Q.1) BRABO recently in news is

a) India's first industrial robot
b) India's first nanotechnology based computer
c) India's first solar technology park
d) India's first operating system

Q.1) Solution (a)

http://www.livemint.com/Industry/pcYwlItCLm7MZE88Pn1feO/BRABO-How-India-got-its-first-Made-in-India-industrial-robo.html

Q.2) Consider the following statements regarding 3-D Printing

1. It is also called Additive Reality (AR)
2. 3-D printing is done through photo-polymerisation
3. Selective Laser Sintering (SLS) and Fused Deposition Modeling (FDM) are the common technologies used for 3D printing

Which of the given statement/s is/are incorrect?

a) Only 1
b) 1 and 2
c) Only 2
d) Only 3

Q.2) Solution (a)

3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file.

The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object.

Not all 3D printers use the same technology. There are several ways to print and all those available are additive, differing mainly in the way layers are build to create the final object. Some methods use melting or softening material to produce the layers. Selective Laser Sintering (SLS) and Fused Deposition Modeling (FDM) are the most common technologies

using this way of 3D printing. Another method is when we talk about curing a photo-reactive resin with a UV laser or another similar power source one layer at a time. The most common technology using this method is called Stereolithography (SLA).

To be more precise: since 2010, the American Society for Testing and Materials (ASTM) group "ASTM F42 – Additive Manufacturing", developed a set of standards that classify the Additive Manufacturing processes into 7 categories according to Standard Terminology for Additive Manufacturing Technologies. These seven processes are:

Vat Photopolymerisation

- Stereolithography (SLA)
- Digital Light Processing (DLP)
- Continuous Liquid Interface Production (CLIP)

Material Jetting

Binder Jetting

Material Extrusion

- Fused Deposition Modeling (FDM)
- Fused Filament Fabrication (FFF)
    - Different types of FFF 3D Printers

Powder Bed Fusion

- Selective laser sintering (SLS)

Sheet Lamination

Directed Energy Deposition

Hint- http://www.thehindu.com/sci-tech/science/3d-printing-conquers-glass/article18195807.ece

http://www.thehindu.com/sci-tech/technology/3d-printing-virtual-reality-used-to-bring-dinosaur-to-life/article17318487.ece

Q.3) Select the incorrect statement

a) The light from the Sun travels through Earth's atmosphere and undergoes scattering after it reaches the earth's surface

b) Light of shorter wavelengths, such as violet, blue, green and yellow undergoes greater scattering than those of longer wavelengths, such as orange and red.
c) The scattering is related to the size and quantity of the scattering particles.
d) The scattering is more in evening than morning

Q.3) Solution (a)

The light from the Sun travels through Earth's atmosphere it undergoes scattering before it reaches us.

The extent of scattering is not uniform for all colours. Light of shorter wavelengths, such as violet, blue, green and yellow undergoes greater scattering than those of longer wavelengths, such as orange and red.

Because of the spherical geometry of the earth, the sunlight travels longer distance in the thick of the earth's atmosphere during sunset and sunrise when the Sun is at the horizons than when the Sun is at the zenith (midday).

Thus, there is more probability for shorter wavelength light to get more scattered than for the longer wavelength light. Hence, the Sun (and sunrise and sunset) appears reddish orange during sunset and sunrise.

The scattering is also related to the size and quantity of the scattering particles. During the night time the atmosphere is cool and the aerial particles and dust particles settle by morning whereas by evening they get dispersed. Thus, the scattering is more by evening than in the morning.

Lastly, since the earth is spinning from West to East, relatively we move towards the Sun during mornings (eastward) and away from the Sun during evenings (westward). There is one phenomenon, called, Doppler Effect, which adds to this differential.

Q.4) Consider the following statements

1. The 2015 Nobel Prize in Chemistry was awarded for the design and synthesis of molecular machines
2. The most complex molecular machines are proteins found within cells
3. The 2016 Nobel Prize in Chemistry was awarded to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa

Select the correct statement/s

a) 1 and 3

b) 2 and 3
c) 1 and 2
d) 1, 2 and 3

Q.4) Solution (b)

The Nobel Prize in Chemistry 2016 was awarded jointly to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa "for the design and synthesis of molecular machines".

