinflation:** The rate of inflation at a slower rate is called disinflation.

#### **Types of Taxes**

- **Direct Tax-** The tax that people pay directly to the government is called direct tax. Examples :
  - **Income Tax-** Tax on the personal income of the individuals.
  - **Corporate Tax-** Levied on Company's profit income.
  - **Wealth Tax-** Imposed on the accumulated wealth or property of every individual.
- **Indirect Tax-** The tax burden when shifted to another person that tax is called indirect tax. Examples :

- **MAT (Minimum Alternate Tax) -** Imposed on zero tax companies (companies pay very low tax by using the provisions of exemptions, deductions, incentives, etc.)
- **Excise Duties-** Tax on production of commodities.
- **Custom Duties-** Tax on Import & Export of commodities.
- **VAT (Value Added Tax) -** Tax on sale of commodities. It is a state level tax. The tax rate is imposed as  $x$  of value added.
- **GST-** It is a uniform tax on goods & services throughout the country.

#### **METHODS OF TAXATION OF GOODS**



**(1) Ad Valorem-** If tax is levied as  $x$  of the value of the goods regardless of number of units produced/ sold/ imported, then it is called ad valorem.

**Eg.** Price of car      Tax Amount

₹ 2 lakh	₹ 20,000
₹ 4 lakh	₹ 40,000

**(2) Specific Duty-** If tax is levied at a flat rate per unit of goods produced/ sold/ imported regardless of the value then it is called specific duties.

Eg. Car's Price	Tax
₹ 2 lakh	₹ 10,000
₹ 4 lakh	₹ 10,000

#### **IMPORTANT INTERNATIONAL REPORTS INDEX**

##### **Human Development Index**

The UNDP Human Development Report ranks countries on the basis of measuring human development by combining indicators of the **Health**,

**Education & Income** into a composite **Human Development Index (HDI)**. The HDI classifies the World into 4 broad segments :

Very High → High → Medium and → Low Human Development Components of HDI.

#### HDI includes

- (a) **Health** : Life Expectancy at Birth
- (b) **Education** : Mean years of schooling, Expected years of schooling
- (c) **Living standards**: Gross National Income Per Capita

India has been classified in the Medium Human Development Category, placed at 130 rank out of 187 countries (Human Development Report 2015). The title of 2015 edition of, HDR is 'work for Human Development'. The top 3 nations in 2015 HDI are Norway (1<sup>st</sup>), Australia (2<sup>nd</sup>) & Switzerland(3<sup>rd</sup>). The first Indian Human Development Report was formally released by the then Prime Minister Mr. Atal Bihari Vajpayee on April 23, 2002. Madhya Pradesh was the first state to release state-level Human Development Report.

#### INDIA'S RANK IN IMPORTANT INTERNATIONAL REPORTS/INDEX

Index / Report	India's Rank
Gender Inequality Index 2015	130 <sup>th</sup> (Out of 155 countries)
Global Hunger Index 2016	28.5 (Serious hunger situation)
Global Competitiveness Report 2015-16	55 <sup>th</sup> (Out of 140 economies)
World Investment Report 2016	10 <sup>th</sup> (in FDI inflows in the world)
Global Gender Gap 2015	108 <sup>th</sup> (Out of 145 economies)
Ease of Doing Business Index 2017	130 <sup>th</sup> (Out of 190 economies)
Global Innovation Index 2016	66 <sup>th</sup> (Out of 128 countries)
Global Human Capital Index 2016	105 <sup>th</sup> (Out of 130 countries)

#### *Evergreen Revolution*

The pioneer of Indian green revolution Mr. M.S. Swaminathan, presently chairman of National Commission on farmers gave a new call for '**Evergreen Revolution**' for doubling the present production level of foodgrains from 210 million tonnes to 420 million tonnes. For making '**Evergreen Revolution**' a success, he stressed on adopting **organic farming**. He also mentioned four pre-requisites for getting the success:

- i. Promoting soil health.
- ii. Promoting Lab to Land exhibitions.
- iii. Making rainwater harvesting compulsory.
- iv Providing credit to farmers on suitable conditions.

#### *Agricultural Revolution in a nutshell*

Revolution	Area
1. Green	Foodgrain production
2. White	Milk
3. Yellow	Oil seeds
4. Blue	Fisheries
5. Red	Meat and Tomato
6. Golden	Fruits
7. Grey	Fertilizers
8. Black/ Brown	Non-conventional & Energy Sources
9. Silver	Eggs
10. Round	Potato

### E-Commerce in India

E-commerce or electronic commerce deals with the buying & selling of goods & services, or the transmitting of funds or data, over an electronic platform, mainly the internet. These business transactions are categorised into-

- Business to Business (B2B)
- Business to Consumers (B2C)
- Consumer to Consumer (C2C)
- Consumer to Business(C2B)

#### Business to Business to Consumer

E-commerce processes are conducted using applications, such as Email, fax, online catalogues & shopping carts, electronic data interchange, file transfer protocol & web services & e-newsletters to subscribers. E-Travel is the most popular form of E-commerce, followed by e-Tail which essentially means selling of retail goods on the internet conducted by the B2C category.

### Mobile Commerce (M - Commerce)

M-Commerce is the buying & selling of goods & services through wireless handheld services such as cellular telephone & personal digital assistants. The phrase mobile commerce was originally coined in 1997 by Kevin Duffey at the launch of the Global Mobile Commerce Forum. Mobile Commerce transaction continues to grow, & the term includes online banking, bill payment & so on.

### Agmark

It is a certification mark employed on agricultural products in India, assuring that they confirm to a set of standards approved by the Directorate of Marketing & Inspection, an agency of the Government of India.

### ISI Mark

**ISI (Indian Standards Institute)** mark is a certification mark for industrial products in India. The mark

certifies that a product confirms to the Indian Standard, mentioned as IS: xxxx on top of the mark, developed by the **Bureau of Indian Standards (BIS)**. The ISI mark is mandatory for certifying products to be sold in India, like many of the electrical appliances, kitchen appliances, other products like LPG valves, LPG cylinders, automotive tyres, etc.

### Provident Fund (PF)

It is a fund which is composed of contributions & made by the employee during the time he/she worked along with an equal contribution by his employer. Its purpose is to help employees save a fraction of their salary every month, to be used in an event that the employee is temporarily or no longer fit to work or at retirement.

### FDI

- Foreign direct investment (FDI) is an investment in a business by an investor from another country for which the foreign investor has control over the company purchased. The *Organisation of Economic Co-operation and Development (OECD)* defines control as owning 10% or more of the business. Businesses that make foreign direct investment are after called *Multinational Corporations (MNCs)* or *Multinational Enterprises (MNEs)*.
- A MNE may create a new foreign enterprise by making a direct investment, which is called a *greenfield investment*.
- A MNE may make a direct investment by the acquisition of a foreign firm, which is called an *acquisition* or *greenfield investment*.

### Advantages FDI

1. Economic Development Stimulation.
2. Easy International Trade.

3. Employment and Economic Boost.
4. Development of human capital Resources.
5. Tax incentives.
6. Resource Transfer.
7. Reduced disparity between revenues and costs.
8. Increased productivity.
9. Increment in income.

#### ***Disadvantages of FDI***

1. Hindrances to domestic Investment.
2. Risk from political changes.
3. Negative influence on exchange rates.
4. Higher costs.
5. Economic non-viability.
6. Expropriation.
7. Modern-day Economic colonialism.
- FDI, being a non-debt capital flow, is a leading source of external financing, especially for the developing economies. It not only brings in capital and technical know-how but also increases the competitiveness of the economy.
- The current phase of FDI policy is characterized by negative listing, permitting FDI freely except in a few sectors indicated through a negative list. Under the current policy regime, there are three broad entry options for foreign direct investors:
  1. In some sectors, FDI is not permitted (*negative list*);
  2. In another small category of sectors, foreign investment is permitted only till a specified level of foreign equity participation.
  3. The third category, comprising all the other sectors, is where foreign investment up to 100 % of equity participation is allowed. The third category has two subsets –
    - a. one consisting of sectors where automatic approval is granted for FDI (often foreign equity participation less than 100 %), and

- b. the other consisting of sectors where prior approval from the Foreign Investment Approval Board (FIPB) is required.

- FDI policy changes increasingly reflect the requirements of industry and are based on stakeholder's consultation. Upfront listing of negative sectors has helped focus on reform areas, which are reflected in buoyant FDI inflows.

#### **100% FDI**

- Advertising, agriculture, air transport services (domestic airlines), courier services, drugs and pharmaceuticals, electricity, power, films and studios, hotel and tourism, housing and real estate, construction, mass rapid transport system, mining (gold and silver), NBFC, marketing, pipelines and refining of petroleum products, tourism, transport infrastructure, townships, SEZs, railways, single brand retail (upto 49% automatic and from 49 to 100% has to be approved by FIPB), telecommunications (upto 49% automatic, 49-100% by FIPB), and asset reconstruction companies ( upto 49% automatic, 49-100% by FIPB).

#### **74% FDI**

- Airports, broadcasting, coal and lignite, credit information companies, direct to home (DTH), mining (diamonds&preciousstones),satellites, and private sector banking are the sectors with FDI limit of 74%.

#### **26-49% FDI**

- Airlines/aviation, defence, insurance and pension are the sectors which have 49% FDI limit. Sectors with 26% FDI limits print media (newspaper - 26%, scientific & periodicals - 100%) and FM radio. Public sector Banks have the lowest FDI limit of 20%.

# Technology & its Application

## Absorbable Heart Stent

The bio-absorbable version made by Abbott Laboratories in Illinois does its job and disappears. After six months the stent begins to dissolve, and after two years it's completely gone, leaving behind a healthy artery. But cheap stents are metallic which don't dissolve.

## Artificial Brain

Artificial brain is a collection of interconnected neural net module which is evolved in a special electronic hardware downloaded into PC and interconnected according to the design of human brain.

## Autophagy

This year's Nobel Prize in Physiology or Medicine has been awarded to 71-year-old Yoshinori Ohsumi of the Tokyo Institute of Technology for unravelling in the 1990s the underlying **molecular mechanism of autophagy**. He was the first to visually observe the process.

During starvation a person is able to survive for a considerable stretch of time. Despite the obvious stress, the body is able to cope because of an internal physiological process of "*self-cannibalisation*" through which the body makes use of its inessential and damaged cellular components by breaking them down and reassembling them into useful proteins and the nutrients needed to sustain its essential functions. This is called **autophagy**, which literally means "**self-devouring**". It is a process that has been evolutionarily conserved and is intrinsic to all organisms, from unicellular yeast to multicellular mammalian systems like humans.

## Electroactive Bandage

The NASA (National Aeronautics and Space Administration) has developed a new high-tech electroactive bandage that uses electricity to significantly promote healing of injured wounds. The high-tech bandage creates an electric charge to promote the healing process of wounds in space especially in conditions of non-Earth gravity.

The electroactive bandage uses a new material called **polyvinylidene fluoride (PVDF)** which can be stimulated by pressure of cell growth and body heat. This bandage could be used by astronauts in space, military personnel wounded in field, patients who have undergone surgery or who have suffered a serious wound.

## 3D – Lungs

Scientists in the United States including those of Indian origin have successfully grown three-dimensional (3D) lungs in the lab, using stem cells. **The 3D lungs or organoids** was created by coating tiny gel beads with lung-derived stem cells and then allowing them to self-assemble into the shapes of the air sacs found in human lungs. To show that these tiny organoids mimicked the structure of actual human lungs, researchers compared it with real sections of human lung.

The laboratory-grown 3D lungs can be used to study diseases including Idiopathic Pulmonary Fibrosis (IPF) which has been difficult to study using conventional methods and also test possible treatments for the lung diseases.

IPF is a chronic lung disease characterised by scarring of the lungs.

The scarring makes the lungs thick and stiff. It results in progressively worsening shortness of breath and thus results in lack of oxygen to the brain and vital organs. Though researchers do not know what causes IPF in all cases but cigarette smoking and exposure to certain types of dust can increase the risk of developing the disease.

### **Human Hair as Cathode**

Researchers from Kolkata based Indian Institute of Science Education and Research (IISER) have produced cost-effective, metal-free cathodes using human hair for use in solar cells.

This is the first instance where a bio-waste-derived electrode (in this case human hair) has been used as cathode in a quantum dot sensitised solar cell device.

### **Cryogenic Engine**

The cryogenic engine is crucial to the development of GSLV. Cryogenics refers to technology of sub-zero temperatures, and cryogenic engines use liquid oxygen as the oxidiser and liquid hydrogen as the fuel. India was to acquire the cryogenic engine and technology from the Russian space agency, Glavkosmos.

The advantage of the cryogenic engine is that it would develop one-and-a-half times the thrust of conventional liquid rocket engines using fuel storables at room temperature. It is a high risk high technology and would help bridge the gap between the number of satellite being made by India and the vehicles needed for their launch.

### **Hawk-Eye**

Hawk-Eye is a complex computer system used officially in numerous sports such as cricket, tennis, Gaelic football, badminton, hurling, association football and volleyball, to visually track the trajectory of the ball and display a record of its statistically most likely path as a moving image. The system is not infallible and is accurate to within 5 millimetres (0.19 inch) but is generally trusted as an impartial second opinion in sports.

### **Print-on-demand**

It is a book distribution method made possible by, and inseparable from, digital printing. It prints books only in response to orders, and only prints the exact amount ordered. With the capabilities of digital printing, print on demand is capable of filling an order for one book economically.

# Information Technology & Computer

## Government Initiatives

### 1. National Digital Literacy Mission

National Digital Literacy Mission (NDLM) Scheme has been formulated to impart IT training to 52.5 lakh persons, including Anganwadi and ASHA workers and authorised ration dealers in all the States/ UTs to enable them to actively participate in developmental process.

### 2. Digital India (DI)

The Digital India not only envisages giving boost to information technology but also envisages achieving import-export balance in electronics.

## Supercomputing in India

India's supercomputer programme was started in late 1980s. **PARAM 8000** is considered to be India's first supercomputer. It was indigenously built in 1990 by Centre for Development of Advanced Computing (C-DAC) and was replicated and installed at ICAD Moscow in 1991 under Russian collaboration.

### PARAM-ISHAN

- PARAM ISHAN is the fastest and most powerful computer. It has been jointly developed by IIT Guwahati and C -DAC.
- It has a peak computing power of 250 Teraflops and three hundred terabytes capacity.
- It can be used in research initiatives such as computational chemistry, computational electromagnetic, computational fluid dynamics, civil engineering structures, nano-block self-assemble, optimization etc.
- It can be also used for weather, climate modeling and seismic data processing.

## Net Neutrality

Network Neutrality, Internet Neutrality or Net neutrality is a term that was first given by media law professor of Columbia University, Tim Wu, in the year 2003. The principle makes it necessary for the Internet service providers and governments to treat all Internet data as same. There will not be any charges imposed on by user, application, type of enclosure, content, website, etc. It is the best way for all to enjoy the usefulness of internet without any charges. It is a feature of net neutrality to allow different websites to exist side-by-side without affecting others. At the same time and same speed, all the websites are accessible for users. Net neutrality will support competitive market place by providing a chance to each firm irrespective of its size. Net Neutrality has enabled Google, Facebook and Zomato to reach various places around the globe. Until now, India has had no laws to govern the net neutrality. Although Telecom Regulatory Authority of India (TRAI) has released rules for unified access service license to encourage net neutrality, they do not execute them.

Free Basics by Facebook is a free step to connecting one billion Indians to jobs, education, and opportunities online, and ultimately a better future.

## 4G

Fourth generation, also called as 4G, is the succeeding generation of 3G in mobile telecommunications. It is an advanced system with advanced capabilities of telephony, mobile web, gaming services, high definition TV, video conferencing, 3D television and cloud computing.

**Mobile generations** began in **1981** with byte analogue (**1G**) moving to digital transmission (**2G**) in the year **1992**. Then, in **2001**, multi-media supported **3G** was introduced. It had **byte** rate of **200 kb/s**. **4G** is assumed to have a five times faster speed than its predecessor **3G**. **4G** aims at providing a download speed of **100MB/s**.

- **4G long-term evolution (LTE)** is wireless communications standard developed by the 3rd Generation Partnership Project (3GPP).
- **4G LTE** is one of several competing **4G** standards along with **WiMax (IEEE 802.16)** and **Ultra Mobile Broadband (UMB)**. Presently two standards are commercially used world-wide viz. **LTE** and **Mobile WiMax** standard.
- **WiMax** standard was first commercially in South Korea in **2007** and **LTE** standard was first used in Norway and Sweden in **2009**.
- Designed to provide up to **10x** speeds of **3G** networks for mobile devices such as tablets, smartphones, netbooks and wireless hotspots etc.
- It can provide internet speed of at least **100 Mbit per second (Mbps)** to **1 Gbps**.
- **4G** technologies are designed to provide **IP (Internet Protocol)-based** voice, data and multimedia streaming at high speed.

#### Reliance Jio

- Reliance Jio Infocomm Limited, doing business as **Jio**, is a **LTE (Long-Term Evolution)** mobile network operator in India.
- It is a wholly owned subsidiary of  Reliance Industries provides wireless **4G LTE** service network (without **2G/3G** based services) and is the only **100%**

**VoLTE** (Voice over Long-Term Evolution) operator in the country, with coverage across all 22 telecom circles in India.

