GENERAL KNOWLEDGE

ARMY BURN HALL COLLEGE FOR BOYS
ABBOTTABAD

Army Burn Hall College for Boys Abbottabad

GENERAL QUIZ COMPETITION

Modern age is the age of knowledge and information. It is the knowledge in the domains of science and technology, due to which nations advance and dominate the world. Ever expanding scope of knowledge necessitates that educational institutions must make incessant efforts to keep their faculty members and students engaged in the pursuits of knowledge. Quiz competitions are taken as instruments in the contemporary world to achieve these ends. Quiz competitions have always occupied an important place in the educational activities at Army Burn Hall College for Boys.

The following objectives are envisaged through Quiz Competitions;

- To help students develop sound base in General Knowledge and Current Affairs.
- To generate interest among students for reading and, thereby, acquisition of knowledge.
- To help students prepare for entry tests of Professional Colleges and Armed Forces

Due to this immense importance Quiz Organizing Committee started the work under the supervision of worthy Principal Brig Wajid Qayyum Paracha and under the truly guidance of Col Manzoor Ahmed Abbassi. I am very much pleased to present this Booklet and thankful to all of my colleagues who helped me a lot to accomplish a task.

OIC, Quiz.

Mr. M. Rashid Iqbal

Lect in Islamic Studies

Army Burn Hall College for Boys,

Abbottabad.

PRECIS - POWER RESOURCES

MINERAL OIL PETROLEUM

There are two major oil areas so far discovered in Pakistan: (i) the Potwar Plateau and (ii) the Lower Sindh. Following are most important oil outlets in these fields:

REFINERIES:

Oil cannot be used in crude form. It needs refining. After refining it is turned into diesel, heating oil, furnace oil, Kerosene and petrol for motor vehicles including aero planes. Oil refineries are generally located near oil fields. There are three oil refineries in Pakistan.

Attock oil Refinery is the oldest established at Morga near Rawalpindi. Ten percent of the total oil refined in Pakistan is processed at Morga. The remaining 90% is refined at Karachi by Pakistan Refinery and National Refinery.

With the discovery of New oil fields 50% of our domestic requirement is being met by indigenous produce but oil still continues to be the major import item since 1974-75. Fifty percent of our petroleum produce is consumed by the transport sector.

Experts are of the opinion that the marine belt surrounding Pakistan contains reasonable oil reserves. Oil exploration was, therefore, taken up in 1985 in the sea near Karachi; no success has yet been achieved.

NATURAL GAS

Natural Gas is the second largest source of energy. Gas is found in oil bearing rocks above the oil surface. Natural gas fulfills 35% of our energy requirements. Natural gas was first discovered in Pakistan at Sui in the Province of Balochistan in the year 1952. This was discovered by Pakistan Petroleum Limited during their petrol hunt operations.

Sui is so far the largest discovered gas filed in the world. Since its discovery 25 more gas reserves have been located, i.e

1. Balochistan 6
2. Sindh 10
3. Punjab 9

Sibi Trough deserves special mention where Sui, Uch, Zin and Pirkoh are situated important Sindh gas fields are located in Kandhkot, Khairapur and Mari. In lower sindh gas fields are located at Sari-Hundi, Golarchi, Khaskheli and Laghari.

COMPRESSED NATURAL GAS (CNG)

Compressed Natural Gas is the fast growing alternative for petrol. Natural gas is filled in compressed form in specially designed cylinders and vehicles are run on this fuel which is cheaper than liquid petroleum.

Natural gas is the second most important source of energy in Pakistan. Production of gas has recorded a hundred percent increase in the last decade of the 20th century. 95% of our gas production comes from gas fields and the remaining 5% from oils fields. Natural gas is used for four major purpose.

i. Domestic
ii. Industrial fuel
iii. Industrial raw material (especially for making fertilizer)
iv. Transport fuel (CNG).

ELECTRICITY:

In 1947 Pakistan produced 68.8 MW of electricity (MW stands for Mega watt which is equal to a million watts). To fulfills our needs we had to import electricity from India. The Rasul Power plant was commissioned in 1952 and by 1972 we were able to generate 1,862 MW. Now our electricity production has crossed 6700 MW but this is still not enough to meet all our requirement.

Electricity is distributed throughout the country through a national grid. A lot of power is thus lost during this long travel.

Almost all our towns and cities have been electrified but more than 50% of our villages still do not have electricity. Electricity in Pakistan is generated by three main sources.

HYDROELECTRICITY:

53% of our electricity requirements are fulfilled by hydroelectric power stations. To produce this types of energy a fast flowing water stream (river) is needed. There also has to be a great volume of water in the upper part of all rivers. This water is used to turn the turbines which generate electric power. In 1947 we had only two hydroelectric power plants: Renala and Malakand, but since then we have built a number of others. According to an estimate made by the WAPDA, hydroelectric power potential of Pakistan is 30,000MW. There are three major hydroelectric power projects in Pakistan.

1. Tarbela on the rivers Indus.
2. Mangla on the River Jhelum in District Jhelum.
3. Warsak on the River Kabul 20 miles from Peshawar.

Among newly built projects, Chashma Low Head Hydro Project (District Mianwali) completed in 2001 has 184 MW capacity. Ghazi Brotha (District Attock near Tarbela) expected to complete in 2003; will have 1450 MW capacity.

THERMAL ELECTRICITY:

Thermal power is generated from heat produced by burning oil, gas or coal. In Karachi the largest centre for thermal energy production in Pakistan, there are six power plants. Pipri and Korangi are the largest two. Six Karachi plants produce more than 43% of the total thermal energy in Pakistan. In sindh other thermal power plant produce are located at Kotri, Hyderabad, Sukhur and Guddu. In Punjab there are plants at Faisalabad, Multan, Lahore and Rawalpindi. In Balochistan a plant has been established at Quetta. The contribution made to the electrical energy by the thermal power plants in Pakistan is slightly less than that made by hydroelectric plants. Under the 8th Five year plan an additional 5000MW will be produced by making use of the coal.

NUCLEAR POWER:

Nuclear Power is very cheap source of electric energy, but nuclear power plants are expensive to build. Many countries in the world do not have nuclear power, but we are lucky to have two nuclear power electricity generation plant is Pakistan. Karachi Nuclear Power Plants (KANUP) was set up with Canadian collaboration in 1971. Another has been set up at Chashma (District Mianwali) with the collaboration of the People's Repubic of China. Pakistan atomic energy commission (PAEC) is responsible for the development of nuclear power. KANUP has a gross capacity of 137 MW, while Chashma Nuclear Power Plant (CHASNUP) is designed to produce 300MW.

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Our Country has an excellent solar energy potential. We have a lot of sunshine. Our shortest day are 9 hours long. It is possible for us to develop a very good solar energy network but our efforts in this direction are still in experimental stages. We have about 20 very small-scale solar energy plants. Some of them have been commissioned and others and still underway. First solar photo static system was commissioned in December 1981. It is located at Mumniali, a village 60 km from Islamabad. Its capacity is only 8 KW (not MW). Another system located at Kankoi village in Swat was commissioned in 1983.

Our national electric power requirement are fulfilled by different types of electricity with following ratios:

1. Hydroelectricity 53%
2. Thermal Electricity 43%
3. Nuclear Electricity 2%

MINERALS:

Minerals are the raw materials for our industry, coal, Mineral oil and natural gas provide fuel for machines and steel and iron the basic materials used for manufacturing machinery, tools and equipments. Minerals are classified into metallic and non-metallic groups. Coal, oil and gas are grouped together as fuels and they fall in non metallic category. Our country has very few metallic mineral resources so far discovered but we have very rich deposits of non-metallic minerals. We can enlist 25 to 30 major minerals found in Pakistan. Discovering a mineral resource is not always very difficult. Minerals have to be mined, refined, processed and transported before they can be used and this is a long and difficult process.

NON-METALLIC MINERALS:

1) Coal: Coal mining started in our land in 1887. Coal has tradionally been a very important source of energy, but in Pakistan it has not developed as the prime energy of source because we do not plenty of coal, and whatever coal we have, is of a very low quality, mining is very expensive and less profitable.

   There are three major coal areas in Pakistan, i.e

   1. Salt Range (Punjab) 2. Balochistan 3. Lower Sindh

- ***Coal Fields:***

  Salt Range: In the Salt range of Punjab, Coal mines are located at Dandot, Pidth, Chittidand, Dhak Katha, Chilal Pir and Jahanian.

Markrewall-Ghullakel (in the NWFP) deposits are the largest coal deposits in Pakistan. They are located in Trans-Indus Salt Range. Quality of Coal mined here is best in Pakistan.

- ***Balochistan Coal Fields:***

Coal deposits in Balochistan are located in the area which is generally referred to a Quetta Coal Province. This area comprises three major fileds: (i) Khost-Sharing Harnai, (ii) Sor Range Degari and (iii) Mach.

Other coal fields are located at Abi-Gum, Ali Gul, Pir Ismail, Ziarat, Duki and other places.

- ***Lower Sindh Coal Fields:***

Important coal fields in Lower Sindh are located at Jhimpir-Meting, Lahra, Sonda and Thatta.

- ***The NWFP Coal Fields:***

Hangu is the only important coal field in the NWFP. Other coal fields at Makerwal; Gula Khel and Kohat have already bee mentioned under Salt Range group since they are located in the trans Indus Salt Range area.

ROCK SALT:

Pakistan is very rich in rock salt. This salt is used for cooking and as food preservative. It is also used for the preparation of soda ash, sodium bicarbonate, caustic soda, laundry soda and in material used in textile and tannery. Rock salt is found mainly in the Salt Range. Khewra is considered to be amongst one of the biggest salt mine in Pakistan. Salt mined here is of premium quality. Other miners are at Warcha, Kala Bagh, Jatta, Bahaurkhel and Karak.

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Sulphur is used in the manufacturing of explosives, paints, dyes, reyon, pulp and fertilizer. It is also used for refining oil and non-ferrous metals. Sulphur is mainly used for the preparation of Sulphuric Acid which is an important industrial chemical. Sulphur deposits have been found in Kohe Sultan in District Chaghi (Balochistan).

4) Limestone:

Pure limestone or calcium carbonate is the main raw material for cement. It is also in the preparation of glass, soap, Paper, paints, lime and bleaching powder. Pakistan is very rich in limstones deposits i.e salt Range, Potwar Plateau, Margalla Hills, Daudkhel, Zindaipir (Punjab), Pezu, Moghalkot near Dera Ismail

Khan , Kohat, Nowshehra (NWFP) Ganjo Taka and Rohri, Murli Hills and Manghopir near Karachi (Sindh) and Harnai in Balochistan.

5) Gemstone:

Marble is a decorative stone used for flooring, exterior decoration of building, marking decoration pieces and some stationery items. Pakistan is very rich in Marble. We have a variety of marble in different colours and patterns. Mullagori is the best known which is found on Peshawar Mullagori road in Khyber Agency. Carrara, Malirana, Badal, Pampo and Onyx are among other beautiful varieties which we produce Marble deposits are found at Swabi (Mardan), Swat, Gundai Torko, Chaghi and a number of other plances.

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Clays are fine-grained natural materials used for different industrial purposes. A large variety of clays is available in Pakistan i.e

1. Kaolin or China clay mainly used in ceramic industry is found at Shah Deri near Saidu Sharif in District Swat and at Alal in Northern Mountains and Nagar Parkar (Sindh).
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7) Miscellaneous:

Barite, Soapstone, Magnestie and several other useful minerals are also found in different parts of Pakistan.

METALLIC MINERALS:

Metallic Minerals, so far discovered in Pakistan, are not very rich in quality and quantity. Given below is a brief account of some of the more important metallic minerals found in Pakistan.

1) ***Iron Ore:*** Iron ore is found at several place s in Pakistan. Kalabagh iron deposits are the largest in Pakistan with an estimated reserve of 309 million tones. This is low-grade iron. This iron belt extends into Makerwal, Surghar Range and Sakesar in the Salt Range. Iron deposits are also found in the Marwat Range near Pezu, Mazari Tang, Marai Bela nad Samana Range in Kohat area.
2) ***Magnetite:*** An ore having a better iron proportion has been found at Dommel Nissar. High grade Iron has been found 70km northeast of Chitral in Zarimure Mountains. Iron deposits have also been discovered near Chagi, Chilgazi and near Dalbandin at Baluchap-Kundi.
3) ***Manganese:*** Manganese is used in battery production, steel industry, production of flash bulbs and paint industry. It has been found in the Axial Belt at Lasbela and in Chaghi district at Galdanian.
4) ***Chromites:*** Chromites is used in making good quality steel and stainless steel. It is also used in making engineering tools and placed as lining in metallurgical furnaces. Chromites has been located along the Axial Belt. It has also been found at Horichand north of Peshawar , at Lasbela, at the flanks of Ras Koh in Balochistan and South Waziristan but the main chromites deposits are located at Muslimbagh near Quetta.
5) ***Copper:*** Copper is a precious metal. It is mainly used for making utensils, decorative articles, ornaments, electric wire and machine parts. Copper deposits have been located at Saindak in Balochistan.

6) ***Bauxite:*** Bauxite is a valuable metal. It is used for making alumimium. Bauxite deposits have been discovered at Muzafarabad and Kotli in Azad Kashmir, Central Salt Range, Loralai District in Balochistan and at several other plances.

Indus Valley Civilization A Summary

One of the Ancient Civilizations

One of the ancient civilizations is the Civilization of Indus Valley, which is also most commonly known as Harappa Civilization. This relies, at the first excavations that were made, for the cradle discovery of the civilization, which were held at the city Harappa-Pakistan. It was developed around 2600 B.C.-1500 B.C. Archaeological findings show that it probably significantly affected the Hindu culture. Being forgotten from the history until its discovery in 1920, this civilization is being filed among its contemporary civilizations, Mesopotamian and Egyptian, as the one of the three most ancient cultures on our planet, according to the elements of cities appearance, agriculture, architecture and writing.

We have indications for gradual culture reduction around 1800 B.C. Until 1700 B.C. most of the towns were abandoned. But the civilians were not disappeared completely. And many elements of their culture can be found in later civilizations. Indus Valley Civilization was mainly located around Indus River at the Indian subcontinent. Ruins discovered among Pakistan, Afghanistan, Turkmenistan and Iran. Based on the excavations, it is estimated that its population fluctuated around 200,000 inhabitants.

The Discovery…

The discovery of Indus Valley Civilization happened while manufacturing railway line, to connect the cities Karachi and Lahore. The brothers John and William Brunton were constructing that project. They searched for the ancient town, as they needed stones for the line quarry. They weren't aware of being in front of a great discovery. And, when John Brunton visited the ruins, for the first time, he said that: here is the grand quarry for the ballast I want. This had as a result of caring away the city walls, for the needs of the railway constructions.

That happened in 1856. But excavations started in 1920, with the most important discoveries in 1999. That was the discovery of ceramics, with the first samples of writing. That fact brought up, the dispute of the theory that the discovery of writing, belonged to the Mesopotamians or Egyptians.

Other important findings in the excavations of Harappa were Krishna's grave, and ceramics with the symbol of swastika.

Cultivation, harvesting and trade

Indus Valley Civilization, like every civilization of that era, was dealing with trade, mostly with the most important civilizations of that period, Mesopotamians and Egyptians. Its main source for trading raw materials was lapis lazuli and other materials for bead-making. Except trading they also had farms. Their main cultivation products, amongst others, were the peas, sesame seed and cotton. They also domesticated wild animals in order to use them for harvesting their farms. One of them is the water buffalo, which is still used in some provinces of Asia.