Molecular machines can be divided into two broad categories; synthetic and biological.

The most complex molecular machines are proteins found within cells. These include motor proteins, such as myosin, which is responsible for muscle contraction, kinesin, which moves cargo inside cells away from the nucleus along microtubules, and dynein, which produces the axonemal beating of motile cilia and flagella. These proteins and their nanoscale dynamics are far more complex than any molecular machines that have yet been artificially constructed.

Probably the most significant biological machine known is the ribosome.

The Nobel Prize in Chemistry 2015 was awarded jointly to Tomas Lindahl, Paul Modrich and Aziz Sancar "for mechanistic studies of DNA repair".

Q.5) Consider the following statements

1. Pulsars are types of neutron stars
2. Magnetars have a greater magnetic field than neutron star
3. The mass of the Sun is greater than any neutron star

Which of the given statement/s is/are correct?

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

Q.5) Solution (a)

A neutron star is the collapsed core of a large (10–29 solar masses) star. Neutron stars are the smallest and densest stars known to exist. Though neutron stars typically have a radius on the order of 10 km, they can have masses of about twice that of the Sun. They result

from the supernova explosion of a massive star, combined with gravitational collapse that compresses the core past the white dwarf star density to that of atomic nuclei.

Pulsars aren't really stars — or at least they aren't "living" stars. Pulsars belong to a family of objects called neutron stars that form when a star more massive than the sun runs out of fuel in its core and collapses in on itself. This stellar death typically creates a massive explosion called a supernova. The neutron star is the dense nugget of material left over after this explosive death.

All Pulsars are Neutron stars, but not all Neutron stars are Pulsars.

Magnetars are a type of neutron star, like pulsars, but with a magnetic field on serious steroids.

It is believed that magnetars are a type of neutron star that were made during a Supernova explosion, similar to that of a pulsar. They are one of the most dense objects in the universe. It is theorized that the dynamo mechanism may be the reason to their formation. Basically, if the spin, temperature and the magnetic field of a neutron star are within the right ranges it can convert the heat and rotational energy into very strong magnetic energy.

Although neutron stars and a magnetar are similar in formation they hold very different characteristics which sets them apart from each other. For instance magnetars rotate at a very slower rate, usually once every 8 to 10 seconds as opposed to one or more rotations a second for neutron stars. Another difference between a magnetar and a neutron star is that a magnetar emits a steady glow of x-rays with more radiant power than could be supplied by the rotation of a neutron star. The magnetic fields made by a magnetar are about 1,000 trillion that of the Earth's magnetic field and can reach surface temperatures of 18 million degrees Fahrenheit.

Hint- http://www.thehindu.com/sci-tech/What-are-magnetars/article14640121.ece

http://www.thehindu.com/society/the-titanic-lesson/article17482941.ece

http://www.thehindu.com/sci-tech/science/nasa-observatory-discovers-mysterious-cosmic-explosion/article17757869.ece

http://www.thehindu.com/sci-tech/science/eclipses-of-binary-star-shed-light-on-orbiting-exoplanet/article17757774.ece

Q.6) The most common chemicals used for cloud seeding include

1. Dry Ice
2. Silver Iodide

3. Liquid Propane

Select the correct answer using the codes

a) Only 2
b) 1 and 2
c) 2 and 3
d) 1, 2 and 3

Q.6) Solution (d)

The most common chemicals used for cloud seeding include silver iodide and dry ice (frozen carbon dioxide). The expansion of liquid propane into a gas is being used on a smaller scale. The use of hygroscopic materials, such as salt, is increasing in popularity because of some promising research results.

Seeding of clouds requires that they contain supercooled liquid water—that is, liquid water colder than zero degrees Celsius. Introduction of a substance such as silver iodide, which has a crystalline structure similar to that of ice, will induce freezing (heterogeneous nucleation).

Dry ice or propane expansion cools the air to such an extent that ice crystals can nucleate spontaneously from the vapor phase. Unlike seeding with silver iodide, this spontaneous nucleation does not require any existing droplets or particles because it produces extremely high vapor supersaturations near the seeding substance. However, the existing droplets are needed for the ice crystals to grow into large enough particles to precipitate out.