#### SOME COMMONLY USED TERMS

- **Assembler-** A programme, which converts assembly language programme into machine language programme. It is a system software.
- **Bit-** It is the basic units of computer. It can have two values **1** and **0** only.
- **BIOS-** It stands for Basic Input Output System. This program is stored in ROM.
- **Byte-** One byte is a collection of **8 bits**.
- **Compiler-** It is a computer programme that transforms human readable source code of another computer programme into the Machine readable code that a CPU can execute.
- **Cloud Computing-** It is a new technology for internet services, under which the user need not to have fall softwares and operating system installed on his machine, rather could be provided the same as and when required by the internet e.g., Google.
- **Computer Virus-** A virus is a computer programme which attaches itself to and becomes part of another executable programme and thus halts the system by pending to same undesired result.
- **Connector-** A connector is a device that joins two networks together. The most common connectors are hub, bridges and router.
- **Cables-** A flexible metal or glass wire or group of wires. All cables used in electronics are insulated with a material such as plastic or rubber.

- **Cell-** Cells are boxes created by the interaction of rows and columns.
- **Copyright-** It means the material and information are the personal property of the owner or producer.
- **Database-** It is a collection of files. Data remains in an organized form in a database.
- **Interpreter-** It translates some form of source code into a target representation that it can immediately execute but execution is relatively slower than compiler.
- **Internet-** It is the worldwide accessible system of interconnected computer networks that transmit data by using the internet protocol.
- **Local Area Network (LAN)-** A LAN is a computer network that physically links two or more computers within a geographically limited area (generally one building or a group of buildings).
- **Multi-tasking-** Allows more than one programme to run concurrently.
- **Multi-processing-** Supports running a programme on more than one CPU.
- **Multi-threading-** Allows different parts of a single programme to run concurrently.
- **Multimedia-** It is the use of several media (example, text, audio, graphics, animation, video etc.) to convey the information.
- **Microprocessor-** It is a single chip based device which is a complete processor in itself and is capable of performing arithmetic and logical operations.
- **Metropolitan Area Networks (MAN)-** MAN is a high-speed network that can carry voice, data, and images at up to 200 Mbps (megabit per second) or faster over distances of up to 75 km ranging from several blocks of buildings to entire cities.
- **Modem-** A modem is a device that allows a computer to communicate through telephone lines.
- **Network Interface Card (NIC)-** An expansion card or other device used to provide network access to a computer or other device, such as a printer. Network interface cards mediate between the computer and the physical media, such as cabling, over which transmissions travel.
- **Primary Key-** It is a field with unique value for each record.
- **Resource-** Any part of a computer system or a network such as a disk drive, printer, or memory that can be allotted to a program or a process while it is running.
- **Secondary Memory-** It is the permanent memory of the computer.
- **System Software-** It performs the basic functions that are necessary to operate a computer system.
- **Time sharing-** It is the concurrent use of a single computer system by many independent users. In time sharing many terminals can be attached to a central computer.
- **Tag-** It is part of HTML. It determines the way, the browser displays text in Web Page.
- **Wide Area Networks (WAN)-** WAN is a computer Network that is distinguished from a Local Area Network because of its longer-distance communications. The network may cover a whole country or may include the sites of a large multinational organization.

# Sports

## NUMBER OF PLAYERS ON EACH SIDE

Badminton	1 or 2	Polo	4
Baseball	9	Rugby Football	15
Basketball	5	Tennis and Table tennis	1 or 2
Cricket	11	Water Polo	7
Football	11	Volleyball	6
Hockey	11	Kabaddi	7
Chess	1		

## NATIONAL SPORTS OF FAMOUS COUNTRIES

Name	National game
Australia	Cricket
Brazil	Football
Canada	Ice Hockey
China	Table Tennis
England	Cricket
India	No Game
Japan	Judo or Ju Jitsu
Malaysia	Badminton
Pakistan	Hockey
Russia	Chess, Football
Scotland	Rugby, Football
Spain	Bull Fighting
United States of America	Baseball

## TERMS USED IN SPORTS AND GAMES

<b>Badminton</b>	Deuce, Double, Drop, Fault, Game, Let, Love, Smash.	<b>Chess</b>	Check, Checkmate, Gambit, Stalemate
<b>Baseball</b>	Bunt, Diamond, Home, Pitcher, Put out, Strike.	<b>Cricket</b>	Bowling, Bouncer, Crease, Cover point, Drive, Duck, Follow on, Googly, Gulley, Hat Trick, Hit wicket, L.B.W. (Leg Before Wicket), Leg Break, Leg spinner, Leg bye, Maiden over, No ball, Pitch, Run, Silly point, Stumped, Wicket keeper.
<b>Billiards</b>	Break, Cannons, Cue, In off, Jigger, Scratch,		
<b>Boat Race</b>	Cox	<b>Football</b>	Dribble, Drop Kick, Foul, Hattrick, Off-side, Penalty, Throw in, Touch Down.
<b>Boxing</b>	Hook, Jab, Knock-out, Punch, Upper cut.		
<b>Bridge</b>	Diamonds, Dummy, Grand slam, Little slam, Revoke, Ruff, Tricks, Trump.		

<b>Golf</b>	Bogey, Caddie, Hole, Links, Put, Putting the green, Stymie, Tee.	<b>Lawn Tennis</b>	Back-hand-drive, Service, Smash, Volley, Deuce, Game, Set, Love.
<b>Hockey</b>	Bull, Carry, Centre Forward, Carried, Dribble, Goal, Hat trick, Penalty corner, Scoop, Short corner, Sticks, Striking circle, Under cutting.	<b>Polo</b>	Bunder, Chuckker, Mallet.
<b>Horse Racing</b>	Jockey, Place, Protest, Punter, Win.	<b>Rifle Shooting</b>	Bull's eye.
		<b>Rugby</b>	Drop kick, Screen.
		<b>Swimming</b>	Stroke.
		<b>Volley ball</b>	Booster, Deuce, Love, Service, Spikers.
		<b>Wrestling</b>	Half Nelson, Heave.

#### SPECIFIC NAMES OF PLAYING AREAS

Sport	Name of Playing Area	Sport	Name of Playing Area
Badminton	Court	Golf	Link, Green**
Baseball	Diamond	Lawn Tennis	Court
Boxing	Ring	Ice Skating	Rink
Cricket	Pitch*	Wrestling	Ring, Arena

\* Pitch in fact is the space between the wickets and not the entire cricket field.

\*\* It is the area around the hole only.

#### OLYMPIC GAMES

Olympic Games are an international sporting event which is organised in the form of summer and winter sports. The Summer Olympic Games were first held in 1896. The Winter Olympic Games were created after the huge success of the Summer Olympics. Baron Pierre de Coubertin founded the International Olympic Committee (IOC) in 1894. The Olympic Games are held after every four years, with the Summer and Winter Games alternatively occurring every four years but two years apart from each other.

The Olympics games originated in the city of *Olympia*, an ancient city of *Greece*. These games were held at

Mount Olympia. India officially participated in the Olympics for the first time in the year 1920, in the 6th edition of the games at Antwerp, Belgium.

The Olympic flag is made up of white silk and contains five intertwined rings as the Olympics emblem.

The colour of rings represents different continents as given below:

Blue	Europe
Yellow	Asia
Black	Africa
Red	America
Green	Australia and Oceania

#### PARALYMPIC GAMES

- Back in 1948, Sir Ludwig Guttmann, a neurologist who was working with World War II veterans with spinal injuries at Stoke Mandeville Hospital in Aylesbury, began using

sport as part of the rehabilitation programmes of his patients. He set up a competition with other hospitals to coincide with the London Olympics in that year.

- The Paralympics are elite sport events for athletes from six different disability groups. Athletes include those with mobility disabilities, intellectual disabilities, visual impairments, cerebral palsy and amputees.
- This event focuses on the athletes' achievements rather than their disabilities.
- Paralympic sports include athletics, cycling, judo, rowing, swimming, and volleyball.
- The first Paralympic Games were held in Rome, Italy, in 1960 and involved 400 athletes from 23 countries. Originally, only wheelchair athletes were invited to compete.
- The Paralympics are held in two seasons: summer and winter.

#### NICKNAMES OF FAMOUS PLAYERS AROUND THE WORLD

Sachin Tendulkar	Master Blaster, Tendlya
Virender Sehwag	Viru, Sultan of Multan
Shoaib Akhtar	Rawalpindi Express
V V S Laxman	Very Very Special
Don Bradman	The Don
Milkha Singh	Flying Sikh
Sunil Gavaskar	Sunny, Little Master
Sourav Ganguly	Dada, The Prince of Kolkata
Ricky Ponting	Punter
Harbhajan Singh	Bhajji, Turbanator
Shane Warne	Warnie, The King of Spin
Brett Lee	Bing, Binga, The Speedster
PT Usha	Payyoli Express
Major Dhyanchand	"The Wizard"

Allan Donald	White Lightning
Kapil Dev	The Haryana Hurricane
Shikhar Dhawan	Gabbar
Brendon McCullum	Baz
Rahul Dravid	The Wall, Mr. Dependable, Jammy
Mahendra Singh Dhoni	Mahi, Captain Cool, MSD
Michael Phelps	"The Baltimore Bullet"
Usain Bolt	"Lightning Bolt"
Lionel Messi	"La Pulga"
Baichung Bhutia	"Sikkimese Sniper"
Mahesh Bhupathi and Leander Paes (Doubles)	"Indian Express"
Novak Djokovic	"Djoker"
Rafael Nadal	"The King of Clay"
Andre Agassi	"The Las Vegas Kid"
Martina Hingis	"Can't-miss-Swiss"

#### BOOKS BY SPORTS PERSONS

Sachin Tendulkar	Playing it my way
Kapil Dev	By God's Decree
Sunil Gavaskar	Idol, Sunny Days
Ajith Wadekar	The making of a cricketer
David Beckham	My Side
Tiger Wood	How to play golf?
Allan Border	Beyond Ten thousand
PT Usha	Golden Girl
Major Dhyanchand	Goal
Javed Miandad	The cutting edge
Vishwanathan Anand	My best game of Chess
Yuvraj Singh	The test of my life
Abhinav Bindra	A Shot at History
Allan Donald	White Lightening

### **World Anti-Doping Agency (WADA)**

The World Anti-Doping Agency (WADA) was established on 10th November 1999. Its primary aim is to promote and coordinate the fight against doping in sport internationally. The organization's headquarters is located in Montreal, Quebec, Canada. WADA was set up as a foundation under the initiative of the IOC with the support and participation of intergovernmental organizations, governments, public authorities, and other public and private bodies fighting doping in sport. WADA is accountable for the World Anti-Doping Code, adopted by more than 600 sports organizations, including international sports federations, national anti-doping organizations, the IOC, and the International Paralympics Committee. Sir Craig Reedie is the current president of the agency.

### **National Anti Doping Agency**

National Anti Doping Agency is responsible for conducting for dope free sports in India. The primary objectives are to implement anti-doping rules as per WADA code, regulate dope control programme, to promote education and research and creating awareness about doping and its ill effects. India is among one of the nation who signed the Copenhagen Declaration on Anti Doping in December 2004.

### **International Games : Current and Coming venue**

Games	Last Venue & Year		Coming	
	Year	Venue	Year	Venue
1.Summer Olympics	2016	Rio de Janeiro (Brasil)	2020	Tokyo (Japan)
2. Winter Olympics	2014	Sochi (Russia)	2018	Pyeongchang (S. Korea)
3. Summer Paralympics	2016	Rio de Janeiro (Brazil)	2020	Tokyo (Japan)
4. Winter Paralympics	2014	Sochi (Russia)	2018	Pyeongchang (S. Korea)
5. Asian Games	2014	Incheon, (South Korea)	2018	Jakarta, (Indonesia)
6. South Asian Games	2016	Guwahati & Shilong (India)	2020	
7. Commonwealth Games	2014	Glasgow (Scotland) U.K.	2018	Gold Coast City (Australia)
8. FIFA (Federation Int'l de Football Association	2014	Brazil	2018	Russia
9. ICC Cricket World Cup	2015	Australia & New Zealand	2019	England
10. ICC T20 Cup World	2016	India	2018	Australia
11. Hockey World Cup	2014	Hague (Netherlands)	2018	Kalinga Stadiduir (Bhubaneshwar) India

12. Men Volleyball World Cup	2015	Japan	2019	Japan India
13. Women Volleyball World Cup	2015	Japan		
14. Men Kabaddi World Cup	2014	Winner- India	2016	Winner – India (Host)
15. Women Kabaddi World Cup	2014	Winner-India (Host)		
16. Chess World Cup	2015		2017	Tbilise (Georgia)
17. Women Hockey World Cup	2014	The Hague, Netherlands (Winner- Netherlands)	2018	London, England
18. Women Football World Cup	2015	Canada (Winner – United States)	2019	France
19. Women Cricket World Cup	2013	India (Winner- Australia)	2017	England
20. Women ICC World T-20 World Cup	2016	India (Winner – West Indies)	2018	West Indies
21. ICC World Test Championship	2017	(1st edition) – England	2021	India

# Healthcare

## Present Status

India has worked in improving the health of the citizens. However, the healthcare sector has been seen as a social sector receiving less focus and low budget allocation.

- \* India spends a total of 4.2% of its GDP on healthcare while USA 18%.
- \* As a result of low GDP allocation private players are emerging to fulfil the growing healthcare needs.
- \* India shares 20% of the burden of global diseases with only 6% beds and 8 % doctors.
- \* Hospital bed density in India is 0.9 per 1,000 persons, against WHO's recommendation 3.5 per 1,000.
- \* India has one doctor per 1,700 citizens against WHO's a minimum ratio of 1:1,000.
- \* India has 387 medical colleges—181 Government and 206 private.
- \* India produces 30,000 doctors, 18,000 specialists, 30,000 AYUSH graduates, 54,000 nurses, 15,000 ANMs and 36,000 pharmacists annually.
- \* India has about 6-6.5 lakh doctors. But it needs 4 lakh more by 2020 to maintain the required ratio of 1:1,000.

## NATIONAL HEALTH PROGRAMMES

### National AIDS Control Programme

A division of Ministry of Health and Family Welfare, was established in 1992 to prevent and control HIV/AIDS infection through 35 HIV/AIDS Prevention and Control Societies.

### National Cancer Control Programme

Launched in 1975 with an initiation of giving priority for equipping the premier cancer hospital/institutions. The further evolution has added few other important aspects which include recognition of new Regional Cancer Centre, strengthening of existing Regional Cancer Centres, development of oncology units, District Cancer Control Programme, etc.

### Pulse Polio Campaign (Do Boond Zindegi Ke)

Initiated in 1978 the programme aimed at preventing polio by vaccinating against the disease. It was the extended programme of Universal Immunisation Program which successfully covered 95% of the country and as a result India was declared Polio free in 2014.

### National Filaria Control Programme

Launched in India since 1957 with an objective:

- To carry out surveys in different parts of the state where the problem was known to exist in order to determine the extent of prevalence, types of infection and their vectors.

- To train professional and ancillary personnel required for the programme.

projects of providing free diagnosis, treatment, nutrition support and financial aid to the affected patients.

### **National Leprosy Eradication Programme (NLEP)**

Launched in 1955 is a centrally sponsored Health Scheme of the Ministry of Health and Family Welfare, Govt. of India with an objective of eliminating Leprosy with the use of Multi Drug Therapy (MDT) in phases.

### **Eliminate Kala-azar**

A part of National Health Policy envisaged in 2010 to eradicate the dreaded disease 'Kala-azar' or Visceral Leishmaniasis, also known as 'Black Fever' and 'Dumdum Fever' from India by 2015.

### **National TB Control Programme**

Launched in 1962 with an objective of eradication of the disease but till 1992 only 30% of the country had been covered. So the programmes has been revised in 1993 with an objective of achieving and maintaining a cure rate of 85% among newly detected infectious (new sputum smear positive) cases. This resulted in the coverage of 450 million populations which is more than 80% in 2004.

### **TB-Mission 2020**

- TB Mission 2020 was announced by the Union Ministry of Health and Family Welfare on 28th October 2014 at WHO's Global TB Symposium in Barcelona with an initiative to eliminate Tuberculosis in India by 2020.
- The Indian government will take up

### **National Tobacco Control Programme**

Launched in 2007 by the Ministry of Health and Family Welfare with objectives:

- To bring about greater awareness about the harmful effects of tobacco use and about the Tobacco Control Laws.
- To facilitate effective implementation of the Tobacco Control Law.

### **National Rural Health Mission (NRHM)**

Launched on 5th April, 2005. The Mission was initially started for:

- Creation of cadre of Accredited Social Health Activist (ASHA).
- Strengthening all the CHCs, PHCs and sub centres.
- Mainstreaming AYUSH (Indian System of Medicine).
- Integrating health and family welfare programme.
- Developing capacities for preventive healthcare at all levels.
- Promotion of public-private partnerships for achieving public health goals.
- Strengthening capacities for data collection, assessment and review for evidence based planning, monitoring and supervision.