Architecture

Another important thing in Indus Valley Civilization is their architecture. They used to create their houses, by using a unique urban characteristic, for that era. And, by saying urban, we mean the way of town planning in order to create a society, founding cities.

A house in Harappa is an amazing example of traditional people, without the advantages of technology with adaption to the local conditions and sensed to product a proper architecture for the climate. It was designed with cyclical rooms, which their doors faced in a central yard. This yard worked as source of light for the rooms, and because of the climate it absorbed the heat in the summer and worked also as radiator in the winter. It also provided space for external activities.

There were no openings towards the road for the safety of the private life. Literally, whatever openings they used to have at rooms, were small and were used for avoiding the heat-wave of the summer. That specific architectural type is contemporary for that era, having for typical example the Romans, who were the next people using that type, while an interval of 2500 years elapsed.

What we will never find……

Although the importance of Indus Valley civilization and the very important findings, we may not know anything more about this civilization and we may never find out what the scripts are written about, or any findings that have graphic elements. The reason is because this language does not exist anymore and it cannot be deciphered. Unfortunately, for the historians, the scholars and generally for all of us, this leads to acknowledge of an important civilization, which was the basis for several features of the current lifestyle.

POWER RESOURCES
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Metallic Minerals, so far discovered in Pakistan, are not very rich in quality and quantity. Given below is a brief account of some of the more important metallic minerals found in Pakistan.

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10) ***Chromites:*** Chromites is used in making good quality steel and stainless steel. It is also used in making engineering tools and placed as lining in metallurgical furnaces. Chromites has been located along the Axial Belt. It has also been found at Horichand north of Peshawar , at Lasbela, at the flanks of Ras Koh in Balochistan and South Waziristan but the main chromites deposits are located at Muslimbagh near Quetta.
11) ***Copper:*** Copper is a precious metal. It is mainly used for making utensils, decorative articles, ornaments, electric wire and machine parts. Copper deposits have been located at Saindak in Balochistan.
12) ***Bauxite:*** Bauxite is a valuable metal. It is used for making alumimium. Bauxite deposits have been discovered at Muzafarabad and Kotli in Azad Kashmir, Central Salt Range, Loralai District in Balochistan and at several other plances.

1) How many percent of Pakistan's oil Produce comes from lower sindh?

Ans: Lower Sindh Produces 25% of Oil is Pakistan.

2) In which from oil can be used?

Ans: Crude Form

3) Where are oil refineries located?

Ans: Oil Refineries are located near oil fields.

4) How many oil refineries are there in Pakistan?

Ans: 3

5) Which is the second largest source of energy?

Ans: Natural Gas is the second largest source of energy.

6) Where was natural gas first discovered in Pakistan?

Ans: At Sui

7) Which is the largest gas field in Pakistan?

Ans: Sui is the largest gas field in Pakistan.

8) CNG stands for?

Ans: Compressed Natural gas.

9) Which is the alternative for petrol?

Ans: CNG is the fast growing alternative for petrol.

10) Which is the second most important source of energy?

Ans: Natural Gas

11) Natural gas is used for how many major purpose?

Ans: It is used for four major purposes.

12) Electricity in Pakistan is generated by how many sources?

Ans: Three

13) How many percent of our electricity requirements are fulfilled by hydroelectric power station?

Ans: 53%

14) Tarbela Dam is located on which river?

Ans: River Indus

15) What dam is located on River Jhelum?

Ans: Mangla Dam

16) How is thermal electricity generated?

Ans: Thermal power is generated from heat produced by burning oil, gas or coal.

17) Which is the largest centre for thermal energy production in Pakistan?

Ans: Karachi

18) Which is the cheap source of electric energy?

Ans: Nuclear Power

19) How many power plants are located in Karachi?

Ans: 6

20) Karachi Nuclear power plant (KANUP) was set up with which country's collaboration?

Ans: Canada

21) KANUP has a capacity of how many MW?

Ans: 137 MW

22) One Megawatt is equal to how many watts?

Ans: One Mega watt = one Million watts

23) What are minerals?

Ans: Minerals are the raw materials for our industry, coal, Mineral oil and natural gas provide fuel for machines steel and iron are used for manufacturing machinery, tools etc.

24) When was coal mining started in Pakistan?

Ans: In 1887

25) How many major coal producing areas are there in Pakistan?

Ans: Three

26) Name the only important coal field located in NWFP?

Ans: Hangu

27) Name the bigger salt mine in Pakistan?

Ans: Khewra is considered to be amongst one of the biggest salt mine in Pakistan.

28) Mullagori is the best known what?

Ans: Mullagori is the best known marble.

29) Define the types of minerals?

Ans: There are two types of minerals.

i) Metallic Minerals

ii) Non-Metallic Minerals

30) Name any tow metallic minerals?

Ans: 1) Iron Ore 2) Copper

31) Name any two non-metallic minerals?

Ans: 1) Coal 2) Gypsum

32) Name the two hydroelectric power plants we had in 1947?

Ans: In 1947 we has only two hydroelectric power plants Renala and Malakand.

33) When was the first solar system ammissioned ?

Ans: First solar system was commissioned in December 1981.

34) How is thermal power generated?

Ans: Thermal Power is generated from heat produced by burning oil, gas or coal.

35) Name the two major oil areas discovered in Pakistan?

Ans: Two major oil areas discovered in Pakistan are:

i) The Potwar Plateau

ii) The Lower Sindh

36) When was Kasal oil Field Discovered?

Ans: Shortly after indepence

37) Which oil Filed was discovered shortly after independence?

Ans: Kasal Oil Field

38) Natural gas fulfills how much of our energy requirement?

Ans: 35%

39) Which is the oldest oil refinery?

Ans: Attock Oil Refinery is the oldest established at Morga near Rawalpindi.

40) Warsak Dam is built on which River?

Ans: Warsak Dam is built on River Kabul.

41) River Kabul is how many miles for away from Peshawar?

Ans: River Kabul is 20 miles from Peshawar.

PRECIS OF SOCIAL STUDIES

1) One of the _____ civilization is the Indus valley civilization.
   a) Ancient b) Modern c) Greek
2) It is commonly known as _____ civilization.
   a) Mohenjo Daro b) Harrapa c) Mesopotamiam
3) It significantly affected the _____ culture
   a) British b) Muslim c) Hindu
4) Until _____ BC most of the town were abandoned.
   a) 1700 b) 1800 c) 1900
5) Indus civilization was mainly located around _____
   a) River Ganges b) River Sutlej c) River
6) Its population fluctuated around _____ in Habitants
   a) 200,000 b) 300,000 c) 400,000
7) Ruins were discovered among Pakistan, Afghanistan, Turkamenistan and _____
   a) Iraq b) Syrra c) Iran
8) The discovery of Indus valley civilization happened while manufacturing _____
   a) Road b) High Way c) Railway line
9) The brothers searched the ancient town, as they needed _____ for line quarry.
   a) Rubble b) Ceramics c) Grime
10) Excavations started in _____
   a) 1999 b) 2190 c) 1290
11) The most important discovery was in _____
   a) 1990 b) 1920 c) 1998

12) The most important discovery was _____

a) Stones b) Cotton c) Stones

13) The ceramics had the symbol of _____

a) Krishna b) Ragupati c) Lapiz Lazuli

14) Its main source for trading was _____

a) Garnet b) Swatika c) Marble

15) Except trading they also had _____

a) Mines b) c) Mills

16) Important thing in Indus valley civilization is their _____

a) Architecture b) Infrastructure c) Constitution

17) They used to create their houses, by using _____ characteristics.

a) Rural b) Urban c) Antique

18) A house in Harappa had _____ rooms.

a) Colossal b) Dingy c) Cyclical

19) The doors faced in a central _____

a) Dome b) Yard c) hall

20) There were no openings towards the _____

a) Road b) Street c) Town

21) The _____ were the next people to use the same architectural style.

a) Greek b) Latin c) Roman

22) The language of the Indus civilization cannot be _____

a) Deciphered b) written c) seen

23) It was developed a round _____ to 1500B.C

a) 6200BC b) 2600BC c) 1600BC

24) We have indications for gradual culture reduction around _____ BC

a) b) 1900 c) 2000

25) The railway line was manufactured to connect the cities _____ and Lahore.

a) 1800 b) Rawalpindi c) Domesticated

26) The brothers John and _____ Brunton were constructing the project.

a) Peter b) Harry c) Karachi

27) They also _____ wild animals.

a) Tamed b) William c) Caged

28) One of the animals a _____ is still used in some provinces of Asia.

a) Sea horse b) Crabs c) Water Buffalo

29) The yard worked as a sources of _____

a) Egyptian b) communication c) sound

30) The yard absorbed _____ in summer.

a) Light b) c) Warmth

31. Name of the ancient civilization?

Ans: Indus Valley Civilization.

32. What is the Indus valley civilization commonly known as?

Ans: Harappa Civilization.

33. When did the Indus valley civilization develop?

Ans: It was Developed around 2600 B.C – 15ooB.C.

34. Which culture did it affect?

Ans: It affected the Hindu Culture.

35. Where was the Indus valley civilization mainly located?

Ans: Indus Valley Civilization was mianly located around Indus River at the Indian Subcontinent.

36. How was the Indus valley civilization discovered?

Ans: It was discovered while manufacturing railway line, to connect the cities Karachi and Lahore.

37. What are the names of the two brothers who constructed the project?

Ans: John Brunton and Willian Brunton.

38. In which year did the excavation start?

Ans: Excavations started in 1920.

39. What was the most important discovery?

Ans: The most important discovery was the discovery of ceramics.

40. What was the occupation of the people of Indus valley civilization?

Ans: Traders and farmers.

41. What were the main articles for trade?

Ans: The main articles were ceramics and lapis lazuli.

42. What did they use for harvesting their farms?

Ans: Domesticated wild animals.

43. What types of architecture was found there?

Ans: Urban architecture.

44. Why did the doors of the houses faced the Yard?

Ans: The yard worked as a source of light and because of its climate.

45. What was the function of the yard in the house?

Ans: The Yard provided space for external activities.

46. Why were there no openings towards the road?

Ans: For the safety of the private life.

47. What was the purpose of the openings?

Ans: They were used for avoiding the heat wave of the summer.

48. What is it that we may never know about the Indus valley civilization?

Ans: We may never find out what the scripts are written about.

49. Which were the other two important civilization?

Ans: Mesopotamian and Egyptian.

50. When did the culture start reducing gradually?

Ans: Around 1800B.C

51. In which countries are the ruins focused of the Indus valley civilization?

Ans: They are focused among Pakistan, Afghanistan, Turkmenistan and Iran.

52. What is the estimated population of the Indus valley civilization?

Ans: It is estimated that its population fluctuated around 200,000 in habitants.

53. What did John Brunton say during the search for the ancient town?

Ans: The said that: here is the grand quarry for the ballast I want.

54. What made the Brothers search for the ancient town?

Ans: They searched for the ancient town, as they needed stones for the line quarry.

55. In which year were the most important discoveries made?

Ans: In 1999.

56. What are the indications of gradual culture reductions?

Ans: Until 1700B.C most of the towns were abandoned.

57. How did the two brothers come across the great discovery?

Ans: The came across the great discovery while finding the stones.

58. How was the theory disputed?

Ans: The theory was disputed that the discovery of writing belonged to Mesopotanmian or Egyptians.

59. What was the most important occupation of the Indus valley civilization?

Ans: Trade

60. What types of openings did the houses had:

Ans: They had small openings.

اردو ادب کے بہترین شعراء ادیب اور اُن کی تصانیف

۱۔ نکات اشعر امیر تقی میر کا لکھا ہوا تذکرہ شعر اہے۔
۲۔ سر سید نے 1864 میں سائنٹیفک سوسائٹی کی بنیاد رکھی۔
۳۔ اردو میں ٹائپ کو رواج دینے والے پہلے ادیب سر سید ہیں۔
۴۔ اردو میں ہومیو پیتھی پر سب سے پہلا مضمون سر سید نے لکھا۔
۵۔ میر سوز اور میر درد دونوں بھائی تھے۔
۶۔ آخری مغل بادشاہ بہادر شاہ ظفر پہلے ذوق کے اور پھر غالب کے شاگرد رہے۔
۷۔ فارسی شاعر مولانا گرامی حفیظ جالندھری کے استاد تھے۔
۸۔ برصغیر میں داستانوں کا رواج انیسویں صدی میں ہوا۔
۹۔ ڈرامے کی تاریخ اڑھائی ہزار سال پرانی ہے۔
۱۰۔ اردو میں ڈرامے کی عمر ڈیڑھ سو سال ہے۔
۱۱۔ سعادت حسن منٹو رسالہ "مصور" بمبئی کے مدیر بھی رہے۔
۱۲۔ سعادت حسن منٹو کی 33 تصانیف ہیں۔
۱۳۔ سید الاخبار سر سید کے بھائی سید محمد خان نے شائع کیا۔
۱۴۔ مشہور ناول "ہاؤسنگ سوسائٹی" کی مصنفہ قراۃ العین حیدر سجاد حیدر یلدوم کی بیٹی ہیں۔
۱۵۔ فورٹ ولیم کالج کے پہلے پرنسپل پروفیسر اردو "ریونڈ ڈیوٹ" تھے بعد میں ڈاکٹر گلکرائسٹ پرنسپل رہے۔
۱۶۔ میر ببر علی انیس اردو کے مایہ ناز مرثیہ نگار ہیں وہ پہلے "حزین" تخلص کرتے تھے۔
۱۷۔ علامہ اقبال کی پہلی نظم ہمالہ ہے جو عبد القادر کے رسالے مخزن کے پہلے شمارے میں بار چھپی۔
۱۸۔ اردو کا "پہلا اخبار "امیر خسرو نے لکھا تھا۔
۱۹۔ برصغیر کا سب سے پہلا اردو اخبار "اخبار اُردو" 1836 میں شائع ہوا۔
۲۰۔ مولانا ظفر علی خان اور اسماعیل میر بھٹی نے کبھی اپنا تخلص استعمال نہیں کیا۔
۲۱۔ میر تقی میر کی غزلیات کے چھے دیوان ہیں۔ وہ آخری عمر میں دیوانہ ہو گئے تھے۔
۲۲۔ دہ مجلس شہدائے کربلا کے حوالے سے ولی دکنی کا لکھا ہوا مرتبہ ہے۔
۲۳۔ یونیسکو کی رپورٹ کے مطابق اردو بولنے والے دنیا میں تیسرے نمبر پر ہیں۔
۲۴۔ اردو زبان کو پہلی بار سرکاری زبان کا درجہ بہمن شاہ نے دیا جب اُس نے دکن میں بہمنی سلطنت کی بنیاد رکھی۔
۲۵۔ شمالی ہند کی قدیم اردو تصنیف نوطرز مرصع ہے جو عطا حسین خان تحسین نے 1798 میں تالیف کی۔
۲۶۔ انجمن پنجاب جس کا اردو کی ترقی اور ترویج میں بہت بڑا ہاتھ رہا ہے 1865 میں محمد حسین آزاد نے لاہور میں قائم کی۔
۲۷۔ اردو میں ڈرامے کی ابتداء 1853 میں امنت لکھنوی کی "اندر سبھا" سے ہوئی۔
۲۸۔ عبد الحلیم شرر کے ناولوں کی تعداد 104 ہے۔
۲۹۔ پریم چند کے افسانوں کا پہلا مجموعہ سوز وطن کے نام سے 1908 میں شائع ہوا۔
۳۰۔ پنجاب میں لاہور کا سب سے پہلا اردو اخبار کوہ نور 1850 میں جاری ہوا۔
۳۱۔ 1877 میں لکھنوے جریدہ اودھ پنچ جاری ہوا جو اپنے ادیبانہ مزاج اور طنز و ظرافت کے سبب بہت مقبول ہوا۔
۳۲۔ افسانہ نگار پریم چند 1880 میں موضع پانڈے پور ضلع بنارس میں پیدا ہوئے۔