Hint- http://www.thehindu.com/news/national/Clouds-over-Maharashtra-will-have-a-silver-iodide-lining/article17309167.ece

http://www.thehindu.com/news/national/tamil-nadu/the-cloud-seeding-myth/article17529580.ece

Q.7) Chlorophyll is vital for photosynthesis, which allows plants to absorb energy from light. It contains

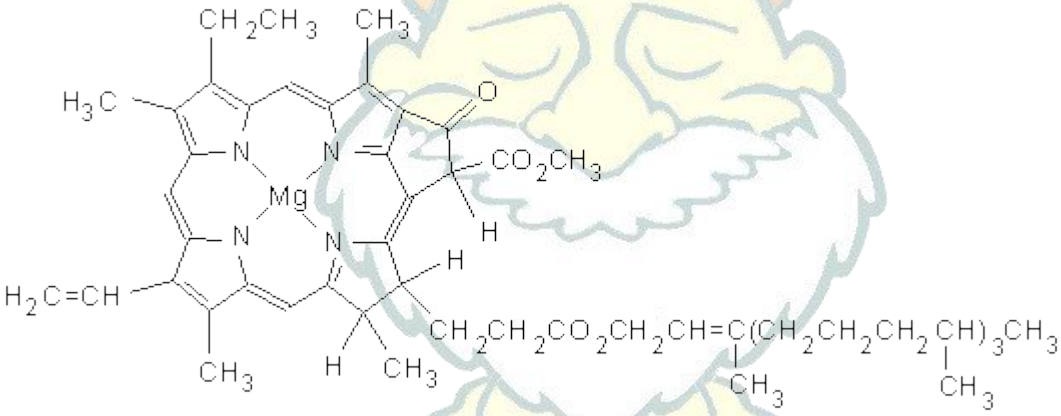
1. Nitrogen
2. Carbon
3. Potassium
4. Magnesium
5. Chlorine
6. Oxygen

Select the correct code

a) 1, 2, 3, 5 and 6
b) 1, 2, 4 and 6
c) 2, 3, 4, and 6
d) 1, 2, 3, 4, 5 and 6

Q.7) Solution (b)

Many important natural substances are chelates. In chelates a central metal ion is bonded to a large organic molecule, a molecule composed of carbon, hydrogen, and other elements such as oxygen and nitrogen. One such chelate is chlorophyll, the green pigment of plants. In chlorophyll the central ion is magnesium, and the large organic molecule is a porphyrin. **The porphyrin contains four nitrogen atoms that form bonds to magnesium** in a square planar arrangement. There are several forms of chlorophyll. The structure of one form, chlorophyll a, is shown.



As you can see from the molecular structure**, the "chloro" in chlorophyll does not mean that it contains the element chlorine.** The chloro portion of the word is from the Greek chloros, which means yellowish green. The name of the element chlorine comes from the same source. Chlorine is a yellowish green gas.

Q.8) Recently scientists have successfully tweaked the process of photosynthesis to make it more efficient and increase plant productivity by raising the level of three proteins involved in the process. The tested plant was a

a) Tea plant
b) Coffee plant

c) Tobacco plant
d) Cotton plant

Q.8) Solution (c)

http://www.thehindu.com/sci-tech/science/Tweaking-photosynthesis-for-a-better-crop-yield/article17004885.ece

Q.9) Newton Fund Research Programme worth up to USD 80 million was recently announced to jointly address global societal challenges. It is a joint initiative of

a) India and USA
b) USA and UK
c) India and UK
d) UN and EU

Q.9) Solution (c)

http://indianexpress.com/article/india/india-news-india/india-uk-join-forces-for-usd-80m-newton-fund-research-programme-4364648/

Q.10) Lithium-ion batteries are popular because they have a number of important advantages over competing technologies. Consider the statements regarding Li-ion batteries

1. They are extremely sensitive to high temperatures
2. They have no memory effect, which means that you do not have to completely discharge them before recharging
3. Lithium is negatively charged ion

Which of the given statement/s is/are correct?