### **National Urban Health Mission (NUHM)**

Launched in 2014 under National Health Mission (NHM).

The main objectives are to:

- Improve the healthcare status of the urban population particularly the poor and other disadvantaged sections.
- Strengthen public healthcare system.
- Involve the community and urban local bodies in healthcare delivery.
- Supplement the National Rural Health under a unified National Health Mission.

#### **Special Focus on:**

- Urban poor population living in listed and unlisted slums.
- All other vulnerable populations such as homeless, rag-pickers, street children, rickshaw pullers, construction site workers, sex workers and any other temporary migrants.

#### **Mission Indradhanush**

- Mission Indradhanush was launched to immunize all children against seven vaccine preventable diseases including diphtheria, whooping cough (Pertussis), tetanus, polio, tuberculosis, measles and hepatitis B by the year 2020.
- The mission involves four special vaccination campaigns which were conducted between the months of April and July 2015, focussing on intensive planning and monitoring of these campaigns.
- The campaigns will be planned and executed in accordance with the learning from the successful implementation of the polio programme.
- The focus of the systematic immunization drive will be comprehended through a “catch-up” campaign mode with the aim to cover the left out children who missed out immunization.
- The mission will be carried out in 2 phases in 2015 in which the first phase will cover 201 districts, while the second phase will cover 297 districts.
- The Government has recognised 201 districts across 28 states in the country with 82 districts from Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh having 25% children who are unimmunized or partially immunized.

#### **Swachh Bharat Abhiyan**

- The Swachh Bharat Mission was officially launched by Prime Minister Narendra Modi on 2nd October 2014, covering 4041 statutory towns with the purpose to clean the streets, roads and infrastructure of the nation.
- The mission aims to make the nation ‘open defecation free’ by 2019 through construction of IHHL (individual household latrines), cluster toilets and community toilets.
- SBA also aims at eradication of manual scavenging.
- It also involves 100% collection and processing/disposal/reuse/recycling of municipal solid waste.
- The campaign involves generation of awareness among the citizens regarding sanitation and public health.
- The mission encourages private sectors to participate in construction and maintenance of sanitary facilities as a part of corporate social responsibility initiative. L&T has announced the construction of 5000 toilets across the nation as the part of their CSR initiative.

**National Bal Swachhta Mission**

- The National Bal Swachhta Mission was launched by the Union Government on 14th November 2014, on the 125th birth anniversary of India's first Prime Minister Jawahar Lal Nehru.
- The Bal Swachhta Mission is an integral part of the famous sanitation drive 'Swachh Bharat Mission'.
- The six themes to be included in the mission are:
  - Clean Anganwadis
  - Clean Surroundings like Playgrounds
  - Clean Self (Personal Hygiene/ Child Health)
  - Clean Food
  - Clean Drinking Water.
  - Clean Toilets
- Maternity Benefit Program

**RECENT OUTBREAK OF MAJOR DISEASES IN INDIA**

Disease Outbreak	Symptoms	Recommended Treatment
Influenza A (H1N1) virus 2009	<ul style="list-style-type: none"> <li>Chills, Fever, Cough</li> <li>Sore Throat, Runny or Stuffy Nose, Bodyache, Fatigue, Diarrhoea</li> </ul>	Use of drugs such as <ul style="list-style-type: none"> <li>Oseltamivir (Tamiflu®),</li> <li>Zanamivir (Relenza®)</li> <li>Peramivir (Rapivab®)</li> </ul>
Swine flu 2014-2015	<ul style="list-style-type: none"> <li>Cough</li> <li>Fever</li> <li>Headache</li> <li>Sore Throat</li> <li>Muscle Pain</li> <li>Chills</li> <li>Vomiting Or Diarrhoea.</li> </ul>	<ul style="list-style-type: none"> <li>Vaccination to prevent infection.</li> <li>Oseltamivir (Tamiflu®),</li> <li>Zanamivir (Relenza®)</li> </ul>
Hepatitis 2009	<ul style="list-style-type: none"> <li>Liver Inflammation,</li> <li>Vomiting</li> <li>Jaundice.</li> </ul>	<ul style="list-style-type: none"> <li>Lamivudine (Zeffix®)</li> <li>Adefovir (Hepsera®)</li> <li>Entecavir (Baraclude®)</li> <li>Tenofovir (Viread®)</li> <li>Pegylated Interferon (Pegasys®)</li> </ul>
Dengue 2014-2016	<ul style="list-style-type: none"> <li>High Fever, (105°F)</li> <li>Pain Behind the Eyes &amp; Joints, Muscles, Bones</li> <li>Severe Headache</li> <li>Rash over skin</li> <li>Bleeding from nose/ gum/ stools</li> </ul>	<ul style="list-style-type: none"> <li>As such there is no such specific drugs for treating dengue. However doctors prescribe Acetaminophen (Tylenol, others) for alleviating pain and reduce fever.</li> </ul>
Cholera 2010	<ul style="list-style-type: none"> <li>Mild fever, Body ache, Abdominal pain and cramps, Lethargy and fatigue</li> <li>Excessive thirst</li> <li>Headaches</li> </ul>	<ul style="list-style-type: none"> <li>Antibiotic</li> <li>Oral health drink to prevent dehydration</li> </ul>

Plague 1994	<ul style="list-style-type: none"> <li>• Sudden onset of fever</li> <li>• Headache</li> <li>• Chills</li> <li>• Weakness and one or more swollen, tender and painful lymph nodes (called buboes)</li> </ul>	<ul style="list-style-type: none"> <li>• Streptomycin</li> <li>• Gentamicin</li> <li>• Tetracycline</li> <li>• Chloramphenicol</li> <li>• Doxycycline</li> <li>• Oxytetracycline</li> <li>• Sulfa-methoxazole/ trimethopri</li> </ul>
Chikungunya 1963-1973 & 2016	<ul style="list-style-type: none"> <li>• Arthritis like pain around the joints</li> <li>• Muscle aches</li> <li>• Fever</li> <li>• Malaise</li> <li>• Headache</li> <li>• Fatigue</li> <li>• Nausea</li> <li>• Vomiting</li> </ul>	<ul style="list-style-type: none"> <li>• Aspirin</li> <li>• Non-steroidal inflammatory drugs</li> <li>• Chloroquine Phosphate</li> </ul>

## GOVERNMENT INITIATIVES IN HEALTH SECTOR

India's universal health plan that aims to offer guaranteed benefits to a sixth of the world's population will cost an estimated ₹ 1.6 trillion (US\$ 23.48 billion) over the next four years.

Some of the major initiatives taken by the Government of India to promote Indian healthcare industry are as follows:

- Provisions made in the Union budget 2016-17:
  - **National Dialysis Services Programme** to be initiated to provide dialysis services in all district hospitals.
  - A new health protection scheme for health cover upto ₹ 1 lakh (US\$ 1,470) per family.
  - Setting up 3,000 medical stores across the country to provide quality medicines at affordable prices.
  - Senior citizens will get additional healthcare cover of ₹ 30,000 (US\$ 441) under the new scheme

- **Pradhan Mantri Jan Aushadhi Yojana** to be strengthened, 3000 generic drug store to be opened.
- Government of West Bengal has introduced **G1 Digital Dispensary**, to provide people from rural areas access to primary healthcare services.
- A unique initiative for healthcare '**SEHAT**' (**Social Endeavour for Health and Telemedicine**) has been launched to empower rural citizens by providing access to information, knowledge, skills and other services in different sectors through digital technologies.
- Government of India has launched the **National Deworming** initiative to protect 24 crore children of 1-19 years from intestinal worms.

### Startups Making Difference in Healthcare Digitally

About 90% of the **startups** evaluated in 2015 were working on **preventive**

**healthcare and monitoring solutions**, revealed an InnAccel's report. Hospitals, medical devices, clinical trials, outsourcing, tele-medicine, medical tourism, health insurance and medical equipment collectively form the pillar of healthcare sector.

Today, you can locate diagnostic centres, hospitals and doctors just by a swipe on a smartphone's Apps created by Startups. Below are the list of some healthtech startups:

**eKincare:** It was founded in 2014 by Kiran Kalakuntla and Sunil Motaparti at Hyderabad. It helps users put their health records and keep it on the cloud — where they can access the data anywhere, using a PC or a mobile device.

**Medibox Technologies:** Mr. Bhavik Kumar and Kapil Kanbarkar started it at Bengaluru. Medibox allows patients to search for healthcare facilities like pharmacies, hospitals and blood banks across India. It is a mobile application based services.

**Mediaka Bazaar:** It was founded by Mr. Vivek Tiwari in 2015 in Mumbai. Mediaka bazaar is a market place for all medical and healthcare needs. It helps buyers search and compare from over 10,000 medical devices and consumable options for all health and wellness needs.

**Medical Unique Identity (MUI):** Mr. Mayank Harlalka started it in Bengaluru. MUI manages personal health information to deliver quality healthcare to the public. It allows users to maintain lifetime health records and data for improving the quality of medical treatment.

**BookMEDS.com:** It was started by Mohammed Abubakar, Subathra Santanam, and Sajid Sikander in 2013 at Hyderabad. BookMEDS is an e-commerce portal for medicines and medical products. The product categories include orthopedic care, home care, mother and baby care, medical gadgets, hospital equipment, contraceptives care, protein supplements, fitness and sports, homeopathy and ayurveda, ENT, eye, and dental care.

# Everyday Science

- **Why on mixing salt to the water the level of water remain same?**  
The matter is made up of particle. When we dissolve particle of salt it occupies the space between the particles of water.
- **Why is carbon dioxide used in extinguishing fire?**  
Carbon dioxide ( $\text{CO}_2$ ) is heavier than oxygen, ( $\text{O}_2$ ). So it makes a blanket and do not allow oxygen to come in contact for combustion.
- **Evaporation takes place at lower temperature around  $60^\circ \text{ & above}$ , but boiling at  $100^\circ \text{ C}$ .**  
Evaporation is a surface phenomenon, occurs only in the upper part of water but boiling is a bulk phenomenon.
- **Plant cells are stronger than animal cells.**  
Plant cells lacks lysosome (suicide bag of cell). So in plant cell even dead cell help to strengthen the plant.
- **Why number of (white blood cell or WBC) should be maintained?**  
Normally the count of WBC in normal human body is 4500 to 11000 per mg. But its increase will lead to leukaemia and decrease may decrease the immunity which may lead to HIV.
- **Why head injury is more vulnerable?**  
The head cells are basically neuron cell, which are specialized cell, which do not regenerate. It ultimately is very fatal.
- **Who will possibly learn swimming faster-a fat person or thin person?**  
The fat person displaces more water which will help him float much more freely compared to a thin person.
- **Why is a flash of lightening seen before thunder?**  
Because light travels faster than sound, it reaches the Earth before the sound of thunder.
- **Why cannot a fire caused by petrol be extinguished by water?**  
Water, which is heavier than petrol, slips down permitting the petrol to rise to the surface and continue to burn. Besides, the existing temperature is so high that the water poured on the fire evaporates even before it can extinguish the fire. The latter is true if a small quantity of water is poured.
- **Why does water remain cold in an earthen pot?**  
There are pores in an earthen pot which allow water to percolate to the outer surface. Here evaporation of water takes place thereby producing a cooling effect.
- **Why do we place a wet cloth on the forehead of a patient suffering from high fever?**  
Because of the body's temperature, water evaporating from the wet cloth produces a cooling effect and brings the temperature down.
- **When a needle is placed on a small piece of blotting paper which is placed on the surface of clean water, the blotting paper sinks after a few minutes but the needle floats. However, in a soap solution the needle sinks. Why?**  
The surface tension of clean water being higher than that of a soap solution, it can support the weight of a needle due to its surface tension. By addition of soap, the surface tension of water reduces, thereby resulting in the sinking of the needle.

- To prevent multiplication of mosquitoes, it is recommended to sprinkle oil in the ponds with stagnant water. Why?**

Mosquitoes breed in stagnant water. The larvae of mosquitoes keep floating on the surface of water due to surface tension. However, when oil is sprinkled, the surface tension is lowered resulting in drowning and death of the larvae.

- How does oil rise on a cloth tape of an oil lamp?**

The pores in the cloth tape suck oil due to the capillary action of oil.

- How are ventilators in a room always made near the roof?**

The hot air being lighter in weight tends to rise above and escape from the ventilators at the top. This allows the cool air to come in the room to take its place.

- How does ink get filled in a fountain pen?**

When the rubber tube of a fountain pen is immersed in ink it is pressed, the air inside the tube comes out and when the pressure is released the ink rushes in to fill the air space in the tube.

- Why are air coolers less effective during the rainy season?**

During the rainy reason the atmospheric air is saturated with moisture. Therefore, the process of evaporation of water from the moist pads of the cooler slows down thereby not cooling the air blown out from the cooler.

- Why does grass gather more dew in nights than metallic objects such as stones?**

Grass being a good radiator enables water vapour in the air to condense on it. Moreover, grass gives out water constantly (transpiration) which appears in the form of dew because the air near grass is saturated with water vapour and

slows evaporation. Dew is formed on objects which are good radiators and bad conductors.

- If a lighted paper is introduced in a jar filled with carbon dioxide, its flame is extinguished. Why ?**

Because carbon dioxide does not help in burning. For burning oxygen is required.

- Why does the mass of an iron rod increase on rusting?**

Because rust is hydrated ferric oxide which adds to the mass of the iron rod. The process of rusting involves addition of hydrogen and oxygen elements to iron.

- Why does milk curdle?**

Lactose (milk sugar) content of milk undergoes fermentation and changes into lactic acid which on reacting with milk protein (caesin), forms curd.

- Why does hard water not lather soap profusely?**

Hard water contains sulphates and chlorides of magnesium and calcium which forms an insoluble compound with soap. Therefore, soap does not lather with hard water.

- Why is it dangerous to have charcoal fire burning in a closed room?**

When charcoal burns it produces carbon monoxide which is suffocating and can cause death.

- Why is it dangerous to sleep under trees at night?**

Plants respire at night and give out carbon dioxide which reduces the oxygen content of air under the trees required for breathing.

- Why does ENO's salt effervesce on addition of water?**

It contains tartaric acid and sodium bicarbonate. On adding water, carbon dioxide is produced which when released into water causes effervescence.

**• Why does milk turn sour?**

The microbes react with milk and grow. They turn lactose into lactic acid which is sour in taste.

**• Why is a new quilt warmer than an old one?**

In the new quilt the cotton is not compressed and it encloses more air which is bad conductor of heat. Therefore, it does not allow heat to pass.

**• Eskimos live in double-walled ice houses. Why?**

Because the air in between two ice walls does not allow heat to pass. Ultimately they feel warmer in it compared to environment

**• Curved rail tracks or curved roads are banked or raised on one side. Why?**

Because a fast moving train or vehicle leans inwards while taking turn and the banked or raised track provides required centripetal force to enable it to move round the curve.

**• How do bats fly in dark?**

When bats fly they produce ultrasonic sound waves which are reflected back to them from the obstacles in their way and hence they can fly without difficulty.

**• Water pipes often burst at hill stations on cold frosty nights. Why?**

The temperature at hill stations may fall below 0°C during cold frosty nights which converts the water inside the pipes into ice, resulting in an increase in volume. This exerts great force on the pipes and as a result, they burst.

**• Why are white clothes more comfortable in summer than dark or black ones?**

White clothes are good reflectors and bad absorbers of heat, whereas

dark or black clothes are good absorbers of heat. Therefore, white clothes are more comfortable because they do not absorb heat from the sun rays.

**• Why does a rose appear red and grass green in daylight?**

Rose absorbs all the constituent colours of white light except red which is reflected to us. Similarly, grass absorbs all colours except green which is reflected to us.

**• Why does a ship rise as it enters the sea from a river?**

The density of sea water is high due to impurities and salts compared to river water. As a result, the upthrust produced by the sea water on the ship is more than that of river water.

**• Why are fuses provided in electric installations?**

A safety fuse is made of a wire of metal having a very low melting point. When excess current flows in, the wire gets heated, melts and breaks the circuit. By breaking the circuit it saves electric equipment or installations from damage by excessive flow of current.

**• Why is it easier to lift a heavy object under water than in air?**

Because when a body is immersed in water, it experiences an upward thrust (Archimedes' Principle) and loses weight equal to the weight of the water displaced by its immersed portion, and hence, is easier to lift objects.

**• If a highly pumped up bicycle tyre is left in the hot sunlight, it bursts. Why?**

The air inside the tube increases in volume when heated up. As sufficient space for the expansion of the air is not available because the tube is already highly pumped, it may result in bursting of the tyre.

- **What will be the colour of green grass in blue light?**

Grass will appear dark in colour because it absorbs all other colours of the light except its own green colour. The blue light falling on grass will be absorbed by it, and hence, it will appear dark in colour.

- **Why do two eyes give better vision than one?**

Because two eyes do not form exactly similar images and the fusion of these two dissimilar images in the brain gives three dimensions of the stereoscopic vision.

- **Why do we bring our hands close to the mouth while shouting across to someone far away?**

By keeping hands close to mouth the sound is not allowed to spread (phenomenon of diffraction of sound) in all directions but is directed to a particular direction and becomes louder.