۳۳۔ علامہ راشد الخیری کو "عورتوں کا سرسید" اور "مصور غم" بھی کہا جاتا ہے۔
۳۴۔ نظیر اکبر آبادی کو اردو شاعری کا چاسر جبکہ ابراہیم ذوق کو خاقانی ہند کہا جاتا ہے۔
۳۵۔ اردو کا پہلا مرثیہ نگار ملا وجہی، نظم گو شاعر نظیر اکبر آبادی، ناول نگار مولوی نذیر احمد۔
۳۶۔ اردو کا پہلا مثنوی نگار نظامی، خاکہ نگار فرحت اللہ بیگ اور سفر نامہ نگار یوسف خان کمبل پوش۔
۳۷۔ اردو کا پہلا غزل گو شاعر "امیر خسرو" افسانہ نگار راشد الخیری اور ڈرامہ نگار واجد شاہ۔
۳۸۔ "دنیا گول ہے" کے مصنف ابن انشاء کا اصل نام شیر محمد خان ہے۔
۳۹۔ مشہور ڈرامہ نگار آغا حشر کاشمیری جنھیں اردو ادب کا شیکسپیئر بھی کہا جاتا ہے اُن کا اصل نام آغا محمد شاہ کاشمیری تھا۔
۴۰۔ مشہور زمانہ کتاب "غبار خاطر" کے مصنف ابوالکلام آزاد کا اصل نام محی الدین تھا۔
۴۱۔ مشہور شاعر ساحر لدھیانوی کا اصل نام عبد الحئی تھا۔
۴۲۔ مشہور افسانہ نگار منشی پریم چند کا اصل نام دھنپت رائے تھا۔
۴۳۔ مشہور مزاح نگار پطرس بخاری 1898 میں پشاور میں پیدا ہوئے وہ حرکت قلب بند ہونے کی وجہ سے 1958 میں نیویارک میں فوت ہوئے
۴۴۔ مولانا الطاف حسین حالی 1837 کو پانی پت میں پیدا ہوئے جبکہ آپ نے 1914 کو دہلی میں وفات پائی۔
۴۵۔ مرزا غالب 1797 میں آگرہ میں پیدا ہوئے جبکہ 1869 میں دہلی میں وفات پائی۔
۴۶۔ اقبال کی نظم پہاڑ اور گلہری ایمرسن کی نظم داماؤنٹین اینڈ داسکوائرل کا ترجمہ ہے۔
۴۷۔ "پیام صبح" لانگ فیلو کی نظم "ڈے بریک کا ترجمہ ہے"۔
۴۸۔ اقبال نے تصور خود عبد الکریم جیلی اور مولانا روم سے لیا۔
۴۹۔ اقبال نے خودی کے تین مراحل قرار دیے ہیں۔
ا۔ اطاعت، ۲۔ ضبط نفس، ۳۔ نیابت الٰہی
۵۰۔ حلقہ ارباب ذوق ایک ایسی تحریک ہے جو ترقی پسند تحریک کی مخالف میں قائم ہوئی۔ اس کا پہلا نام مجلس داستاں گویاں رکھا گیا پھر تبدیل کر کے لٹریری سرکل رکھا گیا اور پھر اس بھی تبدیل کر کے حلقہ ارباب ذوق ڈاکٹر باقر سجاد رضوی نے رکھا۔
۵۱۔ شاعر مشرق علامہ اقبال کو کہا جاتا ہے جبکہ مصور مشرق عبد الرحمن چغتائی کو کہا جاتا ہے۔
۵۲۔ عبد اللہ علیم کو 1974 میں ان کی کتاب "چاند چہرہ ستارہ" پر آدم جی ادبی ایوارڈ ملا۔
۵۳۔ محمد ولی رازی نے سیرت مصطفیٰؐ پر ایک کتاب "ہادی عالمؐ" کے نام سے لکھی جس میں کوئی نقطہ نہیں ہے اس پر انھیں صدارتی ایوارڈ دیا گیا۔
۵۴۔ اردو افسانے کا پہلا آدم جی ایوارڈ عرش صدیقی کو اُن کے افسانے "باہر کفن کے پاؤں" پر دیا گیا۔
۵۵۔ بیگم اختر ریاض الدین کو "دھنک پر قدم" اور مشتاق احمد یوسفی کو "خاکم بدہن" پر آدم جی ادبی ایوارڈ سے نوازا گیا۔
۵۶۔ دنیا کی سب سے پہلی کتاب "ڈائمنڈ ستر ا" چین سے شائع ہوئی تھی یہ کتاب لکڑی کے بلاکوں سے شائع ہوئی تھی۔
۵۷۔ مشہور مرثیہ نگار دبیر کا اصل نام مرزا سلامت علی ہے۔
۵۸۔ 'اندر سبھا" کے مصنف "امانت لکھنوی" کا اصل نام سید آغا حسن ہے۔

اردو کوئز

ا۔ نکات الشعراء کس نے لکھی؟ میر تقی میر
۲۔ سائنٹیفک سوسائٹی کی بنیاد کب اور کس نے رکھی؟ 1864 میں سرسید احمد خان
۳۔ اُردو میں ہومیو پیتھی پر پہلا مضمون کس نے لکھا؟ سرسید احمد خان
۴۔ اردو میں ٹائپ کو رواج دینے والے پہلے ادیب کون ہیں؟ سرسید احمد خان

۵۔حفیظ جالندھیری کے استاد مولانا گرامی کس زبان کے شاعر تھے؟فارسی

۶۔برصغیر میں داستانوں کا رواج کب ہوا؟انیسویں صدی میں

۷۔ڈرامے کی تاریخ کتنی پرانی ہے؟اڑھائی ہزار سال

۸۔اردو ڈرامے کی عمر کتنی ہے؟ڈیڑھ سو سال

۹۔سعادت حسن منٹو کی کل کتنی تصانیف ہیں 33

۱۰۔"سید الاخبار" کس نے جاری کیا؟سید محمد خان

۱۱۔سید محمد خان کا سرسید سے کیا رشتہ تھا؟بھائی

۱۲۔قراۃ العین حیدر کس مشہور ادیب کی بیٹی ہیں؟سجاد حیدر یلدرام

۱۳۔حزیں کس کا تخلص تھا؟میر بیر علی انیس کا

۱۴۔کس ادارے کی رپورٹ کے مطابق دنیا میں اردو بولنے والے تیسرے نمبر پر ہیں؟یونیسکو

۱۵۔میر تقی میر کی غزلیات کے کتنے دیوان ہیں؟چھ

۱۶۔اردو کو پہلی بار سرکاری زبان کا درجہ کس نے دیا؟بہمن شاہ

۱۷۔عبدالحلیم شرر کے ناولوں کی تعداد کتنی ہے؟104

۱۸۔پریم چند کب اور کہاں پیدا ہوئے؟ 1880 موضع پانڈے پور ضلع بنارس

۱۹۔الطاف حسین حالی کب اور کہاں وفات پائی؟ 1837 کو پانی پت میں

۲۰۔مرزا غالب نے کب اور کہاں وفات پائی؟1869 کو دہلی میں

۲۱۔علامہ اقبال کی نظم "پیام صبح" کس مشہور شاعر کی منظوم ترجمہ ہے؟ نظم کا نام بھی بتائیں؟لانگ فیلو کی نظم ڈے بریک

۲۲۔علامہ اقبال نے خودی کے کتنے مراحل بتائے ہیں؟نام لکھیں؟ تین مراحل اطاعت،ضبط نفس، نیابت الٰہی

۲۳۔سیرت نبیؐ پر لکھی گئی بے نقط کتاب اور اس کے مصنف کا نام بتائیں؟کتاب ہادی عالم مصنف محمد ولی رازی

۲۴۔مصور مشرق کسے کہا جاتا ہے؟عبدالرحمن چغتائی کو

۲۵۔ابن انشاء کا اصل نام کیا ہے؟شیر محمد

۲۶۔عورتوں کا سرسید کسے کہا جاتا ہے؟علامہ راشد الخیری

۲۷۔اردو ادب کا پہلا ڈرامہ نگار کون تھا؟واجد شاہ

۲۸۔ساحر لدھیانوی کا اصل نام کیا تھا؟عبدالحئ

۲۹۔انجمن پنجاب کس نے قائم کی؟مولانا محمد حسین آزاد

معروضی

۱۔نکات الشعراء میر تقی میر کا لکھا ہوا _____ ہے۔

)ا)۔تاریخی حوالہ،)ب)۔تذکرہ شعراء،)ج)۔تنقید

۲۔سرسید نے _____ میں سائنٹیفک سوسائٹی کی بنیاد رکھی۔

)ا)۔1864،)ب)۔1865،)ج)۔1866

۳۔میر سوز اور _____ آپس میں بھائی تھے۔

)ا)۔میر تقی میر،)ب)۔میر امن،)ج)۔میر درد

۴۔ناول ہاؤسنگ سوسائٹی _____ نے لکھا۔

)ا)۔ بانو قدسیہ،)ب)۔ قراۃ العین حیدر،)ج)۔ عصمت چغتائی

۵۔ نوطرز مرصع _____ نے لکھی۔

)ا)۔ عطا حسین خان تحسین، (ب)۔ میر امن،)ج)۔ دیا شنکر نسیم

۶۔ امانت لکھنوی کا لکھا گیا ڈرامہ _____ ہے۔

)ا)۔ انار کلی،)ب)۔ دستک،)ج)۔ اندر سبھا

۷۔ پریم چند کے افسانوں کا مجموعہ _____ ہے۔

)ا)۔ غربت وطن،)ب)۔ سوز وطن،)ج)۔ سازو وطن

۸۔ جریدہ اودھ پنچ 1877 میں _____ سے جاری ہوا۔

)ا)۔ لکھنو،)ب)۔ دہلی،)ج)۔ لاہور

۹۔ نظیر اکبر آبادی کو اردو شاعری کا _____ بھی کہا جاتا ہے۔

)ا)۔ شیکسپیئر،)ب)۔ والٹر سکاٹ،)ج)۔ چاسر

۱۰۔ خاقانی ہند _____ کا لقب ہے۔

)ا)۔ شیخ ابراہیم ذوق،)ب)۔ مرزا غالب،)ج)۔ میر تقی میر

۱۱۔ مصور غم _____ کو کہا جاتا ہے۔

)ا)۔ شبلی نعمانی،)ب)۔ علامہ راشد الخیری،)ج)۔ سید سلیمان

۱۲۔ اردو کا پہلا غزل کو شاعر _____ کو تصور کہا جاتا ہے۔

)ا)۔ بیدل،)ب)۔ امیر خسرو،)ج)۔ ابراہیم ذوق

۱۳۔ آغا حشر کاشمیری کا اصل نام _____ تھا۔

)ا)۔ شیر محمد،)ب)۔ آغا محمد شاہ،)ج)۔ آغا حسین

۱۴۔ "غبار خاطر" کے مصنف _____ تھے۔

)ا)۔ محمد حسین آزاد،)ب)۔ نذیر احمد،)ج)۔ ابوالکلام آزاد

۱۵۔ افسانہ نگار منشی پریم چند کا اصل نام _____ تھا۔

)ا)۔ پنڈت چرہن،)ب)۔ دھنپت رائے،)ج)۔ لکھپت رائے

۱۶۔ اردو کے پہلے سفر نامہ نگار _____ ہیں۔

)ا)۔ یوسف خان کمبل پوش،)ب)۔ ابن انشاء،)ج)۔ بیگم اختر ریاض الدین

۱۷۔ مصور غم _____ کو کہا جاتا ہے۔

)ا)۔ علامہ اقبال،)ب)۔ علامہ راشد الخیری،)ج)۔ سید سلیمان

۱۸۔ علامہ اقبال نے تصوری خودی _____ سے لیا۔

)ا)۔ مولانا روم،)ب)۔ شیخ سعدی،)ج)۔ گوئٹے

۱۹۔ مشتاق احمد یوسفی کو اُن کی کتاب _____ پر آدم جی ادبی ایوارڈ دیا گیا۔

)ا)۔ سرگزشت،)ب)۔ حاکم بدہن،)ج)۔ چراغ تلے

۲۰۔ امانت لکھنوی کا اصل نام _____ ہے۔

)ا)۔ سید آغا حسن،)ب)۔ سید محمد حسن،)ج)۔ سید شاہ حسن

EVERYDAY SCIENCE

ARMY BURN HALL COLLEGE FOR BOYS
ABBOTTABAD

Precis Human Body System

The **human digestive system** consists of the gastrointestinal tract plus the accessory organs of digestion (the tongue, salivary glands, pancreas, liver, and gallbladder).[1] In this system, the process of digestion has many stages, the first of which starts in the mouth. Digestion involves the breakdown of food into smaller and smaller components, until they can be absorbed and assimilated into the body. Chewing, in which food is mixed with saliva begins the process of digestion. This produces a bolus which can be swallowed down the esophagus and into the stomach. Here it is mixed with gastric juice until it passes into the duodenum, where it is mixed with a number of enzymes produced by the pancreas. Saliva also contains a catalytic enzyme called amylase which starts to act on food in the mouth. Another digestive enzyme called lingual lipase is secreted by some of the lingual papillae on the tongue and also from serous glands in the main salivary glands. Digestion is helped by the mastication of food by the teeth and also by the muscular actions of peristalsis and segmentation contractions. Gastric juice in the stomach is essential for the continuation of digestion as is the production of mucus in the stomach. Peristalsis is the rhythmic contraction of muscles that begins in the esophagus and continues along the wall of the stomach and the rest of the gastrointestinal tract. This initially results in the production of chyme which when fully broken down in the small intestine is absorbed as chyle into the lymphatic system. Most of the digestion of food takes place in the small intestine. Water and some minerals are reabsorbed back into the blood in the colon of the large intestine. The waste products of digestion (faeces) are defecated from the anus via the rectum.

The **endocrine system** is the collection of glands of an organism that secrete hormones directly into the circulatory system to be carried towards distant target organs. The phenomenon of biochemical processes' serving to regulate distant tissues by means of secretions directly into the circulatory system is called **endocrine signaling**. The major endocrine glands include the pineal gland, pituitary gland, pancreas, ovaries, testes, thyroid gland, parathyroid gland, and adrenal glands. The endocrine system is in contrast to the exocrine system, which secretes its hormones to the outside of the body using ducts. The endocrine system is an information signal system like the nervous system, yet its effects and mechanism are classifiably different. The endocrine system's effects are slow to initiate, and prolonged in their response, lasting from a few hours up to weeks. The nervous system sends information very quickly, and responses are generally short lived. In vertebrates, the hypothalamus is the neural control center for all endocrine systems. The field of study dealing with the endocrine system and its disorders is endocrinology, a branch of internal medicine.[1] Special features of endocrine glands are, in general, their ductless nature, their vascularity, and commonly the presence of intracellular vacuoles or granules that store their hormones. In contrast, exocrine glands, such as salivary glands, sweat glands, and glands within the gastrointestinal tract, tend to be much less vascular and have ducts or a hollow lumen. In addition to the specialized endocrine organs mentioned above, many other organs that are part of other body systems, such as bone, kidney, liver, heart and gonads, have secondary endocrine functions. For example, the kidney secretes endocrine hormones such as erythropoietin and renin. Hormones can consist of either amino acid complexes, steroids, eicosanoids, leukotrienes, or prostaglandins.[1]A number of glands that signal each other in sequence are usually referred to as an axis, for example, the hypothalamic-pituitary-adrenal axis.