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

Q.10) Solution (a)

Lithium-ion batteries are popular because they have a number of important advantages over competing technologies:

- They're generally much lighter than other types of rechargeable batteries of the same size.
- The electrodes of a lithium-ion battery are made of lightweight lithium and carbon. Lithium is also a highly reactive element, meaning that a lot of energy can be stored in its atomic bonds. This translates into a very high energy density for lithium-ion batteries. Here is a way to get a perspective on the energy density. A typical lithium-ion battery can store 150 watt-hours of electricity in 1 kilogram of battery. A NiMH (nickel-metal hydride) battery pack can store perhaps 100 watt-hours per kilogram, although 60 to 70 watt-hours might be more typical.
- They hold their charge. A lithium-ion battery pack loses only about 5 percent of its charge per month, compared to a 20 percent loss per month for NiMH batteries.
- They have no memory effect, which means that you do not have to completely discharge them before recharging, as with some other battery chemistries.
- Lithium-ion batteries can handle hundreds of charge/discharge cycles.

They have a few disadvantages as well:

- They start degrading as soon as they leave the factory. They will only last two or three years from the date of manufacture whether you use them or not.
- They are extremely sensitive to high temperatures. Heat causes lithium-ion battery packs to degrade much faster than they normally would.
- If you completely discharge a lithium-ion battery, it is ruined.
- A lithium-ion battery pack must have an on-board computer to manage the battery. This makes them even more expensive than they already are.
- There is a small chance that, if a lithium-ion battery pack fails, it will burst into flame.

Lithium is electropositive element.

Hint- http://www.thehindu.com/sci-tech/technology/an-alternative-to-lithium-ion-batteries/article18278152.ece

http://www.thehindu.com/sci-tech/science/A-novel-electrode-for-lithium-batteries/article17005579.ece

Q.11) Consider the following statements regarding Liquefied Natural Gas (LNG)

1. Energy density of LNG is lower than CNG
2. The predominant constituent of LNG is ethane with some percentage of methane, propane and butane
3. It is odorless, colorless, toxic and non-corrosive

Which of the given statement/s is/are incorrect?

a) 1 and 2
b) Only 2
c) 1 and 3
d) 1, 2 and 3

Q.11) Solution (d)

Liquefied natural gas (LNG) is natural gas (predominantly methane, CH4, with some mixture of ethane C2H6) that has been converted to liquid form for ease of storage or transport. It takes up about 1/600th the volume of natural gas in the gaseous state. It is odorless, colorless, non-toxic and non-corrosive

Hazards include flammability after vaporization into a gaseous state, freezing and asphyxia.

Liquefied natural gas, or LNG, is natural gas in its liquid form. When natural gas is cooled to minus 259 degrees Fahrenheit (-161 degrees Celsius), it becomes a clear, colorless, odorless liquid. LNG is neither corrosive nor toxic.

LNG achieves a higher reduction in volume than compressed natural gas (CNG) so that the (volumetric) energy density of LNG is 2.4 times greater than that of CNG or 60 percent that of diesel fuel.

Hint- http://www.thehindu.com/news/cities/Thiruvananthapuram/First-LNG-driven-bus-rolls-out/article16440639.ece

http://breakingenergy.com/2014/12/22/how-dangerous-is-lng/

Q.12) Match the following

List I- Disease	**List II- Affected Part**
1. Hepatitis	A. Blood
2. Alzheimer's	B. Liver
3. Cystic Fibrosis	C. Lung
4. Ischema	D. Brain

Select the correct code

a) 1-B, 2-D,3-C, 4-A
b) 1-C, 2-B, 3-D, 4-A
c) 1-B, 2-A, 3-D, 4-C
d) 1-A, 2-B, 3-C, 4-D

Q.12) Solution (a)

Ischemia is the medical term for what happens when your heart muscle doesn't get enough oxygen. Ischemia usually happens because of a shortage of blood and oxygen to the heart muscle.

Hepatitis is inflammation of the liver tissue.

Alzheimer's Disease is a form of dementia — a neurodegenerative disease that damages the brain's intellectual functions (memory, orientation, calculation, etc.), but usually preserves its motor functions.

Cystic fibrosis (CF) is the most common, fatal genetic disease affecting young Canadians. Cystic fibrosis mainly affects people's lungs and digestion.

Q.13) Japanese Encephalitis is a notifiable disease in India. Which of the following statements are correct about JE?