- **Why does a corked bottle filled with water burst if left out on a frosty night?**

Because of low temperature the water inside the bottle freezes. On freezing it expands, thereby its volume increases and pressure is exerted on the walls.

- **Why is a small gap left at the joint between two rails?**

To permit expansion of rails due to heat generated by friction of a moving train.

- **Why cannot a copper wire be used to make elements in electric heater?**

Copper melts at  $108.3^{\circ}\text{C}$  and forms a black powder on reacting with atmospheric oxygen. For heater elements a metal should have more resistance to produce

- **Why are water or mercury droplets always round when dropped on a clean glass?**

The surface of a liquid is the seat of a special force as a result of which molecules on the surface are bound together to form something like a stretched membrane. They tend to compress the molecules below to the smallest possible volume which causes the drop to take a round shape as for a given mass the sphere has minimum volume.

- **Why does a balloon filled with hydrogen rise in the air?**

Weight of hydrogen is less than the weight of air displaced by it. In balloons hydrogen is normally filled because it is lighter than air.

- **Why do we lean forward while climbing a hill?**

In order to keep the vertical line passing through our centre of gravity always between our feet, which is essential to attain equilibrium or stability.

- **Why does smoke curl up in the air?**

Smoke contains hot gases which being lighter in weight, follows a curved path because of the eddy currents that are set up in the air.

- **Why does an electric bulb explode when it is broken?**

The bulb encompasses partial vacuum and as it breaks, air rushes in causing a small explosion.

- **Why does a man fall forward when he jumps out of a running train or bus?**

He is in motion while in the train or bus. When he jumps out, his feet come to rest while touching the ground but his upper portion which is still in motion propels him forward.

- **Why does an ordinary glass tumbler crack when very hot tea or milk is poured in it?**

When a hot liquid is poured into a tumbler, the inner layer of the tumbler gets heated, it expands before the outer layer and an unequal expansion of both layers causes the tumbler to crack.

- **Why is a compass used as an indicator of direction?**

The magnetic needles of a compass under the influence of the earth's magnetic field lie in a north-south direction. Hence, we can identify direction.

- **Why is water from a hand pump warm in winter and cold in summer?**

In winter the outside temperature is lower than that of water flowing out of the pump, and therefore, the water is warm. Whereas, in summer, the outside temperature is higher than the water of the pump, and therefore, it feels cold.

- **Why is a rainbow seen after a shower?**

After a shower the clouds containing water droplets act like a prism through which the white light is dispersed producing a spectrum.

- **Why does a swimming pool appear less deep than it actually is?**

The rays of light coming from the bottom of the pool pass from a denser medium (water) to a rarer medium (air) and are refracted (bend away from the normal). When the rays return to the surface they form an image of the bottom of the pool at a point which is little above the real position.

- **Why is one's breath visible in winter but not in summer?**

In winter, water vapour contained in the breath condenses into small droplets which become visible but in summer they are quickly evaporated and not seen.

- **Why doesn't the electric filament in an electric bulb burn up?**

Firstly, because it is made of tungsten which has a very high melting point ( $3410^{\circ}\text{C}$ ) whereas the temperature of the filament required to glow is only  $2700^{\circ}\text{C}$ . Secondly, oxygen is absent since the bulb is filled with an inert gas which does not help in burning.

- **Why does blotting paper absorb ink?**

Blotting paper has fine pores which act like capillaries. When a portion of blotting paper is brought in contact with ink, ink enters the pores due to surface tension (capillary action of liquids) and is absorbed.

- **Why does a small ball of iron sink in water but a large ship float?**

The weight of water displaced by an iron ball is less than its own weight, whereas water displaced by the immersed portion of a ship is equal to its weight (Archimedes' Principle).

- **Why does ice float on water?**

The weight of the ice block is equal to the weight of the liquid displaced by the immersed portion of the ice

- **Why does moisture gather outside a tumbler containing cold water?**

The water vapour in the air condenses on cooling and appears as droplets of water.

- **Why does kerosene float on water?**

Because the density of kerosene is less than that of water. For the same reason cream rises in milk and floats at the top.

- **Why is the water in an open pond cool even on a hot summer day?**  
As the water evaporates from the open surface of a pond, heat is taken away in the process, leaving the surface cool.
- **Why is it less difficult to cook rice or potatoes at higher altitudes?**  
Atmospheric pressure at higher altitudes is low and boils water below 100°C. The boiling point of water is directly proportional to the pressure on its surface.
- **Why is it difficult to breathe at higher altitudes?**  
Because of low air pressure at higher altitudes the quantity of air is less, and so also that of oxygen.
- **Why are winter nights and summer nights warmer during cloudy weather than when the sky is clear?**  
Clouds being bad conductors of heat do not permit radiation of heat from land to escape into the sky. As this heat remains in the atmosphere, the cloudy nights are warmer.
- **Why is a metal tyre heated before it is fixed on wooden wheels?**  
On heating, the metal tyre expands by which its circumference also increases. This makes fixing the wheel easier and thereafter cooling down shrinks it; thus fixing the tyre tightly.
- **Why is it easier to swim in the sea than in a river?**  
The density of sea water is higher; hence the upthrust is more than that of river water.
- **A man with a load jumps from a high building. What will be the load experience by him ?**  
Zero, because while falling, both the man and the load are falling at the same acceleration i.e. acceleration due to gravity.
- **A piece of chalk when immersed in water, emits bubbles. Why?**  
Chalk consists of pores forming capillaries. When it is immersed in water the water begins to rise in the capillaries and air present there is expelled in the form of bubbles.
- **Why does a liquid remain hot or cold for a long time inside a thermos flask?**  
The presence of air, a poor conductor of heat, between the double glass wall of a thermos flask, keeps the liquid hot or cold inside a flask for a long time.
- **Why does a ball bounce upon falling?**  
When a ball falls, it is temporarily deformed. Because of elasticity, the ball tends to regain its original shape for which it presses the ground and bounce up (Newton's Third Law of Motion).
- **Why is standing in boats or double decker buses not allowed, particularly in the upper deck of buses?**  
On tilting the centre of gravity of the boat or bus is lowered and it is likely to overturn.
- **Why is it recommended to add salt to water while boiling dal?**  
By addition of salt, the boiling point of water gets raised which helps in cooking the dal sooner.
- **Why is the boiling point of sea water more than that of pure water?**  
Sea water contains salt, and other impurities which cause an elevation in its boiling point.
- **Why is it easier to spray water to which soap is added?**  
Addition of soap decreases the surface tension of water. The energy for spraying is directly proportional to surface tension.

- **Which is more elastic, rubber or steel?**

Steel is more elastic for the same stress produced compared with rubber.

- **Why is the sky blue?**

Violet and blue light have short waves which are scattered more than red light waves. While red light goes almost straight through the atmosphere. Blue and violet light are scattered by particles in the atmosphere. Thus, we see a blue sky.

- **Why does ink leak out of partially filled pen when taken to a higher altitude?**

As we go up, the pressure and density of air goes on decreasing. A partially filled pen leaks when taken to a higher altitude because the pressure of air acting on the ink inside the tube of the pen is greater than the pressure of the air outside.

- **On the Moon, will the weight of a man be less or more than his weight on the Earth?**

The gravity of the moon is one-sixth that of the earth; hence the weight of a person on the surface of the moon will be one-sixth of his actual weight on earth.

- **Why do some liquids burn while others do not?**

A liquid burns if its molecules can combine with oxygen in the air with the production of heat. Hence, oil burns but water does not.

- **Why can we see ourselves in a mirror?**

We see objects when light rays from them reach our eyes. As mirrors have a shiny surface, the light rays are reflected back to us and enter our eyes.

- **Why does a solid chunk of iron sink in water but floats in mercury?**

Because the density of iron is more than that of water but less than that of mercury.

- **Why is cooking quicker in a pressure cooker?**

As the pressure inside the cooker increases, the boiling point of water is raised. Hence, the cooking process is quicker.

- **When wood burns, it crackles. Explain.**

Wood contains a complex mixture of gases and tar forming vapours trapped under its surface. These gases and tar vapours escape, making a crackling sound.

- **Why do stars twinkle?**

The light from a star reaches us after refraction as it passes through various layers of air. When the light passes through the earth's atmosphere, it is made to flicker by the hot and cold ripples of air and it appears as if the stars are twinkling.

- **Why is it easier to roll a barrel than to pull it?**

Because the rolling force of friction is less than the dynamic force of sliding friction.

- **If a feather, a wooden ball and a steel ball fall simultaneously in a vacuum, which one of these would fall faster?**

All will fall at the same speed in vacuum because there will be no air resistance and the earth's gravity will exert a similar gravitational pull on all.

- **When a man fires a gun, he is pushed back slightly. Why?**

As the bullet leaves the nozzle of the gun's barrel with momentum

- in a forward direction, as per Newton's Third Law of Motion, the ejection imparts to the gun an equal momentum in a backward direction.
- **Ice wrapped in a blanket or saw dust does not melt quickly. Why?**  
Both blanket and saw dust are bad conductors of heat. They do not permit heat rays to reach the ice easily.
  - **Why do we perspire on a hot day?**  
When the body temperature rises, the sweat glands are stimulated to secrete perspiration. It is nature's way to keep the body cool. During the process of evaporation of sweat, body heat is taken away, thus, giving a sense of coolness.
  - **Why does ice float on water but sink in alcohol?**  
Because ice is lighter than water it floats on it. However, ice is heavier than alcohol and therefore it sinks in alcohol.
  - **Why do we perspire before rains?**  
Before the rain falls, the atmosphere gets saturated with water vapour; as a result, the process of evaporation of sweat is delayed.
  - **Why does a thermometer kept in boiling water show no change in reading after 100°C?**  
The boiling point of water is 100°C. Once water starts boiling at this temperature, thermometer records no change in temperature. The quantity of heat supplied is being utilized as latent heat of evaporation to convert the water at boiling point into vapour.
  - **TB patients are suggested to live in sanatorium.**  
At high altitude count of RBC (haemoglobin) increases.
  - **Rate of breathing in fish is higher than human being.**  
Fish live in water, where amount of dissolved oxygen in water is less, so fish breath at higher rate to get adequate oxygen for respiration.
  - **Cornea transplant do not need blood match.**  
Cornea does not have blood vessel. It takes oxygen directly from atmosphere.
  - **Clay layers are poor aquifers.**  
Clay minerals are dense impermeable material and act as an aquifers i.e a layer of material that is almost impermeable to water.

### MYTHS & REALITY IN EVERY DAY SCIENCE

1. **Hair and fingernails continues to grow after death:**  
**Reality:** People believe that hair and fingernails grows even after the death of the person. The person would need to still be eating and digesting nutrients and performing cellular processes. So there's no way the body is producing more keratin in order to make hair and fingernails.
2. **Antibiotics can kill the virus:**  
**Reality:** By definition antibiotics can kill only bacteria. The common

cold and influenza are caused by viruses and are not affected by antibiotic use. While some might think that taking antibiotics could be helpful on some level and want them for viral disease that is actually wrong and could bring on more problems. Taking antibiotics in a manner contrary to their intended purpose or dosage instruction could cause other common bacteria within the body to become drug-resistant, which has become critically important.

**3. Dropping a penny from a tall building will kill someone:**

**Reality:** Some people believe that pennies when fall on the head from top of any tall building it may kill the person. Pennies are fairly lightweight at around one gram and being a flat circle doesn't bode well in terms of aerodynamics. Because it would tumble and flip the entire way down, its low mass and relatively low terminal velocity wouldn't do much damage to the people rather. It would feel similar to getting flicked in the head. Annoying, yes; but not lethal.

**4. Sugar makes children hyperactive:**

**Reality:** Some people believe that sugar consumption by children can influence hyperactivity in them as they see them in birthday parties. There has not been much evidence to suggest that the sugar actually makes children hyperactive. It may be due to presence of caffeine and also due to excitement over getting a treat or being around other kids.

**5. Tea makes the skin turn darker:**

**Reality:** Tea has been blamed for causing darker skin tone however there is no relation between your cup of tea and your skin tone.

**6. The Earth revolves around the Sun:**

**Reality:** Technically, the Earth, sun and all of the other the planets are orbiting around the centre of mass of the solar system, not specifically the sun.

**7. Vitamin C is an effective treatment for a cold:**

**Reality:** Flu-sufferers are often encouraged to increase their dosage of Vitamin C, but most

experts have stated that there is little or no evidence that the vitamin can help treatment of a cold. Instead of effectively treating a cold, it is thought to help in building up the immune system to ward off potential flu viruses.

**8. Brain cell cannot regenerate:**

**Reality:** The study has found that the memory and learning center of the brain can create new cells – giving hope for an eventual cure for illnesses like Alzheimer's.

**9. Meteors are heated by friction when entering the atmosphere:**

**Reality:** When a meteoroid enters the atmosphere of the earth (becoming a meteor), it is actually the speed compressing the air in front of the object that causes it to heat up. It is the pressure on the air that generates a heat intense enough to make the rock so hot that it glows brilliantly.

**10. Evolution causes something to go from “lower” to “higher”:**

**Reality:** It is a fact that according to natural selection organisms having useful variations are selected by nature but there are many cases where an imperfect organism has survived. Some examples of this are fungi, sharks, crayfish, and mosses – these have all remained essentially the same over a great period of time. These organisms

**11. People use just 10 per cent of their brain:**

**Reality:** Neurologists describe the myth as false and state we use virtually every part of the brain, and that (most of) the brain is active almost all the time.

**12. Shaving your hair will make it grow back quicker:**

**Reality:** Many believe shaving body hair makes it grow back quicker but shaving hair doesn't change its thickness, colour or rate of growth. Shaving facial or body hair simply gives the hair a blunt tip which might feel coarse or 'stubbly' for a period of time as it grows out.

**13. Microwave radiation can cause cancer:**

**Reality:** Most experts say that microwave ovens don't give off enough energy to damage the genetic material (DNA) in cells so they can't cause cancer.

**14. Handling a baby bird will make its mother reject it:**

**Reality:** Most birds have a very poor sense of smell, so in most cases are unable to even notice human scent on baby bird.

**15. The Great Wall of China can be seen from space:**

**Reality:** The Apollo astronauts confirmed that you can't see the

Great Wall of China from the Moon. In fact, all you can see from the Moon is the white and blue marble of Earth.

**16. Plants breathe by inhaling carbon dioxide and exhaling oxygen:**

**Reality:** Plants take in air through their leaves. Both carbon dioxide and oxygen are used for different processes. In Photosynthesis plants takes carbon dioxide, while in respiration plants takes oxygen.

**17. Physical changes are reversible while chemical changes are not:**

**Reality:** Chemical changes are also reversible. Some physical changes are also hard to reverse, for example, crushing a rock.

**18. Going out in chilly weather causes you to catch cold:**

**Reality:** A cold is caused by a viral infection of the respiratory system. Viruses don't magically appear in your body because you went out to get the mail without your scarf and mittens.