The **muscular system** is an organ system consisting of skeletal, smooth and cardiac muscles. It permits movement of the body, maintains posture, and circulates blood throughout the body. The muscular system in vertebrates is controlled through the nervous system, although some muscles (such as the cardiac muscle) can be completely autonomous. Together with the skeletal system it forms the musculoskeletal system, which is responsible for movement of the human body. The **excretory system** is a passive biological system that removes excess, unnecessary materials from the body fluids of an organism, so as to help maintain internal chemical **homeostasis** and prevent damage to the body. The dual function of excretory systems is the elimination of the waste products of **metabolism** and to drain the body of used up and broken down components in a liquid and gaseous state. In humans and other amniotes (mammals, birds and reptiles) most of these substances leave the body as urine and to some degree exhalation, mammals also expel them through sweating.Only the organs specifically used for the excretion are considered a part of the excretory system. In the narrow sense, the term refers to the urinary system. However, as excretion involves several functions that are only superficially related, it is not usually used in more formal classifications of anatomy or function. As most healthy functioning organs produce metabolic and other wastes, the entire organism depends on the function of the system. Breaking down of one of more of the systems is a serious health condition, for example renal failure.

The **nervous system** is the part of an animal's body that coordinates its actions and transmits signals to and from different parts of its body. Nervous tissue first arose in wormlike organisms about 550 to 600 million years ago. In vertebrate species it consists of two main parts, the central nervous system (CNS) and the peripheral nervous system (PNS). The CNS contains the brain and spinal cord. The PNS consists mainly of nerves, which are enclosed bundles of the long fibers or axons, that connect the CNS to every other part of the body. Nerves that transmit signals from the brain are called *motor* or *efferent* nerves, while those nerves that transmit information from the body to the CNS are called *sensory* or *afferent*. Most nerves serve both functions and are called *mixed* nerves. The PNS is divided into a) somatic and b) autonomic nervous system, and c) the enteric nervous system. Somatic nerves mediate voluntary movement. The autonomic nervous system is further subdivided into the sympathetic and the parasympathetic nervous systems. The sympathetic nervous system is activated in cases of emergencies to mobilize energy, while the parasympathetic nervous system is activated when organisms are in a relaxed state.

The enteric nervous system functions to control the gastrointestinal system. Both autonomic and enteric nervous systems function involuntarily. Nerves that exit from the cranium are called cranial nerves while those exiting from the spinal cord are called nerves. At the cellular level, the nervous system is defined by the presence of a special type of cell, called the neuron, also known as a "nerve cell". Neurons have special structures that allow them to send signals rapidly and precisely to other cells. They send these signals in the form of electrochemical waves traveling along thin fibers called axons, which cause chemicals called neurotransmitters to be released at junctions called synapses. A cell that receives a synaptic signal from a neuron may be excited, inhibited, or otherwise modulated. The connections between neurons can form neural circuits and also neural networks that generate an organism's perception of the world and determine its behavior. Along with neurons, the nervous system contains other specialized cells called glial cells (or simply glia), which provide structural and metabolic support. Nervous systems are found in most multicellular animals, but vary greatly in complexity.

The **respiratory system** (called also **respiratory apparatus**, **ventilatory system**) is a biological system consisting of specific organs and structures used for the process of respiration in an organism. The respiratory system is involved in the intake and exchange of oxygen and carbon dioxide between an organism and the environment. In air-breathing vertebrates like human beings, respiration takes place in the respiratory organs called lungs. The passage of air into the lungs to supply the body with oxygen is known as inhalation, and the passage of air out of the lungs to expel carbon dioxide is known as exhalation; this process is collectively called breathing or ventilation. In humans and other mammals, the anatomical features of the respiratory system include trachea, bronchi, bronchioles, lungs, and diaphragm. Molecules of oxygen and carbon dioxide are passively exchanged, by diffusion, between the gaseous external environment and the blood. This exchange process occurs in the alveoli (air sacs) in the lungs.

Q1. What is the digestion?
Ans. The process in which large food molecules are broken down into a small molecules which can be absorb into blood called digestion.
Q2. Which are the accessory organ of the digestion?
Ans. Tongue, slivery gland, pancreas, liver and gall bladder are the accessory organ of digestion.
Q3. From where the digestion is started?
Ans. From the mouth digestion is started.
Q4. What is the process of chewing?
Ans. Chewing in which food is crush and grind with the help of teeth and mix with saliva being the process of digestion and make food soft and bolus.
Q5. Which juices are secreted in stomach?
Ans. The juices which are secreted in stomach and help in digestion are called gastric juices and they included proteases and hydrochloric acid.
Q6. What is the function of Hydrochloric acid and Proteases?
Ans. Hydrochloric acid kill the germs which present in food and protease is a enzymes which digest protein into amino acid.
Q7. Which catalytic enzymes are secreted in mouth?
Ans. The catalytic enzymes which are secreted in mouth are Amylase which act on food, carbohydrates and other digestive enzyme called lingual lipase is the secreted by some of the lingual papillae on tongue and also from serous gland in main salivary gland.
Q8. What is peristalsis?
Ans. Peristalsis is the rhythmic contraction of muscles that begins in esophagus and continues along the wall of stomach and rest of the gastrointestinal track.
Q9. Where the food is fully broken down?
Ans. Food or chime is fully broken down into small intestine.
Q10. Where water and minerals are reabsorbed?
Ans. Water and minerals are reabsorbed in the colon of large intestine and waste materials are stored into rectum.
Q11. What is endocrine system?
Ans. Endocrine system is a collection of glands of an organism that secrete hormones directly into circulatory system to be carried towards distant target.
Q12. What is endocrine signaling?
Ans. The phenomenon of biochemical process serving to regulate distant tissues by means of secretions directly into blood is called endocrine signaling.
Q13. Which are the major endocrine gland?
Ans. The major endocrine gland included the pineal gland, pituitary gland, ovaries, testes, thyroid gland, parathyroid gland and adrenal glands.
Q14. Which organ is the major control center for all endocrine system?
Ans. Hypothalamus us the natural control center for all endocrine system.
Q15. Which organs have secondary endocrine function?
Ans. Bones, kidney, liver, heart and gonads have secondary endocrine function.
Q16. Which hormones are secreted by kidney?
Ans. Kidney secreted erythropoietin and renin endocrine hormones.
Q17. Which amino acid complex are contain by hormones?
Ans. The steroids, eicosanoids, leukotrienes and prostaglandins are amino acid complex consist hormones.
Q18. What is muscular system?
Ans. The system which permits movement of body, maintain body posture and circulate blood throughout the body.

Q19. Which control to the muscular system?
Ans.The muscular system in vertebrates in controlled by nervous system.
Q20. Which system form when muscular system work with skeletal system?
Ans. Together with skeletal system it forms the muscular skeletal system which is the responsible for moment of the human body.
Q21. What is excretory system?
Ans. The excretory system is the passive biological system that removes excess unnecessary system material from body fluid of organism.
Q22. What are the two major functions of excretory system?
Ans. The two major functions are
1. Elimination of waste product of metabolism.
2. The broken down of body components in a liquid and gasses substance.
Q23. In which form waste release from body?
Ans. In form of sweating and urine waste can be release from body.
Q24. Which one is the serious disease of excretory system?
Ans. The renal failure is the one of the most serious disease of excretory system.
Q25. What is the shape of kidney and where it is present?
Ans. Kidney is bean shaped and present on each side of vertebral column in the abdominal cavity.
Q26. Which supply blood to kidney?
Ans. The renal artery supply blood to kidney.
Q27. Which is the structural and functional unit of kidney?
Ans. The nephrons are structural and functional unit of kidney.
Q28. Which carry filtered blood from kidney?
Ans. The renal vein carry filtered blood from kidney.
Q29. Define nervous system.
Ans. The nervous system is the part of an animal's body that coordinates its action and transmit signals to and from different parts of its body.
Q30. When nervous tissues are first discovered?
Ans. Nervous tissues first arose in worn like organism about 550 to 600million years ago.
Q31. What are the main parts of nervous system?
Ans. There are two main parts of nervous system.
1. Central Nervous System
2. Peripheral Nervous System
Q32. What are central nervous system?
Ans. Central nervous system made up of brain and spinal cord.
Q33. What are peripheral nervous system consist of?
Ans. The peripheral nervous system consist of the mainly the nerves which are enclosed bundles of the long fibers or axons that connect the CNS to every other part of body.
Q34. Which is the structural and function unit of brain?
Ans. Neuron or nerve cells are structural and functional unit of brain.
Q35. Which are main types of nerve?
Ans. Nerve are of two type.
1. Motor Nerve
2. Sensory Nerve
Q36. What is the function of motor nerve?
Ans. The motor nerve transmit signals from brain to effector.
Q37. What is the function of sensory nerve?
Ans. Sensory nerve transmit signals from effector to brain.
Q38. Peripheral nervous system is next divided into which type?
Ans. Peripheral nervous system is divided into
(a) Somatic Nervous System
(b) Autonomic Nervous System
(c) Enteric Nervous System
Q39. What is the function of somatic nervous system?
Ans. The function of somatic nervous system is to control voluntary action.
Q40. What is the function of autonomic nervous system?
Ans. The autonomic nervous system divided into two type.
1. Sympathetic
    To activate nervous system in case of emergencies to mobilize energy.
2. Parasympathetic
    Is activate when organism is in relaxed state.
Q41. What is the function of enteric nervous system?
Ans. The function of enteric nervous system is to control gastrointestinal system.
Q42. What is respiratory system?
Ans. Respiratory system involve intake and exchange of oxygen and carbon dioxide between an organism and the environment.
Q43. In air-breathing where the respiration take place?
Ans. In air-breathing respiration take place in lungs.

Q44. What is inhalation?
Ans. The passage of air into lungs called inhalation.
Q45. What is exhalation?
Ans. The passage of air out of lungs to expel carbon dioxide is known as exhalation.
Q46. Which organ included in respiratory system?
Ans. The organ which involve are trachea, bronchi, bronchioles, lungs and diaphragm.
Q47. How gaseous exchange take place in lungs?
Ans. Molecules of oxygen and carbon dioxide are passively exchanged by diffusion and exchange of gasses take place in alveoli.
Q48. What are Cranium and Spinal nerve?
Ans. Cranium Nerve: The nerve which exist from cranium called cranium nerve.
Spinal Nerve: The nerve which exit form spinal cord called spinal nerve.
Q49. What is the function of neuron?
Ans. Neuron are special structure that allow them to send signals rapidly and precisely to other cell.
Q50. What is axons?
Ans. Axons are long thin fibers which send signal in form of electrochemical waves.

1. The process of digestion is started from_____.
   a. **mouth** b. oesophagus c. small intestine d. rectum
2. _____ involve the breakdown of food into smaller components until they can be absorbed into body.
   a. respiration b. circulation **c. digestion** d. excretion
3. In stomach which substance is secreted?
   a. saliva b. enzymes **c. gastric juice** d. none of these
4. Which enzymes are secreted in mouth?
   a. **amylase** b. lipase c. protease d. all of these
5. Pancreas is secreted in _____.
   a. oesophagus **b. duodenum** c. small intestine d. large intestine
6. Another digestive enzyme called lingual lipase secreted on_____.
   a. **tongue** b. stomach c. duodenum d. rectum
7. _____ is the rhythmic contraction of muscles started from oesophagus.
   a. digestion **b. peristalsis** c. segmentation contraction d. none
8. Most of the digestion of food takes place in_____.
   a. mouth b. stomach **c. small intestine** d. large intestine
9. Water and some minerals are re-absorbing in_____.
   a. stomach b. liver c. small intestine **d. large intestine**
10. The waste production of digestion is defecated from_____.
    a. **rectum** b. liver c. pancreas d. spleen
11. The glands or hormones are directly secreted into _____.
    a. digestive system b. reproduction system **c. circulatory system** d. respiratory system
12. _____ secretes hormones to the outside of body using ducts.
    a. endocrine system **b. exocrine system** c. lymphatic system d. none
13. The endocrine system is an informational signal system like_____.
    a. excretory system b. reproduction system **c. nervous system** d. respiratory system
14. _____ is the neural control centre for all endocrine system.
    a. cerebrum b. thalamus **c. hypothalamus** d. cerebellum
15. The field of study dealing with endocrine system and its disorder is_____.
    a. **endocrinology** b. exocrinology c. neurology d. none of these
16. Bones, liver, kidney, heart and gonads have _____ endocrine function.
    a. primary **b. secondary** c. tertiary d. quaternary
17. Kidney secretes endocrine hormones called_____.
    a. eicosanoid b. prostaglandins c. steroids **d. erythropoietin**
18. The _____ is an organ system consisting of skeletal, smooth and cardiac muscles.
    a. respiratory system **b. muscular system** c. respiratory system d. circulatory system
19. The muscular system in vertebrates is controlled by_____.
    a. **nervous system** b. cerebrum c. thalamus d. hypothalamus
20. _____ Muscles are completely autonomic.
    a. smooth muscles b. joints **c.cardiac muscles** d.all of these
21. Together the muscles and skeleton system, it form_____.
    a. cardio skeleton system **b. muscles skeleton system** c. vertebra skeleton system d. none of these
22. The _____ is the passive biological system that removes excess unnecessary material from body fluids.
    a. digestive system b. respiratory system **c. excretory system** d. circulatory system
23. Excretory system helps to maintain internal chemical _____ and prevent damage to body.

a. dialysis b. osmoregulation c. thermoregulation **d. homeostasis**

24. In human and amniotes most of these substances leave the body as_____.
    a. faeces **b. urine** c. uric acid d. all of these
25. Mammals also expel the waste through _____.
    a. faeces b. urine c. urea **d. sweating**
26. The other name for excretory system is_____.
    a. endocrine system b. exocrine system **c. urinary system** d. none of these
27. A serious type of disease of kidney called_____.
    a. kidney stone **b. kidney failure** c. both of these d. none
28. _____ is the part of animal body that coordinates it action and transmits signal to body.
    a. circulatory system b. digestive system **c. nervous system** d. skeleton system
29. Nervous tissues first arose in _____ organism.
    a. human **b. worm like** c. invertebrate d. birds
30. Nervous tissues 1st arose about _____ year ago.
    a. **500-600 million** b. 700-800 million c. 400-500 million d. 10000 million
31. The _____ consist brain and spinal cord.
    a. **central nervous system** b. peripheral nervous system c. autonomic nervous system d. none of these
32. _____ consist of mainly nerves.
    a. central nervous system b. peripheral nervous system **c. autonomic** nervous system d. none of these
33. Nerves are enclosed bundles of long fibers called_____.
    a. dendrites **b. myelin sheet** c. axon d. body cell
34. Nerves that transmit signal from brain called _____.
    a. **sensory nerves** b. motor nerves c. axon d. all of these
35. Nerves that transmit signal from body called_____.
    a. sensory nerves b. motor nerves **c. axon** d.all of these
36. The nerve which play function both for brain and body are called_____.
    a. **sensory nerve** b. motor nerve c. mixed nerve d. axons
37. The peripheral nervous system is divided into _____ types.
    a. **3** b. 4 c. 5 d. 6
38. _____ Nerves mediate voluntary movement.
    a. **somatic** b. autonomic c. enteric d. sympathetic
39. _____ Nerve system is activated in case of emergency.
    a. sympathetic **b. parasympathetic** c. somatic d. autonomic
40. _____ Nervous system activated when organism are in relaxed state.
    a. Sympathetic b. parasympathetic **c. somatic** d.autonomic
41. The enteric nervous system function is to control _____ system.
    a. **heart** b. respiratory system c. gastrointestinal system d. all of these
42. The nerves which exist from brain are called _____.
    a. cranial nerve **b. spinal nerve** c. somatic nerve d. mixed nerve
43. The structural and functional unit of nervous system is _____.
    a. nephron b. neuron c. stomach **d. heart**
44. Along the neuron, the nervous system contains other specialized cell called_____.
    a. dendrites **b. axon** c. soma d. glial
45. The electrochemical waves travelling along thin fibers called_____.
    a. dendrites b. axon c. soma d. glial
46. The junction between two axon is called_____.
    a. dendrites **b. synapses** c. soma d.glial
47. _____ is a biological system used for process of respiration in organism.
    a. reproductive system **b. respiratory system** c. nervous system d. digestive system
48. Respiration takes place in respiratory organ called _____.
    a. diaphragm b. bronchi **c. lungs** d. nose
49. The passage of air into lungs to supply the body with oxygen is known as_____.
    a. **inhalation** b. exhalation c. ventilation d.breathing
50. The exchange of gases takes place in _____.
    a. lungs b. bronchioles c. alveoli d. nose

PRECIS – PHYSICAL QUANTITES

INTRODUCTION:

All measurable quantities are called physical quantities such as mass, time, length and temperature.