1. Japanese Encephalitis is a caused by flavivirus transmitted through infected Culex mosquitoes.
2. Pigs and Wild Birds are the reservoirs of the virus
3. JE virus affects central nervous system.

Which of the above statements are correct?

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

Q.13) Solution (d)

Japanese encephalitis virus (JEV) is a flavivirus related to dengue, yellow fever and West Nile viruses, and is spread by mosquitoes.

Domestic pigs and wild birds are reservoirs of the virus; transmission to humans may cause severe symptoms. Amongst the most important vectors of this disease are the mosquitoes Culex tritaeniorhynchus and Culex vishnui. This disease is most prevalent in Southeast Asia, South Asia and East Asia.

Q.14) Consider the following statements with respect to Dispersion of light

1. The sequence VIBGYOR is in the order of increasing frequency.
2. The red light used in the traffic light is visible even in dense fog, because it has lowest frequency in the VIBGYOR colour spectrum.

Select the correct option from code given below

a) 1 only
b) 2 only
c) Both
d) None

Q.14) Solution (b)

The sequence VIBGYOR is in the order of decreasing frequency or increasing wave length. The light which has lowest frequency (Red) will bend slightly whereas light which has more frequency will bend more (Violet)

Q.15) Consider the following diseases

1. Diphtheria
2. Tuberculosis
3. Measles

Which of the given diseases is/are airborne?

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

Q.15) Solution (d)

Airborne diseases include any that are caused and transmitted through the air. Some are of great medical importance. The pathogens transmitted may be any kind of microbe, and they may be spread in aerosols, dust or liquids. The aerosols might be generated from sources of infection such as the bodily secretions of an infected animal or person, or biological wastes such as accumulate in lofts, caves, garbage and the like. Such infected aerosols may stay suspended in air currents long enough to travel for considerable distances, though the rate of infection decreases sharply with the distance between the source and the organism infected.

Airborne pathogens or allergens often cause inflammation in the nose, throat, sinuses and the lungs. This is caused by the inhalation of these pathogens that affect a person's respiratory system or even the rest of the body. Sinus congestion, coughing and sore throats are examples of inflammation of the upper respiratory air way due to these airborne agents. Air pollution plays a significant role in airborne diseases which is linked to asthma. Pollutants are said to influence lung function by increasing air way inflammation.

Many common infections can spread by airborne transmission at least in some cases, including: Anthrax, Chickenpox, Influenza, Measles, Smallpox, Cryptococcosis, and Tuberculosis.

Q.16) Consider the following statements

1. Ministry of Micro, Small and Medium Enterprises (MSME) is implementing the National Manufacturing Competitiveness Programme (NMCP)
2. Lean Manufacturing Competitiveness Scheme (LMCS) is a part of National Manufacturing Competitiveness Programme (NMCP)

Select the correct statements

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.16) Solution (c)

Lean Manufacturing Competitiveness Scheme (LMCS) is a part of National Manufacturing Competitiveness Programme (NMCP) under Ministry of MSME and it aims at improving the overall productivity of MSMEs by reduction of wastes with the help of lean manufacturing concepts. This scheme was started in 2009 as a pilot project in 100 clusters and based on its success; this scheme has been up-scaled for 500 more clusters.

The Ministry of Micro, Small and Medium Enterprises (MSME) is implementing the National Manufacturing Competitiveness Programme (NMCP) to develop global competitiveness among Indian MSMEs.

Source: http://pib.nic.in/newsite/PrintRelease.aspx?relid=157550

Q.17) Consider the following statements

1. Investor-state dispute settlement (ISDS) is a system through which individual companies can sue countries for alleged discriminatory practices
2. India is a signatory to the Convention on the Settlement of Investment Disputes between States and Nationals of Other States ("ICSID Convention")

Select the correct statements

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.17) Solution (a)

ISDS

- Investor-state dispute settlement (ISDS) or investment court system (ICS) is a system through which individual companies can sue countries for alleged discriminatory practices.
- ISDS is an instrument of international public law and provisions are contained in a number of bilateral investment treaties, in certain international trade treaties, such as NAFTA, and the proposed TPP and CETA agreements
- If an investor from one country (the "home state") invests in another country (the "host state"), both of which have agreed to ISDS, and the host state violates the rights granted to the investor under public international law, then that investor may bring the matter before an arbitral tribunal.
- While ISDS is often associated with international arbitration under the rules of ICSID (the International Centre for Settlement of Investment Disputes of the World Bank), it often takes place under the auspices of international arbitral tribunals governed by different rules or institutions, such as the London Court of International Arbitration, the International Chamber of Commerce, the Hong Kong International Arbitration Centre or the UNCITRAL Arbitration Rules.