## General Knowledge MCQs

1. Stethoscope of doctors for finding quality, strength and frequency of human heart beat is based on the principle of  
(a) SONAR  
(c) Reverberation  
(b) Multiple reflection  
(d) Echo
2. National Highway-7 is the longest national highway in India, which traverses between Varanasi and Kanya Kumari. Identify the places on route from North to South.  
(a) Nagpur - Jabalpur - Bengaluru - Hyderabad - adurai  
(b) Jabalpur - Nagpur - Hyderabad - Bengaluru - Madurai  
(c) Jabalpur - Nagpur - Bengaluru - Hyderabad - Madurai  
(d) Nagpur - Jabalpur - Hyderabad - Bengaluru - Madurai
3. Which of the following is a non metal that remains liquid at room temperature?  
(a) Phosphorous  
(b) Bromine  
(c) Chlorine  
(d) Helium
4. Parliament of India consists of  
(a) Rajya Sabha and Lok Sabha  
(b) President, Rajya Sabha and Lok Sabha  
(c) Election Commission, Rajya Sabha and Lok Sabha  
(d) President, Election Commission, Rajya Sabha and Lok Sabha
5. Which of the following is not a feature of a 9, democratic form of government?  
(a) Majority rule  
(b) Rights of minorities  
(c) Universal adult franchise  
(d) Majoritarianism
6. Which of the following institutions have reserved seats for women?  
A. Lok Sabha  
B. Rajya Sabha  
C. Legislative Assemblies  
D. Municipalities  
E. Panchayats  
(a) A, C, D, E      (b) B, C, D, E  
(c) D and E      (d) E only
7. Chlorophyll is a naturally occurring chelate compound in which central metal is  
(a) Copper      (b) Magnesium  
(c) Iron      (d) Calcium
8. Information relating to which of the following aspects are used to determine the human development in a country?  
(a) Health, education and poverty  
(b) Inequality, health and education  
(c) Health, education and income  
(d) Women's health, education and income
9. How membership in a Self Help Group helps a poor rural woman?  
(a) Facilitates her how to help herself in daily work.  
(b) To work together in factories and get regular employment  
(c) To overcome the problem of lack of collateral as borrowing is based on the group.  
(d) To get free money from the government.
10. Though consumers in India has the right to information about the product he/she purchases, which of the following aspects of a product, the producer need not inform the consumer ?  
(a) Date of production  
(b) Date of expiry  
(c) Address of the producer  
(d) The production process

11. A segment of DNA contains 1200 nucleotides, of which 200 have adenine base. How many cytosine bases are present in this segment of DNA?  
 (a) 100      (b) 200  
 (c) 400      (d) 800
12. Which one of the following statements about cell organelles and their function is correct?  
 (a) Mitochondria are associated with anaerobic respiration.  
 (b) Smooth endoplasmic reticulum is involved in protein synthesis.  
 (c) Lysosomes are important in membrane biogenesis.  
 (d) Golgi bodies are involved in packaging and dispatching of materials.
13. A leguminous plant grown in an autoclaved, sterilized soil fails to produce root nodules because  
 (a) autoclaved soil is not good for root growth.  
 (b) autoclaved soil is devoid of bacteria.  
 (c) autoclaving reduces N<sub>2</sub> content of soil.  
 (d) plants cannot form root hairs in such a soil.
14. The causative agent of the disease 'sleeping sickness' in human beings is an  
 (a) intracellular parasite found in RBC.  
 (b) extracellular parasite found in blood plasma.  
 (c) intracellular parasite found in WBC.  
 (d) extracellular parasite found on the surface of platelets.
15. Prolonged exposure to the fumes released by incomplete combustion of coal may cause death of a human because of  
 (a) inhalation of unburnt carbon particles.  
 (b) continuous exposure to high temperature.  
 (c) increased level of carbon monoxide.  
 (d) increased level of carbon dioxide.
16. Which one of the following statements is true with respect to photosynthesis?  
 (a) Oxygen evolved during photosynthesis comes from CO<sub>2</sub>.  
 (b) Chlorophyll a is the only photosynthetic pigment in plants  
 (c) Photosynthesis occurs in stem of some plants.  
 (d) Photosynthesis does not occur in red light.
17. Which one of the following represents the correct sequence of reflex action?  
 (a) Receptor → sensory nerve → motor nerve → spinal cord → muscle  
 (b) Receptor → motor nerve → spinal cord → sensory nerve → muscle  
 (c) Receptor → sensory nerve → spinal cord → muscle → motor nerve  
 (d) Receptor → sensory nerve → spinal cord → motor nerve → muscle
18. In human female, immature eggs are for the first time seen in ovary  
 (a) at puberty.  
 (b) before birth, at the fetus stage.  
 (c) during the first menstrual cycle.  
 (d) after the first year of birth.
19. The hardest substance available on earth is  
 (a) Gold      (b) Iron  
 (c) Diamond    (d) Platinum
20. In late 19<sup>th</sup> and early 20<sup>th</sup> centuries, nationalism captured the imagination of the Indian people through a variety of

- cultural processes. Which of the following was not a part of those processes?
- Rewriting history to show India's continuous progress from the ancient to the modern times.
  - Creation of different images of Bharat Mata.
  - Recording, collection and publication of folk tales and folk songs.
  - Designing flags as inspiring symbols of nationalism.
21. Choose the correct response from the given options.  
Nomadic people move over long distances because
- By temperament they do not like to settle down in any one place.
  - They constantly look for good pastureland for their cattle.
  - They follow a life style which is very different from the settled communities.
  - Economically they are too poor to own land.
22. Choose the correct response from the given options.  
In 19th century England grain production grew as quickly as the population because
- Farmers used simple agricultural technology to greater effect.
  - Radical innovations were made in agricultural technology.
  - Larger and larger areas were brought under cultivation.
  - Increasing number of poor people found work as agricultural labourers.
23. Choose the correct response from the given options.  
The unification of Germany in 1871, for a change, demonstrated
- The triumph of the democratic aspirations of the German middle-class.
  - The fulfilment of the liberal initiative to nation-building.
  - The power of the common people, das volk.
  - The dominance of the state power and conservatives' success in mobilising nationalist sentiments.
24. Choose the correct response from the given options.  
The formation of the 'United Kingdom of Great Britain' in 1707 meant, in effect,
- Equal representation of all the British Isles in the British Parliament.
  - Recognition to the ethnic identities of the Welsh, the Scot and the Irish.
  - The cessation of conflicts between the Catholics and the Protestants.
  - The dominance of England on Scotland through the English supremacy in Parliament.
25. Choose the correct response from the given options.  
Many within the Congress were initially opposed to the idea of non-cooperation because
- They did not think that British rule in India would collapse if Indians refused to cooperate.
  - They were not yet sure of Gandhiji's ability to successfully lead a nationwide movement.
  - They were reluctant to boycott the council election scheduled for November 1920.
  - They did not agree with Gandhiji's proposal to carry the movement forward in stages.

26. Milkha Singh Stood \_\_\_ in 1960 Olympics, in Athletics.
- Fourth in 400m final
  - Second in 400m final
  - eighth in 50km walk
  - seventh in 800m final
27. Modern Indo-Aryan languages are based on an ancient language called
- Hindi
  - Sanskrit
  - Kannada
  - Tamil
28. Arrange these hills from west to east direction.
- Khasi hills
  - Garo hills
  - Naga hills
  - Jaintia Range
- C, A, B, D
  - D, B, A, C
  - A, B, C, D
  - B, A, D, C
29. Economic growth is growth in \_\_\_\_\_
- value of total output.
  - value of total investment.
  - value of industrial output.
  - value added of all sectors.
30. Malfunctioning of which of the following organs causes jaundice?
- Stomach
  - Pancreas
  - Liver
  - Kidney
31. First weekly paper published in India was –
- Bengal Gazette
  - Samachar Chandrika
  - Bombay Samachar
  - Shamsul Akhbar
32. What are the functions of RBI?
- Supervises the formal sources of loan
  - Monitors whether banks actually maintain the cash balance or not
  - Ensures that the banks give loan not just to profit making businesses and traders but also to small scale industries and borrowers too.
  - All of them
33. Which country has not adopted Federalism?
- U.S.A.
  - China
  - India
  - Brazil
34. Kathak, Nauntanki, Jhora and Kajri are the important dances of
- Uttaranchal
  - Uttar Pradesh
  - Jharkhand
  - Chhattisgarh
35. ITCZ is the abbreviated form of -
- Indian Tropical Convergence Zone
  - Inter Tropical convergence Zone
  - Inter Tropical Climate Zone
  - Inter Temperate Convergence Zone
36. Which one of the following is the cheapest mean of transport?
- Roadways
  - Railways
  - Waterways
  - Pipelines
37. Why is it necessary that banks and cooperatives increase their lending particularly in rural areas?
- To reduce the dependence on informal sources of credit
  - To promote informal sources of credit in urban areas
  - To provide high interest
  - None of them
38. Lance Armstrong, a sportsperson of international repute, belongs to which of the following countries?
- USA
  - Ukraine
  - Spain
  - Brazil
39. Chapbooks are-
- Pocket size books
  - Coloured books
  - Books giving astronomical information
  - Comic books
40. What steps have been taken by the government to promote education?

- (a) There is a provision made for providing universal access, retention and quality in elementary education with a special emphasis on girls  
 (b) Establishment of pace setting of schools like Navodaya Vidyalaya in each district  
 (c) Vocational streams have been developed to equip large number of high school students with occupations related to knowledge and skills  
 (d) All of them
41. The variety of coal in which the deposit contains recognisable traces of the original plant material is  
 (a) Bitumen      (b) Anthracite  
 (c) Lignite      (d) Peat
42. How can government of a country play a major role in making Globalization fairer?  
 (a) Government can ensure that labour laws are properly implemented and the workers get their rights.  
 (b) Government can support small producers to improve their performance till the time they become strong enough to compete.  
 (c) Government can negotiate at WTO for fairer rules.  
 (d) All of them
43. What is mango shower?  
 (a) Premonsoon rainfall in Karnataka and Kerala  
 (b) Rainfall in June to September  
 (c) Rainfall in winter days  
 (d) Rainfall caused by western disturbances
44. The main objectives of the UN are  
 (a) to maintain peace and security in the world  
 (b) to work together to remove poverty, disease and illiteracy and encourage respect for each other's rights of basic freedom.
- (c) to develop friendly relations among nations  
 (d) All of the above
45. How much percentage of a bank's deposits does the bank hold as cash?  
 (a) 15%      (b) 20%  
 (c) 10%      (d) 12%
46. The fundamental duties of a citizen do not include-  
 (a) Promoting communal harmony  
 (b) Developing scientific temper  
 (c) Safeguarding public property  
 (d) Protecting children from hazardous employment
47. The Narmada Bachao Andolan was started against which one of the dams?  
 (a) The Bhakra Dam  
 (b) Sardar Sarovar Dam  
 (c) The Hirakund Dam  
 (d) The Kosi Dam
48. A judge of the Supreme Court can be removed by-  
 (a) President of India  
 (b) The Prime minister  
 (c) The President after an address by the Parliament  
 (d) The speaker
49. Deforestation leads to  
 (a) soil erosion and degradation of soil.  
 (b) climate change and decrease in ground water level.  
 (c) reduction of forest produce and loss of biodiversity.  
 (d) increase in fertility of the soil leading to more yield.
50. The industrial organization of Atomic Minerals Division, Heavy Water Board (HWB) is located at  
 (a) Mumbai  
 (b) Kolkata  
 (c) Hyderabad  
 (d) Jadugude, Bihar

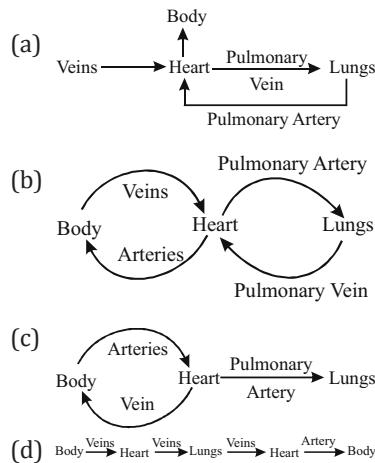
51. Which of the following characteristics does not belong to flowering plants?  
 (a) Seeds are naked.  
 (b) Conducting tissue is well developed.  
 (c) Shows nodes and internodes.  
 (d) Shows the presence of root hairs.
52. The headquarter of International Atomic Energy Agency (IAEA) are situated at  
 (a) Vienna      (b) Geneva  
 (c) Rome        (d) Paris
53. The element common to all acids is  
 (a) Hydrogen    (b) Carbon  
 (c) Sulphur      (d) Oxygen
54. Non stick cooking utensils are coated with  
 (a) Teflon  
 (b) PVC  
 (c) Black paint  
 (d) Polystyrene
55. The main purpose of ASEAN (Association of South-East Asian Nations) is  
 (a) to accelerate economic progress and maintain economic stability  
 (b) to maintain higher standards of living among member nations  
 (c) to provide collective defence and economic cooperation  
 (d) None of the above
56. The main object of which of the following UN agency is to help the underdeveloped countries in the task of raising their living standards?  
 (a) IMF           (b) UNICEF  
 (c) UNDP          (d) IDA
57. Which two countries were involved in opium wars?  
 (a) Britain and Japan  
 (b) Britain and Poland
58. Surat and Hoogly were replaced with-  
 (a) Bombay and Orissa  
 (b) Bombay and Calcutta  
 (c) Masulipatam and Calcutta  
 (d) Bombay and Masulipatam
59. What does HYV stand for?  
 (a) High Yielding Varieties  
 (b) High Yolk Variety  
 (c) Health Young Variety  
 (d) None of them
60. Carbon, diamond and graphite are together called  
 (a) allotropes  
 (b) isomers  
 (c) isomorphs  
 (d) isotopes
61. The chief constituent of gobar gas is  
 (a) ethane  
 (b) methane  
 (c) hydrogen  
 (d) carbon dioxide
62. On the basis of ownership industries are categories as-  
 (a) Large scale and small scale industries  
 (b) Public sector, private sector, joint & cooperative sectors  
 (c) Basic / Key and consumer Industries  
 (d) Agro based and mineral based Industries
63. The largest population of scheduled Tribes is in-  
 (a) Himachal Pradesh  
 (b) Madhya Pradesh  
 (c) Arunachal Pradesh  
 (d) Sikkim
64. The most important objective behind the establishment of biosphere reserves is-  
 (a) Protection of endangered species of animals  
 (b) Preservation of tigers and Crocodiles

- (c) Preservation of the overall biotic diversity  
 (d) Optimum utilization of the forest products
65. Agriculture practiced only for the family's own needs is known as-  
 (a) Commercial farming  
 (b) Subsistence farming  
 (c) Shifting agriculture  
 (d) Horticulture
66. Which of the following is not included in the 'Right to Freedom' in the constitution of India?  
 (a) Freedom of speech and expression  
 (b) Freedom of assemble with arms  
 (c) Freedom to form association  
 (d) Freedom to adopt any profession
67. According to the World Development Report 2006, brought out by the World Bank, countries with per capita income of ₹4,53,000 p.a. and above are called \_\_\_\_\_.  
 (a) Weak countries  
 (b) Rich countries  
 (c) Low income countries  
 (d) All of them
68. The chief purpose of crop rotation is to check the loss of top soil  
 (a) by water erosion  
 (b) by wind erosion  
 (c) by weathering  
 (d) of its mineral content
69. The chief of the Army staff is assisted by  
 (a) Vice-chief of the Army Staff  
 (b) Principal staff officers such as Deputy Chief, Adjutant General, Military Secretary  
 (c) both (a) and (b)  
 (d) None of the above
70. Which set of the statements is correct ?
- (a) Ozone is found mostly in the stratosphere.  
 (b) Ozone layer lies 55-75 kms above the surface of the earth.  
 (c) Ozone absorbs ultraviolet radiation from the Sun.  
 (d) Both (a) and (c)
71. Which of the following pairs is correctly matched ?  
 (a) Elbe - Caspian Sea  
 (b) Rhone - Baltic Sea  
 (c) Ural - White Sea  
 (d) Danube - Black Sea
72. Which of these are positive influences of human beings on the ecosystem ?  
 A. Declaring areas as wildlife sanctuaries.  
 B. Increasing biodegradable packing materials that can be recycled.  
 C. Removing pollutants from toxic industrial smoke.  
 D. Using the natural resources intensively.  
 (a) A and B    (b) B and C  
 (c) A, B and C    (d) B, C and D
73. The exhaled air contains  
 (a) Carbon dioxide only  
 (b) a mixture which has more carbon dioxide than oxygen  
 (c) a mixture of carbon dioxide, nitrogen and oxygen in which nitrogen has the highest percentage  
 (d) a mixture of carbon dioxide and nitrogen
74. The relationship of the following three is  
 Nitrogen - Bacteria Plants  
 Considering this, which of the following statements is true?  
 Write its number in the space provided.
- (a) Plants absorb nitrogen from the atmosphere.  
 (b) Bacteria are not necessary for plants to make use of nitrogen.

- (c) Bacteria change the form of nitrogen to facilitate plants to use it.  
 (d) Plants change the form of nitrogen on their own to make use of it.
75. Arrange the following social reform organization chronologically on the basis of their foundation.  
 A. Arya Samaj  
 B. Prarthana Samaj  
 C. Veda Samaj  
 D. Sree Narayan Dharma Paripalana (SNDP) Yogam  
 (a) A, D, C, B (b) A, B, C, D  
 (c) D, C, B, A (d) C, B, A, D
76. Why was the Delhi Durbar organized in 1877 with pomp and show?  
 (a) The Viceroy wanted to display the wealth and prosperity of India.  
 (b) The British wanted to threaten the people by displaying their army strength.  
 (c) The British wanted to replace the Mughal emperor from the minds of the people as their rulers.  
 (d) The Viceroy wanted to appease Queen Victoria.
77. Sodium metal is kept under?  
 (a) petrol (b) alcohol  
 (c) water (d) kerosene
78. Match the following list of subjects which come under the purview of the distribution of powers and select the correct alternative.
- | <b>List</b>        | <b>Subjects</b>      |
|--------------------|----------------------|
| A. Central List    | I. Railways          |
| B. State List      | II. Health           |
| C. Concurrent List | III. Foreign affairs |
| D. Residuary List  | IV. Water disputes   |
- (a) A-I, B-II, C-III, D-IV  
 (b) A-I, B-II, C-IV, D-III  
 (c) A-IV, B-III, C-II, D-I  
 (d) A-III, B-II, C-I, D-IV
79. Which of the following statements are correct about the Planning Commission?  
 A. It is a constitutional body created by the Parliament.  
 B. It acts as an advisory body to the Union Government.  
 C. The Finance Minister is the ex-officio chairman of this body.  
 D. Its basic function is to formulate priorities for the Five Year Plan for integrated economic and social development  
 (a) A and C only  
 (b) B and D only  
 (c) A, C and D only  
 (d) D only
80. What does the 'mixed economy' in India mean?  
 (a) Companies of foreign countries can play an equal role in development of India's economy.  
 (b) Special privileges are given to foreign companies by the government for investment in India.  
 (c) Private companies of India are allowed to invest in public sector.  
 (d) Private sectors play a complementary role along with the public sector.
81. Which of the following best describes "jet streams"?  
 (a) Wind system with seas and reversal of direction.  
 (b) Wind blowing from subtropical high pressure belts towards the tropical low pressure belts.  
 (c) Narrow meandering bands of winds which blow in mid latitude near the tropopause and encircle the globe.