All physical quantities possessat least two characteristics in common. One is numerical magnitude and other is the unit in which it is measured.

FOR EXAMPLE:

If the length of the student is 104 cm, then 104 is the numerical magnitude and centimeter (cm) is the unit of magnitude. Similarly when a grocer says that each bag contains 5 kg sugar, he is describing its numerical magnitude as well as the unit of measurement.

TYPES OF PHYSICAL QUANTITES:

There are two types of physical quantities

a) Base physical quantities
b) Derived physical quantities

a) BASE PHYSICAL QUANTITES:

"Base quantities are those quantities which are distinct in nature and cannot be expressed in the form of other quantities"

BASE UNITS:

The units that describe the base quantities are called base units. Each base quantity has its SI units. Table 1 shows seven base quantities, its SI units, symbols and their definitions.

b) DERIVED PHYSICAL QUANTITES:

Derived quantities are those quantities which are derived from other physical quantities

DERIVED UNITS:

The units that describe the derived quantities are called derived units. Derived units are defined in terms of base units and are obtained by multiplying or dividing one or more base units. Some derived units and their symbols are given in Table 2.

Table :1 SI Base Units				
Qty	Sym.	Unit	Unit Sym.	Unit Definition
length	l	metre	m	The length of the path travelled by light in 1/299 792 458 of a second
mass	m	kilogram	kg	The mass of the International Prototype Kilogram
time	t	second	s	The duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom, at rest, at a temperature of 0 K
electric current	I	ampere	A	The constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed one metre apart in a vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length
thermodynamic temperature	T	kelvin	K	The fraction 1/273.16 of the thermodynamic temperature of the triple point of water
amount of substance	n	mole	mol	The amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kilogram of carbon 12 (elementary entities, which must be specified, may be atoms, molecules, ions, electrons, other particles or specified groups of such particles)
luminous intensity	I_v	candela	cd	The luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} hertz and that has a radiant intensity in that direction of 1/683 watts per steridian

Table :2 SI Derived Units expressed in terms of Base Units			
Qty	Sym.	Unit	Unit Sym.
area	A	square metre	m^2
volume	V	cubic metre	m^3
speed, velocity	v	metre per second	m/s
acceleration	a	metre per second squared	m/s^2
wavenumber	σ	reciprocal metre	m^{-1}
density, mass density	ρ	kilogram per cubic metre	kg/m^3

PRECIS - KINEMATICS

INTRODUCTION:

Kinematics is the branch of classical mechanics that describes the motion of points, objects and systems of groups of objects, without reference to the causes of motion (i.e., forces). The study of kinematics is often referred to as the "geometry of motion."

Objects are in motion all around us. Everything from a tennis match to a space-probe flyby of the planet Neptune involves motion. When you are resting, your heart moves blood through your veins. Even in inanimate objects there is continuous motion in the vibrations of atoms and molecules. Interesting questions about motion can arise: how long will it take for a space probe to travel to Mars? Where will a football land if thrown at a certain angle? An understanding of motion, however, is also key to understanding other concepts in physics. An understanding of acceleration, for example, is crucial to the study of force.

To describe motion, kinematics studies the trajectories of points, lines and other geometric objects, as well as their differential properties (such as velocity and acceleration). Kinematics is used in astrophysics to describe the motion of celestial bodies and systems; and in mechanical engineering, robotics and biomechanics to describe the motion of systems composed of joined parts (such as an engine, a robotic arm, or the skeleton of the human body).

A formal study of physics begins with kinematics. The word "kinematics" comes from a Greek word "kinesis" meaning motion, and is related to other English words such as "cinema" (movies) and "kinesiology" (the study of human motion). Kinematic analysis is the process of measuring the kinematic quantities used to describe motion. The study of kinematics can be abstracted into purely mathematical expressions, which can be used to calculate various aspects of motion such as velocity, acceleration, displacement, time, and trajectory.

MOTION

"When a body changes its position with respect to its surrounding so the body is said to be in the state of motion".

TYPES OF MOTION

There are three types of motion:

1. Linear or Translatory Motion

If a body moves in a straight path so the body is to be in Linear motion or Translatory motion.

Example: A bus is moving on the road, A person is running on the ground.

2. Rotatory Motion

If a body spins or rotates from the fixed point, so the body is to be in Rotatory motion.

Example: The blades of a moving fan, The wheel of a moving car.

3. Vibratory Motion

To and fro motion about the mean point so the body is to be in Vibratory motion.

Example: Motion of a spring.

REST

"When a body does not change its position with respect to its surrounding so the body is said to be in the state of rest".

Example: A book is lying on the table, A person is standing on floor, A tree in the garden.

SPEED

"The distance covered by a body in a unit time is called speed."

FORMULA: Speed = Distance/Time

UNIT: The S.I unit of speed is Meter/second.

VELOCITY

"The displacement covered by a body in a unit timeis called velocity.""Speed in a definite direction is called velocity."

FORMULA:Velocity = Displacment/Time

UNIT:The S.I unit of velocity is Meter/second.

ACCELERATION

"The rate of change of velocity is called acceleration."

TYPES OF ACCELERATION

1. Positive Acceleration

If the velocity continuously increases then the acceleration will be positive.

2. Negative acceleration

If the velocity continuously decreases then the acceleration will be negative.

FORMULA: Acceleration = change of velocity/Time

UNIT: The S.I unit of acceleration is Meter/second square.

1. Unit for density is

a) m (b) kg (c) mol(d) kg m^{-3}

2. Derived quantities can be expressed in form of

(a) Base Quantities(b) physical quantities

(c) Non measurable quantities(d)both B and C

3. Unit for mass is

a) m(b) kg (c) mol (d) kg m^{-3}

4. The number of base units in SI is

a) Seven (b) six (c) four (d) three

5. Length and mass are named as……. quantities.

a) Derived(b) BASE (c) Non Physical (d) none of these

6. The number of base quantities in SI is

a) Seven (b) six (c) four (d) three

7. The unit of area is

a) Kg(b) m(c) cm (d) m^2

8. The SI unit of acceleration is

a) m/s^2(b) cm/s (c) m/s (d) cms^{-2}

9. Candela is the unit of:

a) Luminous intensity(b) mass (c) Length (d) Temperature
10. Symbol for SI unit of temperature is
a) K(b) s(c) T (d) F
11. Density and Volume are named as……. quantities.
a) DERIVED(b) base (c) Non Physical (d) none of these
12. The number of derivedquantities in SI is
a) Seven(b) six (c) Two(d) none of these
13. The unit of volume is
a) Kg (b) m(c) cm (d) m^3
14. Physics deals with the study of
a) PHYSICAL QUANTITIES (b) Nonphysical quantities
(c) Visible quantities (d) All of these
15. m/s is the unit for
a) Speed (b) Displacement (c) Length (d) Temperature
16. Symbol for SI unit of length is
a) m(b) s(c) T (d) cm
17. System international (SI) of units was established
a) 1960(b) 1977 (c) 1971 (d) 1961
18. The SI unit of frequency is
a) second(b) kilogram(c) Hertz(d) none of these
19. The SI unit of electric current is
a) Ampere(b) mole(c) Kelvin (d) none of these
20. A physical quantity consists of a
a) Numerical, Magnitude(b) Alphabetical Magnitude
(c) Analogical Magnitude (d) All of these
21. SI Unit for time is
a)Seconds(b) Minutes (c) Days (d) Hours
22. ms^{-2} is the unit for
a) Acceleration(b) Displacement (c) Length (d) Temperature
23. Symbol for SI unit of electric current is
a) A(b) s(c) T (d) mA
24. A measuring tape can measure length more than
a) Meter(b) inch (c)Foot (d) centimeter
25. Types of physical quantities are
a) Seven(b) six (c) Two (d) none of these
26. The SI unit of length is
a) centimeter(b) meter(c) Kelvin (d) none of these
27. Feeling, emotions are the examples of
a) PHYSICAL QUANTITIES (b) Nonphysical quantities
(c) Visible quantities (d) All of these
28. One hour consist of
a)3600 seconds(b) 60 Minutes(c) Both a & b (d) none of these
29. Symbol for SI unit of time is
a) m(b) s(c) T (d) hr
30. Pressure is a …….. quantity.
a) Derived(b) base (c)nonphysical (d) All of these
31. What is the importance of base units?
Ans. All physical quantities can be expressed in term of these base units
32. Does the measurement of a physical quantity depend upon the system of units used?
Ans. No.They only change the numerical value of the physical quantity
33. Do you think that a definition of a physical quantity for which no direct method of measurement is known or given has a physical meaning?
Ans: Yes, the measurement may be made by indirect method
34. Can you suggest a way to measure length along a curved line?
Ans. By measuring the length of string by placing t on the curved line
35. How many base units are there?
Ans. Seven
36. What is the SI unit of luminous intensity?
Ans. Candela
37. What are the characteristics of physical quantities?
Ans.They can be measured.
38. How many seconds are in one hour?
Ans: 3600 s
39. How many types of physical quantities?
Ans. Two
40. Meter, centimeter, feet are the units of?
Ans: Length
41. What is the unit of density?

Ans.Kilogram per meter cube.
42. What is the appropriate unit to measure amount of substance?
Ans. Mole
43. What is the SI unit of velocity?
Ans. Meter per second
44. In which year SI unit was established?
Ans. 1960.
45. Which substance was used as a standard to define temperature?
Ans: Water
46. What is the SI unit of area?
Ans. Meter square
47. Name the types of physical quantities?
Ans: Base and derived physical quantities.
48. How many grams in one kilogram?
Ans.1000 grams
49. What is the SI unit of wavelength?
Ans. Meter
50. Which substance was used as a standard to define length?
Ans. Light
51. Study of motion of the body is known as
b) Light (b) Speed(c) Heat(d) Mechanics
51. Study of motion without the reference of force
a) Kinematics (b) Dynamicsc) Heat(d)both A &B
52. If a body does not change its position w.r.t observer then the body is in state of
a) motion(b)Rest (c) Relative rest (d) None of these
53. Rest and motion are …….states.
a) Relative(b) Absolute (c) Accurate (d) Variable
54. Velocity is a ……. quantity.
a) Derived(b) BASE (c) Non Physical (d) none of these
55. How many types of motion
a) Seven(b) six (c) four(d) three
56. The SI unit of velocity is
a) Kg (b) m(c) cm/s (d) m/s
57. The SI unit of acceleration is
a) m/s^2(b) cm/s (c) m/s (d) cms^{-2}
58. Total length between two points is known as
a) Distance(b) Displacement (c) Speed (d) Velocity
59. Motion of a string of a violin is
a) Vibratory(b) Rotatory(c) Random (d) Translatory
60. Speed is a ……. quantity.
a) DERIVED (b) base (c) Non Physical (d) none of these
61. The rate of displacement with respect to body is known as
a) Distance(b) Displacement (c) Speed(d) Velocity
62. Shortest length between two points is known as
a) Distance(b) Displacement (c) Speed (d) Velocity
63. If speed and direction of a moving body changes with time then its velocity is
a) Variable(b) Uniform (c) Constant (d) All of these
64. If the velocity of the body is uniform then its acceleration will be
a) Zero (b) Uniform (c) Constant (d) Variable
65. Type of motion in which every particle has exactly the same motion is known as
a) Vibratory (b) Rotatory(c) Random(d) Translatory
66. If speed and direction of a moving body does not changes with time then its velocity is
a) Variable (b) Uniform (c) Constant (d) All of these
67. To and Fro motion of a body is known as
a) Vibratory (b) Rotatory(c) Random(d) Translatory
68. If the velocity continuously decreases then the acceleration will be
a) Negative(b) Positive(c) Normal (d) none of these
69. The wheel of a moving car is the example of
a) Vibratory(b) Rotatory(c) Random (d) Translatory
70. If the velocity continuously increases then the acceleration will be
a) Negative (b) Positive (c) Normal (d) none of these
71. ms^{-2} is the unit for
a) Acceleration (b) Displacement (c) Length (d) Temperature
72. The rate of distance with respect to body is known as
a) Distance(b) Displacement (c) Speed(d) Velocity
73. A person is running on the ground is the example of
a) Vibratory(b) Rotatory (c) Random(d) Translatory
74. Types of acceleration are

a) Seven(b) six (c) Two (d) none of these
75. The SI unit of speed is
a) Kg (b) m(c) cm/s (d) m/s
76. If speed and direction of a moving body does not changes with time then its acceleration is
a) Variable (b) Zero (c) Constant (d) All of these
77. The rate of change of velocity is known as
a) Distance(b) Displacement (c) Acceleration(d) Velocity
78. A book is lying on the table is in the state of
a) motion(b)Rest (c) Relative rest (d) None of these
79. Motion of a spring is the example of.
a) Vibratory(b) Rotatory(c) Random (d) Translatory
80. What is kinematics?
Ans. Motion of the object without discussing the cause of motion
81. What is Dynamics?
Ans. Motion of the object discussing the cause of motion
82. Is rest and motion are relative states?
Ans: Yes.
83. Define rotatory motion?
Ans.The spinning motion of a body about its axis
84. How many types of motion are there?
Ans. Three
85. What is the SI unit of acceleration?
Ans. Meter per second square
86. Define Vibratory motion?
Ans. To and fro motion of a body.
87. What is the SI unit of velocity?
Ans: Meter per second
88. How many types of acceleration?
Ans. Two
89. Name one similarity between speed and velocity?
Ans: Both have same units
90. What is the SI unit of speed?
Ans.Meter per second
91. Define rest?
Ans.When a body does not change its position with respect to its surrounding
92. What is the SI unit of velocity?
Ans. Meter per second
93. Define motion?
Ans. When a body change its position with respect to its surrounding
94. Define speed?
Ans: The distance covered by a body in a unit time is called speed
95. What is the formula of velocity?
Ans.Displacment/Time
96. What is acceleration?
Ans: The rate of change of velocity
97. What is positive acceleration?
Ans.If the velocity continuously increases then the acceleration will be positive.
98. What is negative acceleration?
Ans.If the velocity continuously decreases then the acceleration will be negative
99. What is velocity?
Ans.The displacement covered by a body in a unit

PRECIS - Purification and Separating techniques used in chemistry

When different components are combined together physically mixtures are formed various methods are used in chemistry to separate the components in mixtures. These are basically the physical techniques employed in the laboratories. These are as:

- Filtration
- Evaporation
- Crystallization
- Distillation
- Chromatography

Filtration:

Filtration is used to separate the insoluble solid from the liquid in a solid – liquid mixture as in the suspension. In the process of filtration insoluble solid particles are trapped in the filter paper is called residue while the liquid passes through the filter paper is called filtrate. Filter paper is used for this process.