- ISDS has been criticized because the United States has never lost any of its ISDS cases, and that the system is biased to favor American companies and American trade over other Western countries, and Western countries over the rest of the world.
- India has not signed/ratified ICSID

Source: http://www.thehindu.com/business/India-rejects-attempts-by-EU-Canada-for-global-investment-agreement/article17083034.ece

Q.18) Consider the following statements about Payment Banks

1. They can issue debit cards and credit cards
2. They cannot give loans
3. They don't have to maintain Cash Reserve Ratio

Select the correct statements

a) 1 and 2
b) Only 2
c) 1 and 3
d) 2 and 3

Q.18) Solution (b)

They can issue debit cards but not credit cards.

They cannot give loans.

They can accept deposits, offer interest on deposits and can make payments.

They have to maintain CRR like other scheduled commercial banks.

Read More - http://www.thehindu.com/business/all-you-need-to-know-about-payment-banks/article7561353.ece

Q.19) Consider the following statements about Dam Rehabilitation and Improvement Project (DRIP)

1. The Implementation Agencies for DRIP are Water Resources Departments and State Electricity Boards in the participating States and Central Water Commission at Central Level

2. DRIP is assisted by the World Bank

Select the correct statements

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.19) Solution (c)

The Dam Rehabilitation and Improvement Project (DRIP) has been taken up with loan assistance of the World Bank for rehabilitation and improvement of about 250 dams initially in seven States (namely Jharkhand, Karnataka, Kerala, Madhya Pradesh, Odisha, Tamil Nadu, and Uttarakhand) and institutional strengthening and project management in Central Water Commission (CWC) and other Implementing Agencies; the actual number of dams under DRIP may vary owing to the addition / deletion of dams during implementation. DRIP will be implemented over a period of six-years starting from 18th April, 2012.

The project consists of three components:

- Rehabilitation and Improvement of dams and associated appurtenances,
- Dam Safety Institutional Strengthening in participating States and CWC, and
- Project Management.

The Implementation Agencies for DRIP are Water Resources Departments and State Electricity Boards in the participating States and Central Water Commission at Central Level. State Implementing Agencies will have responsibility for implementation of works of dams under their charge and responsibility for coordination and management of such works within a State rests with the concerned State Project Management Unit (SPMU). Overall project oversight and coordination is to be carried out by Central Project Management Unit (CPMU) headed by the Project Director with assistance of an Engineering and Management Consultant.

Source: http://pib.nic.in/newsite/PrintRelease.aspx?relid=157721

Q.20) Which of the following is/are correctly matched?

1. Kambala – Andhra Pradesh
2. Jalikattu – Tamil Nadu
3. Aanaval Pidi – Kerala

Select the correct code:

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

Q.20) Solution (b)

Kambala – Karnataka

Jalikattu – Tamil Nadu

Aanaval Pidi (Catching elephant's tail) – Kerala

Kambala is an annual buffalo race which is a tradition in the Karnataka's Dakshina Kannada and Udupi districts' farming community. This area is called Tulunadu (Land of Tulu Language).

A pair of buffaloes are tied to the plough and one person anchors it, beating the buffaloes with a stick to run faster. There are two parallel muddy tracks, on which two competing pairs of buffaloes run. Fastest team wins.

Source: http://timesofindia.indiatimes.com/india/all-you-need-to-know-about-kambala/listshow/56774237.cms

http://www.ndtv.com/india-news/what-is-jallikattu-1650547

Q.21) Thor Experiment is concerned with

a) Investigating electrical activity from thunderstorms
b) Test of strength between Thor (A character from Norse mytholog and 'The Hulk'
c) Earth Trojan Asteroids
d) None of the above

Q.21) Solution (a)

Inspired by the hammer-wielding character, Thor, from Norse mythology and the Marvel comics universe, the eponymous experiment aims to investigate electrical activity from thunderstorms. Between 10 and 100 kilometres in the atmosphere, the interaction between

charged particles produces a variety of dazzling electric phenomena from blue jets to red sprites.