- (d) Winds blowing from the tropical high pressure belts towards the equatorial low pressure belts.
82. Intense damage was caused in Ladakh in 2010 due to which natural calamity?  
 (a) Mud flow (b) Landslide  
 (c) Earthquake (d) Drought
83. Column I shows the types of natural vegetation while column II shows the climate type.
- | <b>Column I</b>  | <b>Column II</b> |
|------------------|------------------|
| A Evergreen      | I Arid Forests   |
| B. Deciduous     | II. Semi-humid   |
| C. Grasslands    | III. Humid       |
| D. Thorny bushes | IV. Semi arid    |
- (a) A - II, B - III, C - IV, D - I  
 (b) A - III, B - II , C - IV, D - I  
 (c) A - II, B - IV, C - I, D - III  
 (d) A - IV, B - II, C - III, D - I
84. Right to the enjoyment of pollution free water as interpreted by the Supreme Court in Subhas Kumar Vs. State of Bihar (1991) falls under  
 (a) Right to Equality  
 (b) Right to Liberty  
 (c) Right against Exploitation  
 (d) Right to Life and Personal liberty
85. The Principle of 'checks and balances' is related to  
 (a) Rule of law  
 (b) Fundamental law  
 (c) Fundamental Duties  
 (d) Separation of Powers
86. Which of the following is a source of instant energy?  
 (a) Salt (b) Glucose  
 (c) Water (d) Starch
87. Coal is a fossil fuel and it cannot be prepared in a laboratory or industry because the formation of coal  
 A. is a very slow process.  
 B. needs very low pressure and low temperature.
- C. needs very high pressure and high temperature.  
 D. causes air pollution.
- Select the correct alternative.
- (a) A and B (b) B and D  
 (c) C and A (d) D and C
88. Which of the following comes under the category of 'footloose industry'?  
 (a) Iron and Steel  
 (b) Cotton textile  
 (c) Information technology  
 (d) Petro-chemical
89. Which one of the following is not an elected member of the House?  
 (a) Speaker of the Lok Sabha  
 (b) Deputy Speaker of the Lok Sabha  
 (c) Chairman of the Rajya Sabha  
 (d) Deputy Chairman of the Rajya Sabha
90. Former Australian captain Mark Taylor has had several nicknames over his playing career. Which of the following was NOT one of them?  
 (a) Tubby (b) Stodge  
 (c) Helium Bat (d) Stumpy
91. Which was the 1st non Test playing country to beat India in an international match?  
 (a) Canada (b) Sri Lanka  
 (c) Zimbabwe (d) East Africa
92. Track and field star Carl Lewis won how many gold medals at the 1984 Olympic games?  
 (a) Two (b) Three  
 (c) Four (d) Eight
93. When was Amateur Athletics Federation of India established?  
 (a) 1936 (b) 1946  
 (c) 1956 (d) 1966
94. Who did Stone Cold Steve Austin wrestle at the 1998 edition of "Over the Edge"?  
 (a) Cactus Jack (b) Mankind  
 (c) Dude Love (d) Mick Foley

- 95 Who won the 1993 "King of the Ring"?
- Owen Hart
  - Bret Hart
  - Edge
  - Mabel
96. Where did India play its 1st one day international match?
- Lords
  - Headingley
  - Taunton
  - The Oval
97. Which county did Mohammad Azharuddin play for?
- Yorkshire
  - Hampshire
  - Lancashire
  - Derbyshire
98. Which county did Sunil Gavaskar play for?
- Somerset
  - Worcestershire
  - Warwickshire
  - Glamorgan
99. The 'Dronacharya Award' is given to...?
- Sportsmen
  - Coaches
  - Umpires
  - Sports Editors
100. Who among the following is known as "the Father of Internet"?
- Vint Cerf
  - Bob Marley
  - Tim Berkeley
  - Thomas Jeffery
101. Where was the first computer installed in India?
- New Delhi
  - Kolkata
  - Bengaluru
  - Mumbai
102. Which company is nicknamed "Big Blue"?
- WIPRO
  - IBM
  - IDM
  - TCS
103. Which was the first ever web server software?
- HTTP
  - Cherokee
  - Nginx
  - Apache
104. The first web based e-mail service?
- Gmail
  - Yahoo mail
  - Rediff mail
  - Hot mail
105. Select the correct schematic representation of blood circulation in human from the followings :



106. Students were taken to a museum on an educational trip. Which one of the following documents will provide the information on endangered animals and plants?
- Data book
  - Atlas
  - Red Data Book
  - Dictionary
107. Baker's yeast with sugar is added to aquarium for the following reason:
- It provides minerals and metals.
  - It absorbs heavy metals present in water and purifies it.
  - It helps the plants for photosynthesis through aerobic respiration.
  - It helps the plants for photosynthesis through anaerobic respiration.
- Select the correct option.
- A only
  - D only
  - B and C
  - A and B
108. What is true about natural gas?
- Its main component is methane and is used as a fuel in motor cars.
  - It is used as the raw material for manufacturing of fertilizers.
  - It is used for the generation of electricity.
  - It is an inexhaustible natural source.
- A, B and C
  - B, C and D
  - C, D and A
  - D, A and B

109. Read the following statements and select the correct statements about greenhouse gases:
- Carbon dioxide is the only gas in the atmosphere which causes global warming.
  - The greenhouse gases traps heat and do not allow heat to escape into outer space.
  - Water vapours do not contribute to greenhouse effect.
  - The presence of excessive greenhouse gases in the atmosphere is responsible for global warming.
- (a) A and B      (b) B and D  
 (c) C and B      (d) D and A
110. India is a 'Republic' because
- legislature is elected.
  - the Act of 1935 provided for a republic.
  - the head of the state is elected.
  - it has representative democracy.
111. The boundaries of States can be altered by
- the Supreme Court of India.
  - the President of India.
  - the State Governments.
  - the Indian Parliament.
112. The Indian National Congress was defeated for the first time in the General Elections of Parliament in the year
- 1962                (b) 1967
  - 1977                (d) 1998
113. The average temperature of the Earth remains fairly steady as compared to that of the moon because of the
- atmosphere
  - lithosphere
  - biosphere
  - hydrosphere
114. A person with blood group 'A' can donate blood to the persons with blood group 'A' or 'AB' because it
- has both 'A' and 'B' antigens.
  - has only 'A' antigen and 'B' antibodies.
  - has only 'B' antigen and 'A' antibodies.
  - does not have any antigens and antibodies.
115. If a non-degradable and fat soluble pollutant, such as DDT enters the food chain, the pollutant
- magnifies in concentration at each trophic level.
  - degrades at first trophic level.
  - accumulates in the body fat of organism at first trophic level and does not pass to second trophic level.
  - decreases in concentration at each trophic level.
116. Which of these features is not a guiding value of the Indian Constitution?
- No external power can dictate to the Government of India.
  - The head of the State is a hereditary position.
  - All people are equal before law.
  - Citizens have complete freedom to follow any religion.
117. According to Dr. B.R. Ambedkar, which of the following is the 'heart and soul' of our Constitution?
- The Preamble
  - Right to Equality
  - Right against Exploitation
  - Right to Constitutional Remedies
118. We accept paper money as a medium of exchange because
- it has gold backing.
  - the law legalizes it.
  - Reserve Bank of India has precious metals against which it prints notes.
  - everyone else accepts it.
119. Which of the following refers to trade barrier in the context of WTO?
- Restrictions on domestic trade
  - Not allowing companies to do foreign trade beyond specific quantity
  - Restrictions on the export and import of goods
  - Restrictions on the price fixed by companies
- (a) (I), (II) and (III)  
 (b) (II), (III) and (IV)  
 (c) (III) and (IV)  
 (d) (I), (II) and (IV)

120. Typhoid is caused by :  
 (a) Streptococcus  
 (b) Salmonella  
 (c) Giardia  
 (d) Mycobacterium
121. Choose the right from the following.  
 (i) In light, hormone auxin, helps the cells to grow longer in plants.  
 (ii) Plant hormone gibberellins help in growth of a stem.  
 (iii) Cytokinins inhibits cell division.  
 (iv) Abscisic acid promotes growth in plants.  
 (a) (i) and (iii) are correct.  
 (b) (ii) and (iv) are correct.  
 (c) (i) and (ii) are correct.  
 (d) (i) and (iv) are correct.
122. Hieun-Tsang came to India during the reign of  
 (a) Harshavardhana  
 (b) Kanishka  
 (c) Chandragupta Maurya  
 (d) Samudragupta
123. Who was called the 'Frontier Gandhi'?  
 (a) Mahatma Gandhi  
 (b) Pattavi Sitaramaiya  
 (c) Vallabhbhai Patel  
 (d) Khan Abdul Gaffar Khan
124. Who was Viceroy of India during Civil Disobedience Movement?  
 (a) Lord Curzon  
 (b) Lord Minto  
 (c) Lord Canning  
 (d) Lord Irwin
125. Who is regarded as Light of Asia ?  
 (a) Gautam Buddha  
 (b) Gandhiji  
 (b) Swami Mahavir  
 (d) Mao-Tse Tung
126. 'When France Sneezes, the rest of Europe catches cold?'. This was the remark of ?  
 (a) Bismarck    (b) Metternich  
 (c) Mazzini    (d) Napoleon
127. Who was the author of "Geet Govind"?  
 (a) Sarangdhar    (b) Jaidev  
 (c) Madhodas    (d) Bihari
128. Which treaty was imposed on Germany after first world war ?  
 (a) Versailles    (b) Paris  
 (c) Vienna    (d) London
129. The Chairman of the Drafting Committee of the Constituent Assembly of India was  
 (a) B. R. Ambedkar  
 (b) Jawaharlal Nehru  
 (c) Sardar Ballabhbihai Patel  
 (d) Dr. Rajendra Prasad
130. The Chief Justice of the Supreme Court is appointed by the  
 (a) President  
 (b) Vice-President  
 (c) Prime Minister  
 (d) Attorney General
131. Which one of the following parties grew out of a movement?  
 (a) Communist Party of India  
 (b) Bahujan Samaj Party  
 (c) Assam Gana Parishad  
 (d) Assam United Democratic Front
132. By which country India was inspired to include Directive Principles of State Policy in the Indian Constitution?  
 (a) Britain  
 (b) United States of America  
 (c) Russia  
 (d) Ireland
133. Who is the first Person of India ?  
 (a) Prime Minister  
 (b) President  
 (c) Governor  
 (d) Chief Minister
134. Which article of the Indian Constitution is regarded as the Soul of Indian Constitution?  
 (a) Art. 21    (b) Art. 31  
 (c) Art. 19    (d) Art. 32
135. Amnesty International is an international organisation which works for  
 (a) World Peace  
 (b) Human Rights  
 (c) Justice  
 (d) Restoration of Democracy

136. Which of the following is the main feature of Pressure group?
- Direct control on political power
  - Try to influence the politics of Government
  - Lax Organisation
  - Direct participation in Political Power
137. In case of conflict between the centre and the State Government over a subject in the concurrent list:
- The state has the upper hand
  - The centre has the upper hand
  - Both are equally applicable
  - Supreme Court decides whether the State Law should prevail or Central Law
138. 'The Untouchability Crime Act' was implemented in
- 1948
  - 1950
  - 1956
  - 1955
139. In which year the first meeting of Constituent Assembly took place ?
- 1945
  - 1946
  - 1947
  - 1948
140. Which is the first expressway of India
- Delhi – Kolkata
  - Mumbai – Pune
  - Pune – Chennai
  - Delhi – Mumbai
141. Which of the following is the youngest structure of India ?
- Great Himalayas
  - Shiwalik Range
  - Middle Himalayas
  - Peninsular India
142. Who appoints the Chief Election Commissioner of India ?
- Prime Minister
  - President
  - Parliament
  - Chairman of Lok Sabha
143. The time period of Dr. A.P.J. Abdul Kalam as a President of India is :
- 25 July 2000 to 25 July 2005
  - 25 July 2001 to 25 July 2006
  - 25 July 2002 to 25 July 2007
  - 25 July 2003 to 25 July 2008
144. National Waterways No. 1 of India connects which two cities of India?
- Sadia – Dubri
  - Allahabad – Haldia
  - Kottapuram – Kollam
  - Delhi – Kanpur
145. Which one of the following groups, represents neighbouring countries of India?
- Afghanistan, Pakistan, Bangladesh, Srilanka
  - Persia, Pakistan, Nepal, Maldives
  - Burma, Bhutan, Tazikistan, China
  - Malasia, Burma, Nepal, Srilanka
146. What is "Barkan" ?
- Name of Sand dune
  - Name of Village
  - Name of Tree
  - Name of Mountain
147. Which state coast line is called the Malabar?
- Gujrat
  - Kerala
  - Rajasthan
  - West Bengal
148. Which mine is found in Khetri ?
- Copper Mines
  - Lignite Mines
  - Bauxite Mines
  - Iron Ore Mines
149. Wright Brothers are regarded inventors of the ?
- Balloon
  - Bicycle
  - Aeroplane
  - None of the above
150. Panchayati Raj System is based on
- Centralisation of power
  - Decentralisation of power
  - Co operation with people and administrator
  - All of the above

<b>ANSWERS KEY</b>															
1.	(c)	20.	(a)	39.	(d)	58.	(b)	77.	(d)	96.	(b)	115.	(a)	134.	(d)
2.	(b)	21.	(b)	40.	(d)	59.	(a)	78.	(b)	97.	(d)	116.	(b)	135.	(b)
3.	(b)	22.	(c)	41.	(d)	60.	(a)	79.	(b)	98.	(a)	117.	(d)	136.	(b)
4.	(b)	23.	(d)	42.	(c)	61.	(b)	80.	(d)	99.	(b)	118.	(b)	137.	(b)
5.	(d)	24.	(d)	43.	(a)	62.	(b)	81.	(c)	100.	(a)	119.	(c)	138.	(d)
6.	(c)	25.	(d)	44.	(d)	63.	(b)	82.	(a)	101.	(b)	120.	(b)	139.	(b)
7.	(b)	26.	(a)	45.	(a)	64.	(C)	83.	(b)	102.	(b)	121.	(c)	140.	(b)
8.	(c)	27.	(b)	46.	(d)	65.	(b)	84.	(d)	103.	(a)	122.	(a)	141.	(a)
9.	(c)	28.	(d)	47.	(b)	66.	(b)	85.	(d)	104.	(d)	123.	(d)	142.	(b)
10.	(d)	29.	(d)	48.	(c)	67.	(b)	86.	(b)	105.	(b)	124.	(d)	143.	(c)
11.	(c)	30.	(c)	49.	(d)	68.	(d)	87.	(c)	106.	(c)	125.	(a)	144.	(b)
12.	(d)	31.	(a)	50.	(a)	69.	(c)	88.	(c)	107.	(b)	126.	(b)	145.	(a)
13.	(b)	32.	(d)	51.	(a)	70.	(d)	89.	(c)	108.	(a)	127.	(b)	146.	(a)
14.	(b)	33.	(b)	52.	(a)	71.	(d)	90.	(d)	109.	(b)	128.	(a)	147.	(b)
15.	(c)	34.	(b)	53.	(a)	72.	(c)	91.	(b)	110.	(c)	129.	(a)	148.	(a)
16.	(c)	35.	(b)	54.	(a)	73.	(c)	92.	(c)	111.	(d)	130.	(a)	149.	(c)
17.	(d)	36.	(b)	55.	(a)	74.	(c)	93.	(b)	112.	(c)	131.	(c)	150.	(b)
18.	(b)	37.	(a)	56.	(d)	75.	(d)	94.	(c)	113.	(a)	132.	(d)		
19.	(c)	38.	(a)	57.	(c)	76.	(c)	95.	(b)	114.	(b)	133.	(b)		

# Logical Thinking

## Analogy

The meaning of analogy is 'similar properties' or 'similarity'. If an object or word or digit or activity shows any similarity with another object or word or digit or activity in terms of properties, type, shape, size, trait etc., then the particular similarity will be called analogy.

### TYPES OF ANALOGY.

#### 1. Tool & object based analogy:

This establishes a relationship between a tool and the object in which it works. Similar relations has to be discovered from answer choices.

#### Examples:

Pencil	:	Paper
Pen	:	Paper
Scissors	:	Cloth
Saw	:	Wood
Eraser	:	Paper

#### 2. Synonym based analogy :

In such type of analogy two words have similar meaning.

#### Examples:

Big	:	Large
Huge	:	Gigantic
Endless	:	Eternal
Thin	:	Slim
Benevolent	:	Kind
Notion	:	Idea
Huge	:	Big

3. **Gender based analogy:** In such type of analogy, one word is masculine and another word is feminine of it. In fact, it is a 'male and female' or 'gender' relationship.

#### Examples:

Man	:	Woman
Boy	:	Girl
Nephew	:	Niece
Bull	:	Cow

4. **Quantity and unit based analogy:** In such type of analogy, 2<sup>nd</sup> word is the unit of the first word and vice-versa.