Evaporation:

Evaporation is used to separate dissolved solid particles from a liquid in a solid liquid mixture. As in solution. When a solution is heated the liquid or solvent in the solution evaporations i.e. become vapors leaving behind the dissolved solid as residue. In some parts of the world salt is obtained by evaporating sea water.

Crystallization:

Crystallization is used to separate a soluble solid that decomposes on heating from its solution. Using this method the solid is obtained in the form of crystals. Atoms / molecules when having a definite geometry is known as crystal.

Distillation:

Distillation is used to separate a solvent from a solution. In this process the solution is heated so that its liquid component evaporates and escapesas vapors. The vapor is then cooled and condensed in liquid component is distillate. If more than one liquid component is present in mixture fractional distillation is used.

Chromatography:

This technique is used to separate and identifies the different coloured components. It works on the fact that the different components of a liquid mixture travel at different rates on paper. This method is very useful in scientific research because it gives quick results and require small amount of mixtures. This process is used to test the purity of various substances.

Matter & its Kinds

Everything in this universe is made up of matter. Anything that occupy space having some weight or volume is known as matter has three states i.e. solid, liquid and gas depending upon the forces of attraction present between the atoms. Whereas atom is the smallest partial of matter which can exit independently. Atoms combine together to form elements, compounds and mixtures.

Element, The simplest kind of matter:

An element is a substance which cannot be split into two or more simpler substance by a chemical reaction. Scientists have so far discovered more than 100 element about 90 element occur naturally and rest of them are manmade. The most abundant element in our universe is hydrogen and helium. The most abundant element of earth crust is oxygen. Element are classified and placed in the periodic table. The vertical columns in the periodic table are called groups and the horizontal rows are called periods, on the bases of properties of elements they are classified into metals and non metals. Metals are good conductors of heat and electricity whereas the non metals do not. Most of the metals and non metals are used in our daily life for welfare of mankind.

Compounds:

A compound consists of two or more elements which combine together chemical. For example water is formed by the combination of two elements i.e. H and OH which combine together chemically compounds are formed by chemical reaction which usually involves an exchange of energy in the form of heat, light or both with its surroundings. A compound has properties that are different from the properties of its constituent elements. A compound can only be broken by simple chemical reaction. The different elements in a compound are joined together in a fixed proportion by mass.

Mixture:

Not many of the materials we come across in our daily life are made up of just one type of element or compound. The food we eat the air we breathe and the milk we drink are all mixtures. A mixture consists of two or more than two substances which are not joined together chemically. Instead they are formed physically. No chemical reaction takes place during the formation of mixtures. Thus little or no energy in the form of heat or light is given out or taken in. a mixture possesses the properties. The substances in a mixture can be mixed in any proportion by mass. A mixture can be separated into its components by physical means such as evaporation, filtration and distillation methods. The best example of mixture is air which is composed of nitrogen, oxygen and other elements like noble gases and compounds such as carbon dioxide and water vapors.

1. The separating mixture technique is used for
   a) **Purification** b) isolation
2. The method of separation used for depends upon the type of
   a) Element b) mixture c) **atom**
3. Separation of elements from insoluble solid from liquid is
   a) **Filtration** b) evaporation c) crystallization
4. The insoluble particle trapped in the filter paper is
   a) **Residue** b) filtrate
5. The liquid gathered or collected in the beaker is called
   a) **Filtrate** b) residue
6. In the laboratory the material used the filtration is
   a) **Filter paper** b) sand c) filter funnel
7. When the solid remain insoluble it form
   a) Mixture b) solution c) **suspension**
8. Raw water can be purified by the process of
   a) Evaporation b) filtration
9. In our body the process which is carried out in 24 hours is
   a) Evaporation b) **filtration** c) distillation
10. Water is purified in plants by
    a) Evaporation b) **distillation**
11. The process used to separate dissolved solid particles from a liquid is
    a) Filtration b) **evaporation**
12. Evaporation is done upon
    a) cooling b) **heating** c) freezing
13. When the solution is heated the liquid
    a) Cooled b) **evaporated** c) boils
14. When liquid is evaporated leaving behind
    a) Filtrate b) **residue**
15. _____ is obtained by evaporating sea water
    a) Sugar b) **salt** c) chemical
16. On heating sugar
    a) Evaporates b) melts c) **decomposes**
17. The process of formation of crystals is
    a) **Crystallization** b) sublimation c) distillation
18. Solid with definite geometrical shape are
    a) Amorphous b) **crystalline**
19. Solid with irregular shape are
    a) **Amorphous** b) crystalline
20. When crystals are formed due to original added solid is called

a) Evaporation b) sublimation c) **seeding**

21. Liquid can be separated by a process
    a) Sublimation b) **distillation** c) evaporation
22. When the solution is heated the liquid
    a) Melts b) **evaporates** c) boils
23. The vapors' cooled and condensed are called
    a) Residue b) filtrate c) **distillate**
24. Distillation is widely used in
    a) **Perfume industry** b) homes
25. If more than one components are presents then the distillation is called
    a) Simple distillation b) **vacuum distillation**
26. Coloured compounds can be separated by
    a) Evaporation b) **chromatography**
27. The colours of components travel in different
    a) Speed b) **ratio** c) rates
28. Chromatography is used widely in
    a) **Scientific research** b) homes
29. In paper chromatography is used
    a) Glue b) **filter paper** c) ordinary paper
30. Pure liquid obtained in distillation is
    a) **Distillate** b) filtrate
31. The technique used to obtain chalk from a suspension of chalk & water is?

Ans: filtration

32. How pure water can be obtained from sea water?

Ans: distillation

33. Name the method used to obtain copper sulphate crystals from C_2SO_4 solution?

Ans: crystallization

34. Identify the colour pigments in flowers petals?

Ans: chromatography

35. Obtaining salt from sea water. Name the technique?

Ans: evaporation

36. Can gases in air be separated?

Ans: yes by distillation

37. Which separating method is made use of in making of tea using tea bags?

Ans: filtration

38. What other ways can be used to separate tea leave from tea?

Ans: filtration

39. In washing machine process what is being separated?

Ans: liquid

40. Can sea water be purified?

Ans: yes by filtration

41. How would you separate a mixture of sand and salt?

Ans: filtration

42. Name body parts which carry out filtration?

Ans: Nose, kidneys and intestine

43. How filtration is carried out?

Ans: by filtration paper

44. What is solution?

Ans: homogenous mixture of solute and solvent

45. Define solute and solvent?

Ans: substance to be dissolved is solute substance which dissolves solute in itself is solvent

46. What is suspension give example?

Ans: heterogeneous mixture. Sand in water

47. Fill the missing part by naming process.

Solid – liquid mixture

↓

Can be separated by

Name of process → ???

↓

Into

Solid? Liquid?

Ans: filtration

48. How crystals are formed?

Ans: by cooling super saturated solution

49. What is a crystal?

Ans: solid having definite shape in crystal

50. Define crystalline and amorphous solids?

Ans: solid with definite shape in crystalline solid with irregular shape in amorphous.

51. All matter is made up of
    a) **Atom** b) element c) molecule d) mixture
52. Elements are simplest kind of
    a) **Matter** b) atom c) molecule
53. Scientists have discovered elements so far
    a) 100 b) 200 c) **110** d) 90
54. The elements which occur naturally are
    a) **90** b) 85 c) 82 d) 110
55. The manmade elements reported in the periodic table
    a) **20** b) 30 c) 25 d) 35
56. The most abundant element in our universe is
    a) **Hydrogen and helium** b) hydrogen and oxygen c) nitrogen d) helium
57. Elements have been placed systematically in a chart called
    a) **Periodic table** b) chart c) tabulated form
58. In the periodic table the vertical columns are called
    a) **Groups** b) periods c) division
59. In the periodic table the horizontal rows are called
    a) **Groups** b) periods c) division
60. Element on the left of periodic table are
    a) **Metals** b) non metals c) metalloids
61. Elements on the right of periodic table are
    a) Metals b) **non metals** c) metalloids
62. Metal are
    a) **Good conductors** b) bad conductors
63. Non metals are
    a) Good conductors b) **bad conductors**
64. When two or more than elements combine together chemically it form
    a) Mixture b) **compound** c) elements
65. The symbol of water is
    a) **H_2O** B) SO_2 C) D_2O
66. Chemical reaction involves exchange in
    a) **Energy** b) product c) quantity
67. A compound has properties that are different from the properties of
    a) **Element** b) compound c) mixture
68. A compound can only be broken down by
    a) **Chemical method** b) physical method
69. The different elements in a compound are joined together in a fixed proportion by
    a) Volume b) **mass** c) energy
70. When elements combine together physically it form
    a) Compound b) **mixture** c) molecule
71. During mixture formation no _____ reaction occurs

a) Physical b) **chemical**

72. Air is the mixture of
    a) **Gases** b) liquid c) solids
73. ____ can be separated into different components of gases
    a) **Air** b) oxygen c) mixture
74. An ice cream is a
    a) **Mixture** b) compound
75. Mixture may be
    a) Solid b) liquid c) gas d) **all of these**
76. Mineral water is the mixture of
    a) **Mineral** b) metals c) salts
77. _____ compounds when heated produce colour
    a) **Metals** b) non metals
78. Combination of various metals is called
    a) **Alloy** b) mixture c) compounds
79. Combination of various metals is called
    a) **Alloy** b) mixture c) compounds
80. Elements are formed by combination of
    a) Molecules b) **atoms** c) mixture
81. Name five elements which are made up of atoms?
    Ans: Nitrogen, oxygen, neon, helium, aluminum
82. How elements are classified in periodic table?
    Ans: On the bases of similarities in properties
83. Each vertical and horizontal column in the periodic table is named what?
    Ans: Groups and periods
84. Whether the properties of metals and non-metals are alike?
    Ans: no they are different
85. Look around you which things are made up from same types of elements. Name them?
    Ans: Chair, Rostrum, table, desk
86. Look around you which things are made up from different types of elements. Name them?
Ans: Air, chalk, desk
87. An element tungsten having symbol "W" having melting point 3410°C and a boiling point of 5660°C. What is physical state of this element?
Ans: Solid
88. Is it common to see the element in gaseous state? Why?
Ans: No, because they are solid
89. Oxygen is the most abundant element of earth where can you find oxygen on earth?
Ans: In air
90. Electric cables are made up of aluminum not copper. Why?
Ans: because Aluminum is light
91. Give three examples of compounds and mixture?
Ans: CO_2, H_2SO_4, H_2S (compounds)
92. How compounds are formed?
Ans: By chemical reaction
93. Compounds are not mixture. Why?
Ans: Because they are formed chemically not physically
94. Do metals used in fireworks?
Ans: Yes
95. Elements and compounds are called pure substances but nit mixture. Why?
Ans: Because they are formed chemically
96. Ice cream is mixture or compound? Give reason of your answer?
Ans: Mixture because it is formed by physical combination
97. What about energy change during a compound formation?
Ans: energy decreases and increases
98. Give O_2 proportion of mixtures?
Ans: (i) firmed physically (ii) have any composition in any proportion
99. Orange juice is compound or mixture?
Ans: Mixture
100. Which elements make air a mixture?
Ans: All gases

PRECIS - World of Microorganisms

Microorganisms

Microorganisms are the living organisms that are too small and invisible to the naked eye. Microorganisms are seen with the help of an instrument called as microscope. Microscopes can be of different types based on their complexity.

Microorganisms are omnipresent. Microorganisms are found everywhere, in the air, water, soil, in and on living organisms. Microorganisms can survive extreme conditions like hot springs to polar regions. They can survive too acidic and too alkaline environment. Under unfavourable conditions of temperature and water, they form hard and tough coverings called as cysts. As the favourable conditions prevail, they break open their cysts and continue their normal life cycles.

Classification of microorganisms

1. Based on the characteristics, microorganisms can be classified into four groups – Bacteria, Fungi, Algae and Protozoa.

2. Based on the number of cells present, microorganisms can be unicellular or multicellular. Organisms which are made up of a single cell are unicellular while the organisms made up of many cells are multicellular forms. Most of the protozoans are unicellular in nature while most fungi and some algae are multicellular organisms.

3. Based on the significance, microorganisms can be useful or harmful to us

Useful microorganisms

Microorganisms are extensively used in various fields and are of great economic importance.

Uses of microorganisms

a. Microorganisms are used in baking industry.

b. Microorganisms are used in the preparation of curd.

c. Microorganisms are used in commercial preparation of pickles, and many dairy products.

d. Microorganisms are used in industrial production of alcohol and wine. Yeast converts the natural sugars present in grains into alcohol. Wine is produced by the process of fermentation.The process of converting sugar into alcohol is called fermentation.

- Fermentation: Louis Pasteur discovered the process of fermentation. Fermentation is a slow biochemical process by which sugar molecules are broken down in the absence of air to produce alcohol and carbon dioxide. The process of fermentation is brought about by organisms like yeast which respire under anaerobic conditions.

e) Microorganisms like bacteria act as decomposers to clean up organic waste by decomposing them into usable substances.

- Decomposition: It is the process by which some organisms can convert dead and decaying matter into organic matter of the soil. These organisms which bring about decomposition are termed to be decomposers. Decomposers form an important part of the ecosystem.

f) Microorganisms are used to prepare medicines. These medicines are used in treatment of diseases caused by various microorganisms.

- Antibiotics: These are the substances produced by certain microorganisms and are used as medicines to kill pathogens. Antibiotics are used only against certain microorganisms. They are not effective against viruses.

g) Microorganisms are used in preparation of vaccines.

- Vaccines: A vaccine is a collection of antigens of weak strains of particular disease causing microorganisms. When this is injected into the blood stream, it stimulates immune system to produce antibodies. These antibodies fight against weak antigens and some of them are stored in the blood to prevent the attack of that particular disease in future. This is the process by which vaccines develop immunity for a particular disease in our body.

Dealing with Harmful Microorganisms

Harmful microorganisms

Harmful microorganisms can spoil our food, leather, clothing etc. One another harmful effect of microorganisms is that they cause diseases in plants, animals and even human beings.

Harmful microorganisms which cause disease are called as infectious agents. These are harmful in nature and are also called as pathogens.

1) Pathogens can mostly cause communicable diseases.