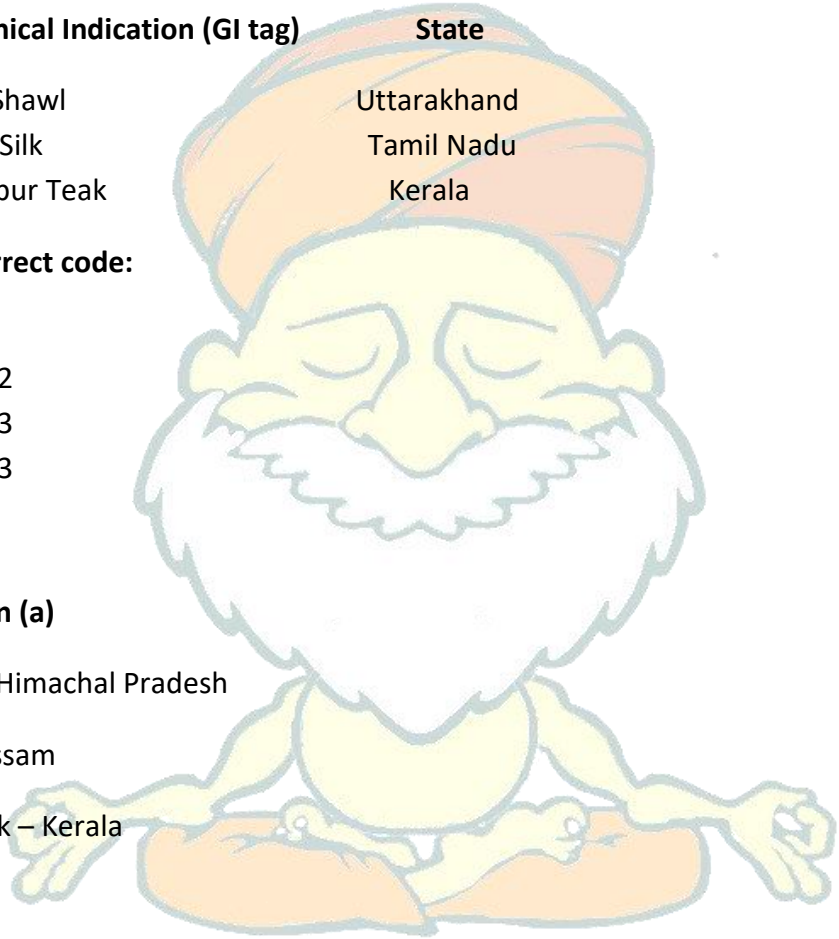
The Thor experiment will look at them with a thundercloud imaging system from the vantage point of the International Space Station. The key aims of the study include understanding how these discharges influence water vapour levels, cloud formation, and eventually changes in climate.

Q.22) Which of the following is/are correctly matched?

	Geographical Indication (GI tag)	State
1.	Kullu Shawl	Uttarakhand
2.	Muga Silk	Tamil Nadu
3.	Nilambur Teak	Kerala

Select the correct code:

a) Only 3
b) 1 and 2
c) 2 and 3
d) 1 and 3



Q.22) Solution (a)

Kullu Shawl - Himachal Pradesh

Muga Silk - Assam

Nilambur Teak – Kerala

Q.23) Which of the following statements about 'vote-on-account (VOA)' is/are correct?

a) A VOA in the strict sense deals only with the expenditure side of the government's budget, whereas an interim budget has to include both expenditure and receipts
b) A VOA cannot be for a period longer than six
c) No changes are made to tax and duty structures and no new schemes are announced in vote-on-account
d) All of the above

Q.23) Solution (d)

What is Vote-on-account?