#### Examples:

Distance	:	Mile
Mass	:	Kilogram
Length	:	Meter

#### Example 1.

**Bulky : Fat :: Happiness : ?**

- (a) Bad              (b) Ugly  
(c) Joy              (d) Sorrow

**Sol.** (c) Option (c) is the correct because 'Bulky' is the synonym of 'Fat' and similarly 'Happiness' is the synonym of 'joy'.

## Odd One Out

In classification we take out an element out of some given elements and the element to be taken out is different from the rest of the elements in terms

of common properties, shapes, sizes, types, nature, colours, traits etc. In this way the rest of the elements form a group and the element that has been taken out is not the member of that group as this single element does not possess the common quality to be possessed by rest of the elements.

**Example 2. Which one of the following word is not a part of the group formed by remaining words. The remaining words form the group on the basis of certain similarity.**

- (a) Name      (b) Game  
 (c) Fame      (d) Shame

**Sol.** (d) Option (d) is the correct answer because this is the only word which has 5 letters while the remaining words have 4 letters and hence options (a), (b), & (c) form a group separating out option (d).

**Example 3. Which of the following animals does not fit into the group formed by remaining animals?**

- (a) Cat      (b) Dog  
 (c) Tiger      (d) Octopus

**Sol.** (d) Option (d) is the correct option as this is the only animal out of given options which is a water animal. Rest of the options are land animals.

### Logical Sequence of Words

In this particular type of problems, certain inter-related words are given and numbered, followed by various

sequences of the numbers denoting them, as alternatives. The candidate is required to arrange these words in a logical sequence based on a common property and then choose the correctly graded sequence from the given data

**Example 4. Arrange the following in a meaningful sequence**

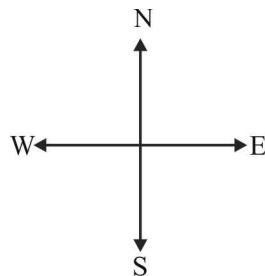
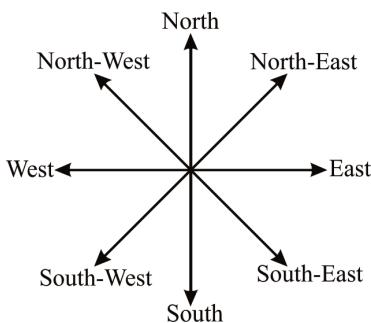
1. Consultation
  2. Illness
  3. Doctor
  4. Treatment
  5. Recovery
- (a) 2 3 1 4 5    (b) 2 3 4 1 5  
 (c) 4 3 1 2 5    (d) 5 1 4 3 2

**Sol.** (a) Clearly illness occurs first. One then goes to a doctor and after consultation with him, undergoes treatment to finally attain recovery. So, the correct order becomes, 2, 3, 1, 4, 5... (a).

### Direction & Distance

#### Concept of Direction

In our day to day life, we make our concept of direction after seeing the position of sun. In fact, this is a truth that sun rises in the East and goes down in the west. Thus when we stand facing sunrise, then our front is called East while our back is called West. At this position our left hand is in the Northward and the right hand is in the Southward. Let us see the following direction map that will make your concept more clear:

**Direction Map:****Note:**

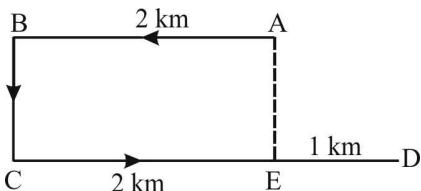
On paper North is always on top while South is always in bottom.

**Example 5.** Raman walked 2 km West from his office and then turned South covering 4 km. Finally, he walked 3 km towards East and again move 1 km West. How far is Raman from his initial position?

- (a) 4 km      (b) 8 km  
 (c) 10 km      (d) 7 km

**Sol.** (a) Raman starts from his office A, moves 2 km West upto B, then 4 km to the South upto C, 3 km East upto D and finally 1 km West upto E. Thus his distance from the initial position A = AE = BC = 4 km.

Hence, option (a) is the correct answer.

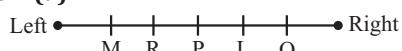
**Sitting arrangement**

It is a sequential arrangement of persons/objects on the basis of some conditions. In these types of questions, we have to analyse the given information and condense it in a suitable form to answer the questions. Though there exists no set formulae to solve these kinds of problems, yet a systematic approach can help to solve questions. Following examples will help you to develop methodology to solve these types of questions.

**Example 6.** Five coaches P, L, R, M, O are in a row. R is to the right of M and left of P. L is to the right of P and left of O. Which coach is in the middle?

- (a) P      (b) L  
 (c) R      (d) O

**Sol. (a)**



Hence, P coach is in the middle of the five coaches.

## EXERCISE

**DIRECTIONS (Qs. 1 to 18) :** In each of the following questions, there are two words / set of letters / numbers to the left of the sign :: which are connected in some way. The same relationship obtains between the third words / set of letters / numbers and one of the four alternatives under it. Find the correct alternative in each question.

1. Ocean : Water :: Glacier : ?
    - (a) Refrigerator
    - (b) Ice
    - (c) Mountain
    - (d) Cave
  2. Medicine : Sickness :: Book : ?
    - (a) Ignorance
    - (b) Knowledge
    - (c) Author
    - (d) Teacher
  3. Bank : River :: Coast : ?
    - (a) Flood
    - (b) Waves
    - (c) Sea
    - (d) Beach
  4. Thunder : Rain :: Night : ...
    - (a) Day
    - (b) Dusk
    - (c) Darkness
    - (d) Evening
  5. Breeze : Cyclone :: Drizzle : ?
    - (a) Earthquake
    - (b) Storm
    - (c) Flood
    - (d) Downpour
  6. Disease : Pathology :: Planet : ?
    - (a) Astrology
    - (b) Geology
    - (c) Astronomy
    - (d) Palaeontology
  7. Shout : Whisper :: Run : ?
    - (a) Stay
    - (b) Stand
    - (c) Walk
    - (d) Hop
  8. Smoke : pollution :: war : ?
    - (a) victory
    - (b) peace
    - (c) treaty
    - (d) destruction
  9. Hour : second :: tertiary : ?
    - (a) ordinary
    - (b) secondary
    - (c) primary
    - (d) intermediary
  10. Safe : secure :: Protect : ?
    - (a) guard
    - (b) lock
    - (c) sure
    - (d) conserve
  11. Melt : Liquid :: Freeze : ?
    - (a) Crystal
    - (b) Solid
    - (c) Ice
    - (d) Evaporate
  12. Length : Metre :: Power : ?
    - (a) Calories
    - (b) Degree
    - (c) Watt
    - (d) Kilogram
  13. Square : Cube :: Circle : ?
    - (a) Ellipse
    - (b) Parabola
    - (c) Cone
    - (d) Sphere
  14. Paper : Tree :: Glass : ?
    - (a) Window
    - (b) Sand
    - (c) Stone
    - (d) Mirror
  15. Fish : Scales :: Bear : ?
    - (a) Feathers
    - (b) Leaves
    - (c) Fur
    - (d) Skin
  16. Country : President :: State : ?
    - (a) Chief Minister
    - (b) Prime Minister
    - (c) Speaker
    - (d) Governor
  17. Blue whale : Sea :: ? : Land
    - (a) Turtle
    - (b) Fish
    - (c) Elephant
    - (d) Green whale
  18. Hard : Rock :: Soft : ?
    - (a) Lead
    - (b) Paper
    - (c) Sponge
    - (d) Glass
- DIRECTIONS (Qs. 19 to 35) :** Find the odd word/letters/number pair from the given alternatives.
19. (a) Rice                    (b) Wheat  
                                   (c) Barley                    (d) Mustard
  20. (a) Arrow                 (b) Sword  
                                   (c) Knife                    (d) Axe

21. (a) Listen      (b) Feel  
       (c) Think      (d) Sing      (a) 1, 2, 4, 3, 5      (b) 1, 3, 2, 4, 5  
       (c) 2, 3, 5, 4, 1      (d) 5, 4, 2, 3, 1
22. (a) Volume      (b) Size  
       (c) Large      (d) Shape      37. 1. Doctor      2. Fever  
                         3. Prescribe      4. Diagnose
23. (a) Mathematics  
       (b) Geometry  
       (c) Algebra  
       (d) Trigonometry      5. Medicine  
                         (a) 2, 1, 3, 4, 5      (b) 1, 4, 3, 2, 5  
                         (c) 2, 1, 4, 3, 5      (d) 2, 4, 3, 5, 1
24. (a) Advice      (b) Counsel  
       (c) Direct      (d) Suggest      38. 1. Line      2. Angle  
                         3. Square      4. Triangle  
                         (a) 2, 1, 4, 3      (b) 3, 4, 1, 2  
                         (c) 4, 2, 1, 3      (d) 1, 2, 4, 3
25. (a) Medium      (b) Average  
       (c) Mediocre      (d) Terrible      39. 1. Childhood  
                         2. Adulthood  
                         3. Infancy  
                         4. Adolescence  
                         5. Babyhood  
                         (a) 4, 1, 3, 2, 5      (b) 3, 5, 1, 4, 2  
                         (c) 2, 5, 1, 4, 3      (d) 5, 4, 2, 3, 1
26. (a) Travelled      (b) Sailed  
       (c) Walked      (d) Rode      40. 1. Amoeba      2. Oyster  
                         3. Worm      4. Cow  
                         (a) 1, 3, 2, 4      (b) 1, 2, 3, 4  
                         (c) 4, 3, 2, 1      (d) 3, 2, 4, 1
27. (a) Telescope  
       (b) Transistor  
       (c) Taperecorder  
       (d) Telephone      41. 1. Exhaust      2. Night  
                         3. Day      4. Sleep  
                         5. Work  
                         (a) 1, 3, 5, 2, 4      (b) 3, 5, 1, 4, 2  
                         (c) 3, 5, 1, 2, 4      (d) 3, 5, 2, 1, 4
28. (a) Fore ward      (b) Text  
       (c) Index      (d) preface      42. A. Family      B. Community  
                         C. Member      D. Locality  
                         E. Country  
                         (a) C, A, D, B, E      (b) C, A, B, D, E  
                         (c) C, A, B, E, D      (d) C, A, D, E, B
29. (a) Analysis  
       (b) Search  
       (c) Conclusion  
       (d) Investigation      43. 1. Curd      2. Grass  
                         3. Butter      4. Milk  
                         5. Cow  
                         (a) 5, 2, 3, 4, 1      (b) 4, 2, 5, 3, 1  
                         (c) 2, 5, 4, 3, 1      (d) 5, 2, 4, 1, 3
30. (a) Room      (b) Chamber  
       (c) Veranda      (d) Cabin      44. 1. Plant      2. Fruit  
                         3. Seed      4. Flower  
                         (a) 3, 1, 4, 2      (b) 3, 2, 1, 4  
                         (c) 3, 2, 4, 1      (d) 3, 1, 2, 4
31. (a) Radio      (b) Television  
       (c) Transistor      (d) Tube
32. (a) Tennis      (b) Cricket  
       (c) Volleyball      (d) Football
33. (a) Heat      (b) Light  
       (c) Bulb      (d) Electricity
34. (a) Flute      (b) Violin  
       (c) Guitar      (d) Sitar
35. (a) Tomato      (b) Potato  
       (c) Carrot      (d) Onion
- 
- DIRECTIONS (Qs. 36-50):** Arrange the following in a logical order.
36. 1. Foetus      2. Child  
       3. Baby      4. Adult  
       5. Youth

45. 1. Son      2. Husband  
     3. Grandfather 4. Brother  
     5. Father  
     (a) 1, 5, 2, 4, 3 (b) 1, 2, 3, 4, 5  
     (c) 1, 4, 2, 5, 3 (d) 1, 2, 4, 5, 3
46. 1. Curd      2. Milk  
     3. Butter milk 4. Cow  
     5. Ghee      6. Butter  
     (a) 2, 5, 6, 4, 1, 3  
     (b) 4, 6, 2, 1, 3, 5  
     (c) 4, 2, 1, 3, 6, 5  
     (d) 2, 6, 4, 5, 3, 1
47. 1. Adulthood 2. Infancy  
     3. Childhood 4. Adolescence  
     (a) 1, 3, 4, 2 (b) 2, 3, 4, 1  
     (c) 2, 4, 3, 1 (d) 1, 2, 3, 4
48. 1. Elephant 2. Cat  
     3. Mosquito 4. Tiger  
     5. Whale  
     (a) 5, 3, 1, 2, 4 (b) 1, 3, 5, 4, 2  
     (c) 3, 2, 4, 1, 5 (d) 2, 5, 1, 4, 3
49. (1) Classroom (2) Desk  
     (3) School    (4)  
     Community  
     (5) Drawer  
     (a) (4), (2), (3), (1), (5)  
     (b) (3), (2), (4), (5), (1)  
     (c) (4), (3), (1), (2), (5)  
     (d) (1), (2), (3), (4), (5)
50. 1. India      2. Bangalore  
     3. Asia      4. Karnataka  
     (a) 3, 1, 4, 2 (b) 3, 1, 2, 4  
     (c) 1, 2, 3, 4 (d) 3, 4, 2, 1
51. Alok walked 30 metres towards east and took a right turn and walked 40 metres. He again took a right turn and walked 50 metres. Towards which direction is he from his starting point?  
     (a) South      (b) West  
     (c) South-West (d) South-East
52. 'X' started walking straight towards South. He walked a distance of 5 metres and then took a left turn and walked a distance of 3 metres. Then he took a right turn and walked a distance of 5 metres again. 'X' is facing which direction now?  
     (a) North-East (b) South  
     (c) North      (d) South-West
53. If A is to the south of B and C is to the east of B, in what direction is A with respect to C?  
     (a) North-east  
     (b) North-west  
     (c) South-east  
     (d) South-west
54. A boy rode his bicycle northwards, then turned left and rode one km and again turned left and rode 2 km. He found himself exactly one km west of his starting point. How far did he ride northwards initially?  
     (a) 1 km      (b) 2 km  
     (c) 3 km      (d) 5 km
55. A rat runs 20' towards east and turns to right, runs 10' and turns to right, runs 9' and again turns to left, runs 5' and then to left, runs 12' and finally turns to left and runs 6'. Now, which direction is the rat facing?  
     (a) East      (b) West  
     (c) North      (d) South
56. From his house, Lokesh went 15 km to the North. Then he turned West and covered 10 km. Then, he turned South and covered 5 km. Finally, turning to East, he covered 10 km. In which direction is he from his house?  
     (a) East      (b) West  
     (c) North      (d) South

57. Ram left home and walked 5 km southward, turned right and walked 2 km and turned right and walked 5 km and turned left and walked 5 km. How many km will he have to walk to reach his home starting ?  
 (a) 5                   (b) 7  
 (c) 17               (d) 15
58. Sobha was facing East. She walked 20 metres. Turning left she moved 15 metres and then turning right moved 25 metres. Finally, she turned right and moved 15 metres more. How far is she from her starting point?  
 (a) 25 metres   (b) 35 metres  
 (c) 50 metres   (d) 45 metres
59. Jatin leaves his house and walks 12 km towards North. He turns right and walks another 12 km. He turns right again, walks 12 km more and turns left to walk 5 km. How far is he from his home and in which direction ?  
 (a) 7 km east   (b) 10 km east  
 (c) 17 km east   (d) 24 km east
60. Priya starts walking in the afternoon facing the Sun. After some time, she turned to the right. Later again, she turned to her left and again also left. At what direction is Priya moving now?  
 (a) East           (b) West  
 (c) North           (d) South
61. Asha drives 6 km towards West and turns to the right and drives 3 km. Then, she turns again and drives towards right hand and drives 6 km. How far is she from her starting point? In which direction would she be driving?  
 (a) 6 km East   (b) 3 km West  
 (c) 3 km East   (d) 6 km North
62. A cyclist goes 30 km to North and then turning to East he goes 40 km. Again he turns to his right and goes 20 km. After this he turns to his right and goes 40 km. How far is he from his starting point ?  
 (a) 0 km.           (b) 10 km.  
 (c) 25 km.           (d) 40 km.
63. Rajat moves from his office to the canteen straight at a distance of 12 meters. Then he turned left and walked for 2 metres. Then he turns left again and walks straight for 12 metres. How far is he from his office?  
 (a) 10 metres   (b) 12 metres  
 (c) 8 metres   (d) 2 metres
64. Rohan walks a distance of 3 km towards North, then turns to his left and walks for 2 km. He again turns left and walks for 3 km. At this point he turns to his left and walks for 3 km. How many kilometres is he from the starting point ?  
 (a) 1 km           (b) 2 km  
 (c) 3 km           (d) 4 km
65. Pinky walks a distance of 600 mtr. towards east, turns left and moves 500 mtr, then turns left and walks 600 mtr. and then turns left again and moves 500 mtr and halts. At what distance in metres is she from the starting point?  
 (a) 2200           (b) 500  
 (c) 0               (d) 600