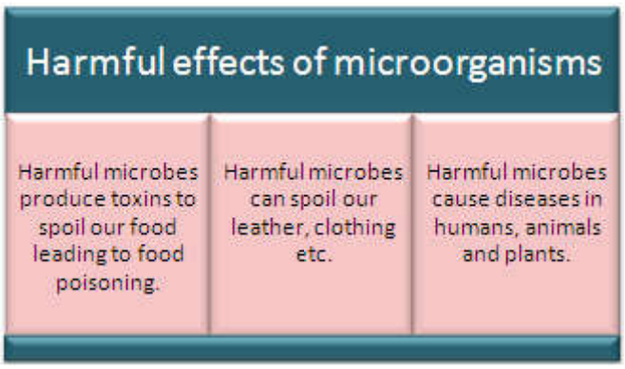
- Communicable diseases are the diseases which are transmitted from one person to another by different modes of infection. Body fluids of the infectious person carry disease causing organisms. e.g. Discharge from nose, mouth, eyes and the faeces carry these pathogens. Healthy person coming in contact with such infected discharges develops the disease and becomes sick.

2) Pathogens select carriers to reach their particular host. Insects, rodents, sometimes even sheep, pigs and many other animals become carriers for pathogens to reach their final host.

3) Pathogens can be microorganisms which obtain nourishment from the host. e.g. Bacteria, Viruses, Fungi, Protozoa, Helminths.

Harmful effects of microorganisms

Microorganisms show many harmful effects on us. Some of them are elucidated.



Modes of infection
Infection is the transmission of pathogens from diseased individual to healthy individual.

Common diseases in human beings

DISEASE	MICROORGANISM	MODE OF TRANSMISSION
Cholera	Bacteria	Contaminated food and water
Typhoid	Bacteria	Water
Tuberculosis	Bacteria	Air
Polio	Virus	Contaminated water and air
Chickenpox	Virus	Contaminated air, food, water and direct contact
Measles	Virus	Air
Hepatitis-B	Virus	Contaminated water
AIDS	Virus	Infected needles, blood transfusion and sexual contact.
Malaria	Protozoa	Mosquitoes
Amoebic dysentery	Protozoa	Conatminated food and water

Prevention of infection

- We can prevent the spread of infection by using a handkerchief while sneezing or coughing.

• Antibiotics are widely used to control the infection. Antibiotics are used to cure a variety of diseases caused by fungi, bacteria and protozoa. Penicillin was discovered by Alexander Fleming in 1929.
• Antibiotics, insecticides and pesticides are sprayed in the field to control many plant diseases.
• Infection can be prevented by using some bacteria or fungi which produce specific chemicals to prevent the growth of microbes causing disease.
• Antibiotics are mixed with the feed of livestock and poultry in order to prevent microbial infection in animals and birds.
• Vaccination is the process of administering vaccines. Diseases can be prevented by vaccination.
• During vaccination inactivated or weakened microbes are introduced into the body. They trigger the production of antibodies. When disease-carrying microbes enter our body, self-protecting proteins called antibodies fight against the invader. e.g. Small pox has been completely eradicated from the world by administering vaccine. Several diseases including cholera, tuberculosis and hepatitis, can be prevented by vaccination.

Vaccine
It is a medicine which triggers the immune system to produce antibodies against a particular disease. A vaccine actually contains organisms resembling disease causing microbes whose property of virulence is suppressed or weakened.
Common diseases in plants

DISEASE	MICROORGANISM	MODE OF TRANSMISSION
Rust of wheat	Fungi	Infected seeds and insects
Smut disease	Fungi	Infected seeds and insects
Root rot	Fungi	Infected seeds and insects
Brown spot	Fungi	Infected seeds and insects
Grain rot	Bacteria	Air
Bacterial blight	Bacteria	Air
Citrus canker	Bacteria	Air
Leaf rolls	Virus	Insect, air
Yellow vein	Virus	Insect, air

Precie Introduction to Cells

Cell
Cell is the structural and functional unit of all living organisms.

Microscope
A microscope is an instrument used to see objects too small for the naked eye. An English scientist, Robert Hooke was the first person to discover the existence of cells with the help of a microscope in 1665.

Types of microscopes
• Hand lens is a biconvex glass fixed in a frame with a handle. It is used to magnify small objects up to certain size.
• Compound microscope is the microscope designed to magnify objects that can be brought close to the device. It uses a pair of lenses to magnify the objects not visible to naked eye. Magnification is at about 50X, 100X, 200X etc. These microscopes magnify the specimens to about 1000 times more than their size.
• Scanning electron microscope (SEM) is used to examine the external parts of various organisms. It has a magnification range from 15X to 200,0000X. This type of microscope uses electrons instead of light. A beam of electrons interact with the sample and produce an image of the sample on a photographic plate.
• The transmission electron microscope (TEM) is used to view the internal structure of a cell and its organelles. TEM uses a beam of electrons instead of light. This microscope has special lenses called as electromagnetic lenses. Objects of the order of few angstrom are made visible by this microscope.

Types of organisms

Living organisms are broadly classified into unicellular and multicellular organisms based on the number of cells they possess.

Unicellular organisms: Organisms that are made up of a single cell and perform all their vital activities are called unicellular organisms. A single cell performs all the metabolic functions like nutrition, respiration, excretion, reproduction etc.

- Amoeba is an example of unicellular organism performing different activities. It acquires its food by special structures called as pseudopodia. They use pseudopodia for locomotion also. It gives rise to new individual by binary fission.
- Paramecium is a single cell, built in such a way that it performs all its vital activities, like reproduction, locomotion, digestion, and so on.

Multicellular organisms: Organisms that are made up of more than one cell are called multicellular organisms.

- Multicellular organisms are made up of different cells of different shapes and different functions.
- Most life that can be seen with the naked eye is multi-cellular, as are all animals and plants.
- There is a division of labour among the cells of a multicellular organism.
- Complex level of organisation is observed in multicellular organisms.
- Human being is a multicellular organism made up of many cells.

UNICELLULAR ORGANISMS	MULTICELLULAR ORGANISMS
Entire organism is made up of single cell.	Many cells constitute the entire body.
Life processes are carried out by single cell.	Division of labour is observed in the organism.
Entire cell is in direct contact with the environment.	Only the cells lying in the outer layer are in contact with the environment.
Organism has a short span of life.	Life span is long due to complexity in the structure.
Cell is capable of division.	Some cells lose their capacity to divide.
Injury to the cell may cause death of entire organism.	Injury to some cells do not lead to death of the organism.

Shape of cells

Cells differ in their shape. Shape of the cells is related to the function they perform. Cells can be round, spherical, elongated, pointed, long and even branched.

- Amoeba is irregular in shape.
- Neuron, the nerve cell is a branched structure.
- White Blood Corpuscle is the only animal cell that changes its shape.
- Red Blood Corpuscles are round and flattened.
- Muscle cells are spindle-shaped.
- Plant cell has definite shape.

Size of cells

The size of the cell has no relation with the size of the organism.

- The single cell which can be seen with a naked eye is hen's egg.
- The largest cell is the egg of an ostrich measuring 170 millimetres by 130 millimetres.
- The smallest cell is a bacterial cell measuring 0.1 to 0.5 micro-metres.

The size of the cell is related to the function it performs.

- Xylem cells of a plant are responsible to carry water molecules from the roots to the apical tip of the plant.
- Nerve cells in an animal are very long so as to carry impulses to long distances in the body.

Structure and Function of Cells

Cell is the structural and functional unit of all living organisms. Every cell in the body is meant to have a specific function. e.g. Alveolar cell is an example of single cell.

A group of cells that have similar structure and function to perform a specific activity constitute a tissue. e.g. A group of alveolar cells form alveolar tissue.

Tissues aggregate to form an organ. Tissues which are same at their structure and perform similar activities form a complete organ. e.g. Alveolar tissues aggregate to form lungs, the organ.
Many organs together constitute organ system. Organs made up of a group of tissues organise themselves to perform specific activity. e.g. Nostrils, nasal cavity, trachea, bronchi, bronchioles, lungs together form the respiratory system, the organ system.
Organ systems aggregate to form an organism. A human being is a complete organism made up of 11 organ systems. e.g. Digestive system, respiratory system, circulatory system, immune system, muscular system, skeletal system, nervous system, endocrine system, integumentary system, excretory system, reproductive system etc. work together to form a complete organism.
Types of cells
1) Based on the presence of nuclear membrane, cells can be of two types – Prokaryotic cells and eukaryotic cells.
Prokaryotic cells are the cells which do not possess definite nucleus but the nuclear material is in the form of a nucleiod dispersed in the protoplasm of the cell. Membrane bound organelles are absent in these cells e.g. Bacterial cell, Blue-green algal cell.
Eukaryotic cells are the cells with well defined nucleus and distinct nuclear membrane. Organelles dispersed in the cytoplasm are membrane bound organelles. e.g. Animal cells, Plant cells.

2) Based on the type of organisms they are present in , cells are of two types namely plant cells and animal cells.

Plants are made up of plant cells. Plant cells are eukaryotic cells with well distinct nucleus and membrane bound organelles. Genetic material is in the form of DNA present in chromosomes. Organelles are specific in their functions. Characteristic features of plants cells are that the cells are enclosed in a protective layer called as cell wall.
Animals are made up of animal cells. Animal cells are eukaryotic cells with well developed nucleus enclosed in a nuclear membrane. Animal cells are protected by semi-permeable membrane called as cell membrane. Animal cells are characterised by possessing some special structures like centrioles, many lysosomes, cilia and flagella.
Differences between plant cells and animal cells

PLANT CELLS	ANIMAL CELLS
Plant cells are almost straight that is quadrangular or hexagonal in shape.	Animal cells are round in shape.
Plant cells possess distinct cell walls which are protective in function.	Animal cells do not have any cell walls.
Plant cells possess special structures called as plastids. Plastids help plants to synthesise and store their food.	Animal cells do not have any plastids.
Lysosomes are absent or scanty in plant cells.	Lysosomes are many in animal cells.
In plant cells, vacuole is mostly one and large in size	In animal cells, vacuoles are many and smaller in size.
Cilia and flagella are absent in plant cells.	Cilia and flagella are present in animal cells.

1. What are microorganisms?
   A) Living organisms that are invisible by naked eye.
2. Which Devices is used to see microbes?
   A) microscope
3. Where microbes are present?
   A) Every where
4. Can microorganisms survive in extreme conditions?
   A) Yes they can
5. Name two extreme conditions where microbes can survive?
   A) From hot springs to polar regions
6. Do acidic environment effects microbes?
   A) Yes they can survive
7. Can microbes survive in extreme alkaline condition?
   A) Yes they can survive

8. What microbes do in untaourable conditions?
   A) They form hard & tough covering called cyst.
9. What is cyst?
   A) Hard and tough covering upon microorganisms is called cyst
10. When they break their cysts?
   A) In favorable condition
11. Define unicellular?
   A) Single cell organisms are called unicellular
12. Define multicellular?
   a) Organisms with many cells are called multicellular
13. Based on significance, there are how many types of microbes?
   A) 2 – types
14. Are there useful microbes present?
   A) Yes
15. Write two fields where microbes are used?
   A) Baking industry, wine industry
16. What is termination?
   A) It is biochemical process in which sugar molecules are broken in the absence of air to produce alcohol & carbon dioxide
17. Fermentation process is used in which industries?
   A) Alcohol & industry
18. Do microbes are used in bakery products?
   A) Yes they do

19. Can microbes act as decomposers?
   A) Yes, they act as decomposers
20. What is decomposition?
   a) Process in which some organisms convert dead & decaying matter into organic matter of soil
21. What decomposition does?
   A) They decompose dead organic matter
22. Are microbes used in medicine industry?
   A) Yes they are
23. What antibiotic do?
   A) Antibiotic kills pathogens
24. To which organisms antibiotics are not effective?
   A) viruses
25. What is vaccine?
   A) Vaccine is a collection of antigens of weak strains of particular diseases causing microorganism
26. What vaccines do?
   A) Vaccine stimulates immune system
27. How vaccines are useful for disease in future?
   A) Vaccine produces antibodies which are effective for upcoming diseases
28. What harmful microorganism can do?
   A) They can spoil food, leather & cause disease
29. What are pathogens?
   A) Harmful organisms are called pathogens
30. What are communicable diseases?
   A) Disease which are transmitted from one person to another
31. Name the carries which transmit pathogens?
   A) Insects, rodents are carriers to reach host
32. To reach a host, pathogens uses which way?
   A) Pathogens use carriers to reach host
33. Name the pathogens which are microorganisms?
   A) Bacteria, viruses, fungi etc
34. What substances do microbes produce in food for spoiling it?
   A) They produce toxin
35. Name the things which are spoiling by microbes?
   A) They can spoil food, leather & clothing
36. What is infection?
   A) Infection is the transmission of pathogens from diseases individual to healthy person
37. Cholera is caused by which microbes?
   A) Bacteria
38. Name three disease caused by bacteria?
   A) Cholera, typhoid & tuberculosis
39. Name three diseases caused by virus?
   A) Polio, chicken pox & measles
40. What is made of transmission of polio?
   A) Contaminated water and air

41. What is made of transmission of virus?
    A) Air
42. What is made of transmission of hepatitis B?
    A) Contaminated water
43. Name a disease caused by protozoa?
    A) Malaria
44. How simple we can prevent infection?
    A) By use of handkerchief while sneezing & coughing
45. Antibiotics are used against which organisms?
    A) Bacterial infection
46. What chemical are used in field to control plant disease?
    A) Antibiotics, insecticides & pesticides
47. Can bacteria and fungi be used against diseases?
    A) Yes they can
48. How infection can be prevented in animal & birds?
    A) By adding antibiotics in feed of animals & birds
49. What happens during vaccination?
    A) Inactivated microbes are introduced into the body
50. What are antibodies?
    A) Self – protecting proteins inside the body are called antibodies
51. Name diseases which can be cure through vaccination?
    A) Small pox, cholera, TB & hepatitis
52. What is vaccine?
    A) It is a medicine which triggers medicine
53. Name two diseases of plants caused by fungi?
    A) Root t rot & brown spot
54. Name two diseases of plant caused by bacteria in plants?
    A) Bacterial blight
55. Name two diseases of plants caused by virus?
    A) Leaf rolls & yellow vein
56. What is mode of viral diseases in plants?
    A) Insets air
57. Lactobacilli belong to which kind of organism?
    A) It is the name of bacteria
58. Are bacteria used in bakery products?
    A) Yes
59. What is mode of infection of smut diseases?
    A) Infected seeds and insects
60. Rust of wheat (diseases) is caused by which organism?
    A) Fungi
61. Device used to observe microorganisms is microscope
62. Organisms which bring about decomposition are called decomposers
63. Substances produced by microorganisms and used as medicine are called antibiotics
64. Vaccines after infecting provokes immunity
65. Harmful microorganisms which causes disease are called pathogens
66. Through three ways, a healthy person can be affected
67. There are three modes of infection.
68. Mode of transmission of AIDS is infected needle
69. Mode of transmission of malaria is mosquito
70. Penicillin was discovered in 1929
71. Diseases which can be used by vaccination is small pox
72. Mode of transmission of fungal disease in plants is insects
73. Mode of transmission of bacterial disease in plants is air
74. Mode of transmission of viral disease in plants is insects / air
75. Name scientist who discover fermentation is Louis Pasteur
76. Microorganisms are present
    a) Some place b) **every where** c) extreme places d) no where
77. Condition which mainly affects microorganisms is
    a) Moderate b) extreme c) unfavorable d) **temperature & water**
78. Based on characters, types of microorganisms are
    a) 2 b) 3 c) **4** d) 5
79. Based on cell, types of microorganisms are
    a) **2** b) 3 c) 4 d) 5
80. On how many basis, microorganisms can be clarified
    a) 2 b) **3** c) 4 d) 5
81. Example of unicellular organism is
    a) **Bacteria** b) horse c) fish d) dog
82. Example of multicellular organism is