- Vote-on-account literally means a vote on the accounts of the government. Usually, the annual budget is presented by the end of February after which it is discussed — details of the budget are scrutinized by a Parliamentary committee and it is finally passed by mid-May.
- However, this time, this could be in the middle of elections or another government could be in power depending on the election schedule.
- During elections and till a new government takes over, the caretaker government needs funds for various routine items of expenditure — like staff salaries — without which there would be a financial crisis. According to the Constitution, the government cannot spend any money without Parliament's approval.
- Hence, vote-on-account is taken whereby a government gets parliamentary approval to run the government for a few months, using funds drawn from the Consolidated Fund of India.

How is a vote-on-account different from the full budget or an interim budget?

- While the words vote-on-account and interim budget are often interchangeably used, a vote-on-account in the strict sense deals only with the expenditure side of the government's budget, whereas an interim budget has to include both expenditure and receipts.
- Generally, a vote-on-account is for two or three months, usually till the time it is replaced by a regular budget.
- It cannot be for a period longer than six months as the Constitution stipulates that the gap between two Parliament sittings cannot be more than six months.
- A regular full budget is a complete statement on the financial position of the government for a full year based on expenditures during the period and proposals for financing them. Thus, it gives details of how money is to be spent and how it will be raised by the government.

Why ever have a vote-on-account and not a full-fledged budget?

- Constitutionally, there is no distinction between a caretaker government and a regular one. The government could technically present a full budget.
- However, by convention, a government that is at the end of its tenure opts for a vote-on-account since it is regarded as improper that an outgoing government should impose its policies on its successor.
- There is also the fear that in election years a full budget would tempt governments to resort to populism while ignoring financial prudence.

- Interim budgets have also been used by governments taking office just before the financial year begins to get Parliamentary approval for immediate spending, giving them time to work out a more though-out budget later in the year.

By convention, what are the restrictions on a vote-on-account?

- Vote on account gives the revised estimates of expenditure incurred by the government and revised estimates of government revenue from different sources in the financial year coming to an end.
- These estimates provide an assessment of how efficiently the government spent its resources and how effective its policies of mobilizing tax and non-tax revenues were.
- Typically, no changes are made to tax and duty structures and no new schemes are announced. However it can extend coverage or allocate more money to an existing scheme. The finance minister can also use the vote-on-account speech to give indications of what he would like to do if given an opportunity after the elections.
- Thus, it is often used to indicate his intentions on economic policy just before elections and he can make many promises, something most finance ministers have done in their vote-on-account speeches.

Q.24) Consider the following statements about Varishtha Pension Bima Yojana 2017

1. The scheme is meant to provide an assured pension based on a guaranteed rate of return of 10.25% per annum for ten years, with an option to opt for pension on a monthly/quarterly/half-yearly or annual basis
2. It will be implemented by Life Insurance Corporation of India (LIC)

Which of the following statements is/are correct?

a) Only 1
b) Only 2
c) Both 1 and 2
d) Neither 1 nor 2

Q.24) Solution (b)

The scheme will be implemented through Life Insurance Corporation of India (LIC) during the current financial year to provide social security during old age and protect elderly persons aged 60 years and above against a future fall in their interest income due to uncertain market conditions.

The scheme is meant to provide an assured pension based on a guaranteed rate of return of 8% per annum for ten years, with an option to opt for pension on a monthly/quarterly/half-

yearly or annual basis. The difference between the return generated by LIC and the assured return of 8% per annum would be borne by Government of India as subsidy on an annual basis. VPBY-2017 is proposed to be open for subscription for a period of one year from the date of launch.

Source: http://www.thehindu.com/business/Economy/Govt-launches-Varishtha-Pension-Bima-Yojana/article17089241.ece

Q.25) Consider the following statements about Rubber Soil Information System (RubSIS)

1. It is an online system for recommending application of appropriate mix of fertilizers to the specific plantations of rubber growers depending upon their soil nature
2. It was launched by Ministry of Commerce and Industry
3. It was developed Rubber Research Institute of India (RRII) under the Rubber Board in collaboration with few agencies

Which of the following statements is/are correct?

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

Q.25) Solution (d)

What: it is an online system for recommending application of appropriate mix of fertilizers to the specific plantations of rubber growers depending upon their soil nature.

Launched by Ministry of Commerce and Industry

Developed by: Rubber Research Institute of India (RRII) under the Rubber Board in collaboration with few agencies

Source: http://pib.nic.in/newsite/PrintRelease.aspx?relid=157609