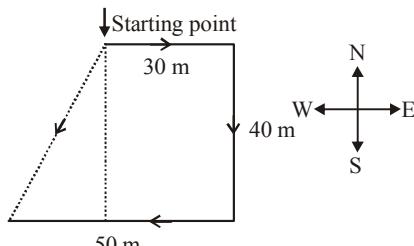
66. Sunita rode her scooter northwards, then turned left and then again rode to her left 4 km. She found herself exactly 2 kms west of her starting point. How far did she ride northwards initially ?  
 (a) 2 km      (b) 4 km  
 (c) 5 km      (d) 6 km
67. P, Q, R, S and T are sitting around a circular table. R is to the right of P and is second to the left of S. T is not between P and S. Who is second to the left of R?  
 (a) S  
 (b) T  
 (c) Q  
 (d) Data inadequate
68. In a classroom, there are 5 rows, and 5 children A, B, C, D and E are seated one behind the other in 5 separate rows as follows :  
 A is sitting behind C, but in front of B.  
 C is sitting behind E, D is sitting in front of E.  
 The order in which they are sitting from the first row to the last is  
 (a) DECAB      (b) BACED  
 (c) ACBDE      (d) ABEDC
69. A group of friends are sitting in an arrangement one each at the corner of an octagon. All are facing the centre. Mahima is sitting diagonally opposite Rama, who is on Sushma's right. Ravi is next to Sushma and opposite Girdhar, who is on Chandra's left. Savitri is not on mahima's right but opposite Shalini. Who is on Shalini's right?  
 (a) Ravi      (b) Mahima  
 (c) Girdhar      (d) Rama
70. Five boys A, B, C, D, E are sitting in a park in a circle. A is facing South-West, D is facing South-East, B and E are right opposite A and D respectively and C is equidistant between D and B. Which direction is C facing?  
 (a) West      (b) South  
 (c) North      (d) East
71. Four students ABCD are sitting one each of the four corners of a square all facing the centre of the square. The student E sitting at the centre is facing only C and the student A is sitting facing the back of E. If D is sitting on the right of E, where B will be sitting to E?  
 (a) B is sitting on the left of E  
 (b) B is to the back of E  
 (c) A is facing B and E  
 (d) B is on the right of E
72. There are five buses M, N, O, P, Q in a row on a road. Bus M is standing at the front and Q is standing at the back end. Bus N stands between M and O. Bus P stands between O and Q. Which bus is in the middle of the five?  
 (a) M      (b) P  
 (c) N      (d) O
73. Five boys A, B, C, D and E are standing in a row. D is on the right of E. B is on the left of E, but on the right of A. D is on the left of C, who is standing on the extreme right. Who is standing in the middle?  
 (a) D      (b) E  
 (b) B      (d) C

74. (i) A and B can speak Tamil and Malayalam.  
(ii) C and D can speak English and Hindi.  
(iii) B and D can speak Malayalam and Hindi.  
(iv) A and C can speak Tamil and English.
- One who speaks English, Hindi and Malayalam is  
(a) A                   (b) B  
(c) C                   (d) D
75. Six persons are sitting in a circle. 'J' is between 'N' and 'O'; 'N' is opposite 'M'; and 'L' is not in either of the neighbouring seats of 'N'. Who is opposite to 'K'?  
(a) M                   (b) O  
(c) J                   (d) L
76. Five policemen are standing in a row facing south. Shekhar is to the immediate right of Dhanush. Bala is between Basha and Dhanush. David is at the extreme right end of the row. Who is standing in the middle of the row?  
(a) Bala               (b) Basha  
(c) Shekhar           (d) Dhanush
77. Seven persons A, B, C, D, E, F and G are standing in a straight line. D is to the right of G. C is between A and B. E is between F and D. There are three persons between G and B. Who is on the extreme left?
- (a) A                   (b) B  
(c) D                   (d) G
78. A,B,C,D,E,F are sitting on the round table with equal distances. F is sitting opposite to E and between A and D. C is sitting right side of E and opposite to A. Who are the neighbours of A?  
(a) F and D           (b) E and F  
(c) E and C           (d) B and F
79. 4 friends ABCD are sitting in a coffee shop. A and B are sitting face to face. D is not sitting next to A but can see the facial expression of A clearly. B is talking to C who is sitting opposite to him. Who are sitting together ?  
(a) D & C           (b) A & B  
(c) A & C           (d) A & D
80. Prem, Rakesh, Roshan, Sanjay, Tanuj, Udit are sitting at equal distance in a circle and are facing the centre. Roshan is third from Prem in the right. Rakesh is third from Tanuj from the left. Udit is between Prem and Tanuj and Sanjay is third from Udit in the left and right. Who is opposite Tanuj?  
(a) Roshan           (b) Prem  
(c) Rakesh           (d) Sanjay

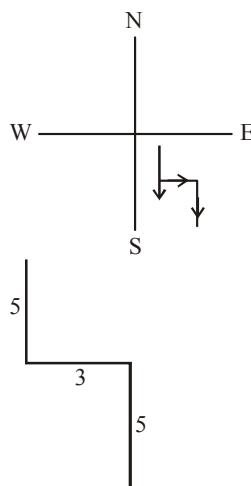
## HINTS & EXPLANATIONS

1. (b) First consists of the second.
2. (a) As medicine cures sickness, in the same way, books remove ignorance.
3. (c) Bank is the land beside a river.  
Similarly, coast is the land beside a sea.
4. (c) As 'Rain' is followed by 'Thunder', similarly 'Darkness' is followed by 'Night'.
5. (d) Second is more intense than the first
6. (c) Diseases are studied under Pathology.  
Similarly, planets are studied in Astronomy.
7. (c) Whisper is of lesser intense than shouting, so is walking to running.
8. (d) Smoke cause pollution  
Similarly, destruction is the result of war.
9. (c) Second is smallest of hour and similarly, primary is initial stage
10. (a) Safe is synonyms of secure and protect is synonyms of guard
11. (c) First is the process of formation of the second
12. (c) Metre is a unit of length likewise watt is a unit of power.
13. (d) As cube is 3-D of square.  
Similarly, sphere is 3-D of circle.
14. (b) As paper is product of Tree.  
Similarly glass is a product of sand
15. (c) The body of fish remains covered with scales externally. Similarly, the body of bear remains covered with fur.
16. (d) President is the head of Union Executive of India. Similarly, Governor is the head of State Executive.
17. (c) As Blue whale is heaviest animal in the sea. Similarly, Elephant is heaviest animal on the land
18. (c) As, rock is a hard substance. Similarly, sponge is a soft substance.
19. (d) Except 'mustard' each belongs to the same category, viz food grains. Mustard is an oilseed.
20. (a) All others are held in the hand and not shot out
21. (d) All others are the features of sense organs.
22. (c) 'Large' is an adjective whereas others are noun.
23. (a) MATHEMATICS is STREAM/Main Category.  
Others are substream or sub category of Mathematics.
24. (c) Direct is different from the other three words. Direct means 'to give a formal order or command'
25. (d) All except terrible are synonyms.
26. (a) All others are different modes of travel.
27. (a) All except Telescope are audio devices.
28. (b) Text is different from other three.
29. (c) Conclusion is the final stage of analysis, search and investigation.

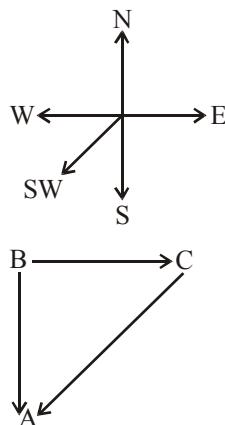
30. (c) Except veranda, all others are surrounded by four walls.
31. (d) Radio, transistor and television are the way of broadcasting. Hence, tube is odd one out.
32. (b)
33. (c) Bulb is an item while all others are phenomena.
34. (a) Except Flute, all others are stringed musical instruments.
35. (a) Except Tomato all others are grown underground.
36. (b) The correct sequence is  
Foetus - Baby - Child -  
(1) (2) (3)  
Adult - Youth  
(4) (5)
37. (c) Correct sequence is:  
Fever → Doctor → Diagnose  
(2) (1) (4)  
→ Prescribe → Medicine  
(3) (5)
38. (d) Line → Angle → Triangle →  
(1) (2) (3)  
Square  
(4)  
1, 2, 4, 3
39. (b) 3, 5, 1, 4, 2
40. (b) 1. Amoeba  
2. Oyster  
3. Worm  
4. Cow
41. (c) Meaningful order of the words:  
3. Day → 5. Work →  
1. Exhaust → 2. Night →  
4. Sleep
42. (b) Meaningful order of the words:  
C. Member → A. Family →  
B. Community → D. Locality  
→ E. Country
43. (d) The correct order is:  
Cow → Grass → Milk →  
Curd → Butter
44. (a)  
Seed → Plant → Flower → Fruit  
3 → 1 → 4 → 2
45. (c) Meaningful order is:  
Son → Brother → Husband  
(1) (4) (2)  
→ Father → Grandfather  
(5) (3)
46. (c) Cow → Milk → Curd →  
(4) (2) (1)  
Butter Milk → Butter → Ghee  
(3) (6) (5)
47. (b) Infancy → Childhood →  
(2) (3)  
Adolescence → Adulthood  
(4) (1)
48. (c) Meaningful Order:  
Mosquito → Cat → Tiger →  
(3) (2) (4)  
Elephant → Whale  
(1) (5)
49. (c) Meaningful order is:  
Community → School →  
(4) (3)  
Classroom → Desk → Drawer  
(1) (2) (5)
50. (a) Asia → India → Karnatka →  
Bangalore
51. (c)



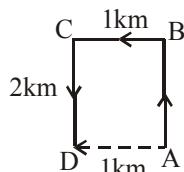
52. (b)



53. (d) Clearly, comparing the direction of A w.r.t C in the second diagram with that in the first diagram, A will be south-west of C.

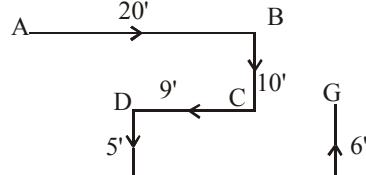


54. (b) Clearly, the boy rode from A to B,

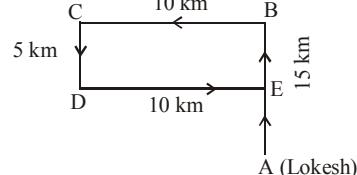


then to C and finally up to D. Since D lies to the west of A, so required distance = AB = CD = 2 km.

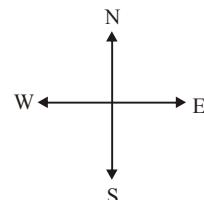
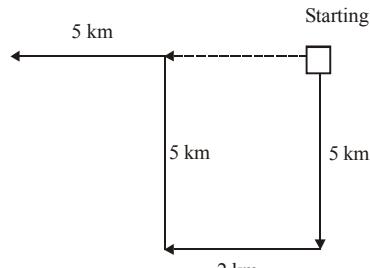
55. (c) The movements of rat are as shown in figure. Clearly, it is finally walking in the direction FG i.e. North.



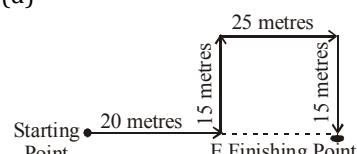
56. (c) The movements of Lokesh are as shown in figure. (A to B, B to C, C to D, D to E). Clearly, his final position is E which is to the North of his house A.



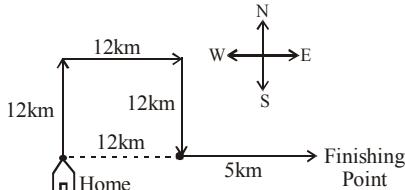
57. (b)



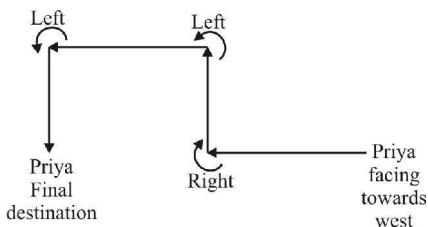
Required distance =  $5 + 2 = 7$  km  
(d)



- towards South is same, i.e., 15 metres. So, Shobha is  $20 + 25$  metres = 45 metres away from her starting point.
59. (c)  $(12 \text{ km} + 5 \text{ km} = 17 \text{ km})$

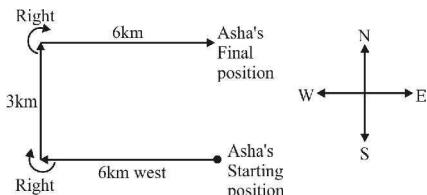


60. (d)



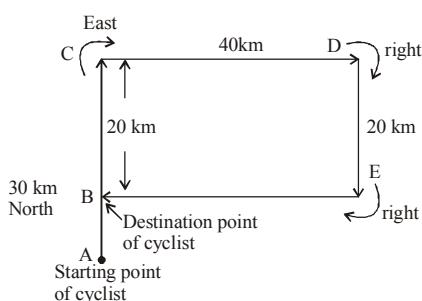
Hence, Priya is moving in the South direction.

61. (c)



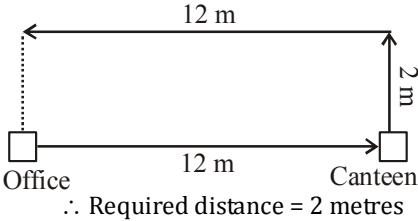
Hence, Asha is 3 km from starting point and in the east direction.

62. (b)

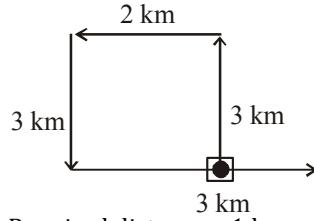


$$\text{Distance from starting point} = AC - BC = 30 - 20 = 10 \text{ km}$$

63. (d)

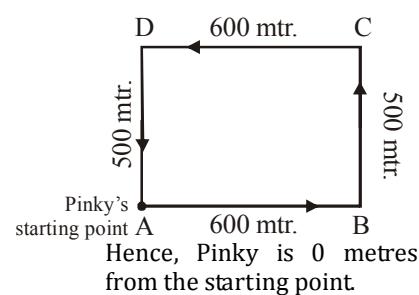


64. (a)

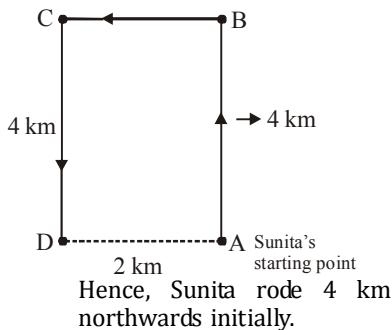


Required distance = 1 km

65. (c)

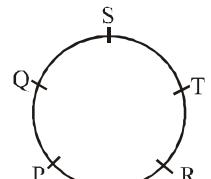


66. (b)



Hence, Sunita rode 4 km northwards initially.

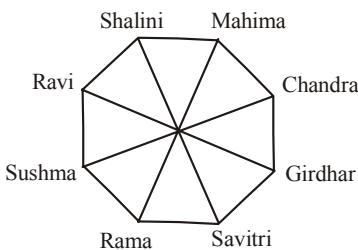
67. (c)



Q is second to the left of R.

68. (a) 1st Row  $\Rightarrow$  D  
2nd Row  $\Rightarrow$  E  
3rd Row  $\Rightarrow$  C  
4th Row  $\Rightarrow$  A  
5th Row  $\Rightarrow$  B

69. (a)

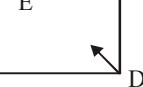


Ravi is to the right of Shalini.

70. (d)
- 

So, C is facing towards East.

71. (a)
- 



72. (d)

Bus O is in the middle of the five.

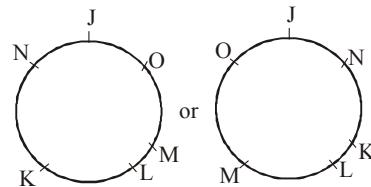
73. (b)

74. (d)

Persons	LANGUAGES			
	Tamil	Malayalam	English	Hindi
A	✓	✓	✓	✗
B	✓	✓	✗	✓
C	✓	✗	✓	✓
D	✗	✓	✓	✓

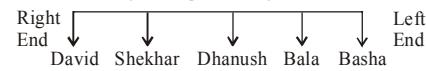
D can speak English, Hindi, and Malayalam.

75. (b)



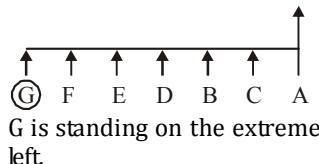
Hence, O is the opposite of K.

76. (d) Standing arrangement : (facing south)



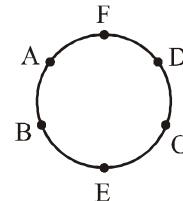
Hence, Dhanush is standing at the middle of the row.

77. (d) Standing Arrangement

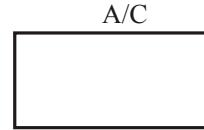


G is standing on the extreme left.

78. (d)

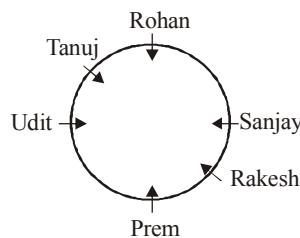


79. (c) B and F are neighbours of A  
Sitting Arrangement:



So, the correct answer is (c).

80. (c)



Rakesh is opposite to Tanuj