a) **Humans** b) amoeba c) paramecium d) bacteria

83. Who discover the process of fermentation
    a) Alexander flaming b) Robert hooker c**) Louis pasture** d) Robert brown
84. The type of respiration used in fermentation is
    a) Aerobic b) **anaerobic** c) chemical d) none
85. Mode of transmission of cholera is
    a) **Contaminated water** b) water c) air d) direct contact
86. Mode of transmission of typhoid is
    a) Contaminated food & water b) **water** c) air d) direct contact
87. Mode of transmission of tuberculosis is
    a) Contaminated food & water b) water c) **air** d) direct contact
88. Mode o transmission of chicken pox is
    a) Contaminated food & water b) water c) air d) **direct contact**
89. Person who discover penicillin is
    a) Alexander flaming b) **Robert hooker** c) Louis pasture d) Robert brown
90. Fermentation occurs because of
    a) Bacteria b) fungi c) **yeast** d) algae
91. What is cell?
    A) Cell is the structural & functional unit of all living organisms.
92. What is microscope?
    A) A device to observe small object which cannot be seen with naked eye.
93. Robenthooke uses which device for discovery of cell?
    A) He uses microscope
94. Discus shape of hand lens in 2 sentences?
    A) Hand lens is biconvex glass fixed in frame & magnify objects.
95. How many times hand lens can magnify object?
    A) It can magnify up to certain size
96. How many types of electron microscopes are there?
    A) Two types
97. What is the purpose of scanning electron microscope?
    A) Its purpose is to examine external parts of object
98. Electron microscope uses what instead of light?
    A) Electron microscope uses beam of electrons
99. In SEM, where the image is produced?
    A) Image is produced uses beam of electrons.
100. Transmission electron microscope is used for what purpose?
    A) Its purpose is to examine external parts of object
101. On basis of cells, how many types of organisms are?
    A) 2- types
102. Define unicellular organisms?
    A) Organisms with single cell
103. Define multicellular organisms?
    A) Organisms with more than one cell
104. In unicellular which activates are performed by single cell?
    A) All activities are done by single cell
105. Give two examples of unicellular organisms?
    A) Bacteria, amoeba, paramecium
106. How amoeba gets its food?
    A) It gets food by structure called pseudopodia
107. Are lissome many in number in plant cell?
    A) No
108. Name the structure in plant and animal cell?
    A) Cell membrane, nucleus
109. How amoeba moves?
    A) By help of pseudopodia
110. Multicellular organisms have similar cell or different?
    A) Different cell
111. Are multicellular organisms are visible by naked eye?
    A) Most of multicellular are visible by eye
112. Do multicellular organisms have level of organization?
    A) Yes, they do
113. Give three examples of multicellular organisms?
    A) Human, sunflower, snake
114. There are how many differences b/w unicellular and multicellular organisms?
    A) 6 – main difference
115. Which organism has long life span?
    A) Multicellular organisms

116. Are some cellslosing capacity to divide in unicellular?
    A) No, they don't
117. Injury to cell put which effect on multicellular?
    A) It causes minor effect
118. Do cell have different shapes?
    A) yes they do
119. Name shapes of cell?
    A) Cells may be round, spherical, elongated, pointed long etc
120. Shape of cells have are different relates to which thing?
    A) They are related to function it perform
121. What is the shape of white blood cells?
    A) It can change its shape (not specific)
122. What is the shape of muscle cell?
    A) Spindle shaped
123. Is there any relation of size with shape of cell?
    A) No relation
124. Can a cell be seen with naked eye?
    A) Yes
125. What is function of xylem cell?
    A) It carries water from roots to different parts of plants
126. What is the function of nerve cell?
    A) To carry impulses
127. What is tissue?
    A) Group of cells performing similar function
128. Name tissue present in our body?
    A) Alveolar tissue
129. What is organ?
130. What is organ system?
    A) Tissue aggregate to form organ
131. Give example of organ system?
    A) Digestive system
132. How organism is formed?
    A) Organs together, they form organ system
133. Name 5 organs system in human body?
    A) Digestive system, respiratory system, circulatory system muscular system, nervous system
134. Name the organs present in respiratory system?
    A) Nostrils, nasal cavity, trachea, bronchi, lungs
135. On basis of nuclear membrane, there are how many types of cell?
    A) Two types
136. Define prokaryotic cell?
    A) Cells which don't have definite nucleus
137. Are define cell organisms are present in prokaryotes?
    A) No
138. Define eukaryotic cell?
    A) Cells with definite nucleus
139. How eukaryotic are different from prokaryotes?
    A) Prokaryotes don't have definite nucleus as eukaryotes
140. Give example of eukaryotes?
    A) Animal cell, plants cell
141. Based on type of organism, there are how many types of cell?
    A) Two types
142. Plants are made up of which cell?
    A) Plants cells
143. Are plants eukaryotes?
    A) Yes
144. Do plants have genetic material?
    A) Yes, inside the nucleus
145. Genetic material of plants is in which form?
    A) It is in the form of DNA
146. Plants cell are enclosed in layer, name it?
    A) Cell wall
147. Animals are made up of which cell?
    A) Animal cell
148. Do animals have genetic material?
    A) Yes
149. Which membrane protects animal cell?
    A) Cell membrane
150. Name 2 structures present only in animals cell?

A) Centrioles, flagella

151. Which membrane protects animal's cell?
A) Cell membrane

152. Is cell membrane called a semi – permeable membrane?
A) Yes

153. Are animals cells different from plant cell?
A) Yes, in many ways

154. What is shape of animal cell?
A) Round in shape

155. What is the shape of plant cell?
A) They are hexagonal in shape

156. Do animal cells have cell wall?
A) No they don't

157. Cell membrane is present in every cell true?
A) true

158. Plastids are present in plant cell or animal cells?
A) Plant cell

159. What is the function of plastids?
A) It help plants to prepare food

160. Lysosomes are present in which cell?
A) In animal cell

161. Robert Hooke uses microscope (device) for the discovery of cell.

162. There are two types of microscopes.

163. In hand lens biconvex types of glass are present.

164. Highest magnification of compound microscope is 200x

165. Transmission electron microscope uses electromagnetic lens.

166. Special structure present in amoeba is pseudopodia

167. Amoeba reproduce through binary fission

168. Human is the example of multicellular organisms.

169. Ostrich egg is the largest cell.

170. Bacterial cellis the smallest cell.

171. Size of smallest cell is 0.1- 0.5 um

172. Size of largest cell is 170/130 mm

173. Apple tree is the example of organism.

174. Example of organ system in humans is digestive system

175. Bacteria is the example of unicellular organism.

176. Cell was discovered by
a) **Robert Hooke** b) Robert brown c) schliden d) none

177. How many types of microscope are there
a) **2** b) 3 c) 4 d) 5

178. Lenses used I n compound microscope are
a) **2** b) 3 c) 4 d) 5

179. Lowest magnification of compound microscope is
a) **50x** b) 100x c) 150x d) 200x

180. Highest magnification of compound microscope is
a) 50x b) 100x c) 150x d) **200x**

181. Scanning electron microscope has magnification
a) **200,000x** b) 1,50,000x c) 50, 000x d) 100,000x

182. In unicellular, injury may causes
a) Wound b**) death** c) disease d) no effect

183. Shape of amoeba is
a) **Irregular** b) branched c) round d) definite

184. Shape of neuron is
a) Irregular b) **branched** c) round d) definite

185. Shape of red blood cell is
a) Irregular b) branched c) **round** d**)** definite

186. Shape of plants cell is
a) Irregular b) branched c) round d) **definite**

187. Example of tissue is
a) **Alveolar tissue** b) stomach c) lungs d) human

188. Example of organ is
a) Alveolar tissue b) **stomach** c) digestive system d) human

189. Example of prokaryotes is
a) **Bacterial cell** b) plant cell c) animal cell d) neuron

190. Example of eukaryotes is
a) Bacterial cell b) blue green algal cell c) **plant cell** d) none

Basic concepts of Algebra:

Algebra is a branch of **mathematics** dealing with symbols and the rules for manipulating those symbols
Origion of the word algebra:
The word algebra is a Latin variant of the Arabic word al-jabr . This came from the title of a book, **Hidab** al-jabr wal-muqubala , written in **Baghdad** about 825 A.D. by the Arab mathematician Mohammed ibn-Musa al-Khwarizmi.
History of algebra : Early forms of algebra were developed by the Babylonians and the Greeks. However the word "algebra" is a Latin form of the Arabic word *Al-Jabr* ("casting") and comes from a mathematics book *Al-Maqala fi Hisab-al Jabr wa-al-Muqabilah*, ("Essay on the Computation of Casting and Equation") written in the 9th century by a famous Persian mathematician, Muhammad ibn Mūsā al-Khwārizmī, who was a Muslim born in Khwarizm in Uzbekistan. He flourished under Al-Ma'moun in Baghdad, Iraq through 813-833 AD, and died around 840 AD. The book was brought into Europe and translated into Latin in the 12th century. The book was then given the name 'Algebra'. (The ending of the mathematician's name, al-Khwarizmi, was changed into a word easier to say in Latin, and became the English word *algorithm*.)

Important definitions:
Statements: sentences that are either true or false are known as statements.
Open statement: An **open** sentence is a **statement** which contains a variable, and becomes either true or false, depending on the value that replaces the variable. For example ***n*** *is an even number.*
Variables: A **variable** is a quantity that may change within the context of a **mathematical p**roblem or experiment. Typically, we use a single letter to represent a **variable**. The letters x, y, and z are common generic symbols used for **variables.**
Coefficient: a numerical or constant quantity placed before and multiplying the variable in an algebraic expression (e.g. *4* in *4x*).
Algebraic expression: An **algebraic expression** is a **mathematical** phrase that can contain ordinary numbers, variables (like x or y) and operators (like add, subtract, multiply, and divide). Here are some **algebraic expressions**: a + 1. a – b .
Terms of the expression: In algebraic expressions a+b,x+2y-3z here a ,b x,2y,3z are terms of expression.
Like terms: Like terms are **terms** that contain the same variables raised to the same power. Only the numerical coefficients are different. In an expression, only **like terms** can be combined. We combine **like terms** to shorten and simplify **algebraic** expressions, so we can work with them more easily (e.g.2a,5a,-4a are like terms)
Unlike terms: Differing terms are called unlike terms (e.g. 2ab,-4bc,ac are unlike terms)

Addition in algebra: In addition of algebraic expressions while adding algebraic expressions we collect the like terms and add them. The sum of several like terms is the like term whose coefficient is the sum of the coefficients of these like terms.

Two ways to solve addition of algebraic expressions.

Horizontal Method: In this method, all expressions are written in a horizontal line and then the terms are arranged to collect all the groups of like terms and then added.
Add 5a+2c+6b and 4c-3a+2b
5a-3a+2c+4c+6b+2b=2a+6c+8b

Column Method: In this method each expression is written in a separate row such that there like terms are arranged one below the other in a column. Then the addition of terms is done column wise.
Same 5a+2c+6b
-3a+4c+2b

2a+6c+8b
Subtraction:

Subtraction of algebraic expressions are explained in each steps:

Steps I: Arrange the terms of the given expressions in the same order.

Steps II: Write the given expressions in two rows in such a way that the like terms occur one below the other, keeping the expression to be subtracted in the second row.

Steps III: Change the sign of each term in the lower row from + to - and from - to +.

Steps IV: With new signs of the terms of lower row, add column wise.
Subtract 4a + 5b - 3c from 6a - 3b + c
Solution:

6a - 3b + c

+ 4a + 5b - 3c

(-) (-) (+)

2a - 8b + 4c

Basic concepts of Geometry

Geometry:
The branch of mathematics concerned with the properties and relations of points, lines, surfaces, solids, and higher dimensional analogues.
History of geometry:
Geometry's origins go back to approximately 3,000 BC in ancient Egypt. Ancient Egyptians used an early stage of geometry in several ways, including the surveying of land, construction of pyramids, and astronomy. Around 2,900 BC, ancient Egyptians began using their knowledge to construct pyramids with four triangular faces and a square base.

Euclid's Elements

The next great advancement in geometry came from Euclid in 300 BC when he wrote a text titled 'Elements.' In this text, Euclid presented an ideal axiomatic form (now known as Euclidean geometry) in which propositions could be proven through a small set of statements that are accepted as true. In fact, Euclid was able to derive a great portion of planar geometry from just the first five postulates in 'Elements.' These postulates are listed below:
(1) A straight line segment can be drawn joining any two points.
(2) A straight line segment can be drawn joining any two points.
(3) Given any straight line segment, a circle can be drawn having the segment as radius and one endpoint as center.
(4) All right angles are congruent.
(5) If two lines are drawn which intersect a third line in such a way that the sum of the inner angles on one side is less than two right angles, then the two lines inevitably must intersect each other on that side if extended infinitely. Euclid's fifth postulate is also known as the parallel postulate.

BASIC CONCEPTS OF GEOMETRY:

Point: It is represented as a dot with a capital alphabet which is its name .
Line) : is straight (no curves), has no thickness, and. extends in both directions without end (infinitely .
Line segment: . If line have ends it is called a "**Line** Segment".
Ray: Line segment if extended from only one end-point and other point remains same then it is considered as ray.
Plane: In mathematics, a **plane** is a flat, two-dimensional surface that extends infinitely far .

Some axioms regarding points, lines and planes are given below.

1. An infinite number of lines can be drawn through any given point.
2. One and only one line can be drawn through two distinct points.
3. When two lines intersect they do so at only one point.

Collinear and Coplanar

Three or more points are said to be collinear if a single line contains all of them. Otherwise they are said to be non collinear.
Coplanar: Objects are ***coplanar*** if they all lie in the same plane .
Properties of points, lines and planes:

- Unlimited number of lines can be drawn through a point.
- One and only one line can be drawn through two given points.
- A line may be thought of as composed of an infinite number of points.
- Three or more points in a plane are said to be collinear if they all lie on the same line.
- Point at which two lines intersect is called the point of intersection of the lines.
- Three or more lines in a plane are said to be concurrent if all of them pass through the same point.
- If two planes intersect, then they do so in one line only.
- One and only one plane can be drawn containing two intersecting lines.

Angles:
Definition: Angle is formed by two different rays starting from the same point .The starting point is called vertex and two rays are its arms.
Types of angles:

- A right angle is an angle measuring 90 degrees. ...
- An acute angle is an angle measuring between 0 and 90 degrees.
- An obtuse angle is an angle measuring between 90 and 180 degrees.
- A straight angle is a straight line and it measures 180 degrees.
- A Reflex Angle is more than 180° but less than 360°.
- An angle with measure 360° is known as complete angle.

Pairs of Angles:

Complementary angles: A **pair of angles** whose sum is 90 degrees are called complementary **angles .**
Supplementary angles: if two **angles** sum to 180 degrees, they are called supplementary **angles**.

1.In algebra a b means ab, but in arithmetic 3 5 means
(a) 35 (b) 53 (c) 15 (d)
2. In algebra letters may be stand for
(a) known quantities **(b) unknown quantities** (c) fix numbers (d) numbers
3. Variable means that it
(a) can take different values (b) has a fixed value (c) can take only two values (d) can take only three values
4. Early forms of algebra were developed by the Babylonians and the
(a) Arabs (b) Indian (c) English **(d) Greeks**
5. Muhammad ibn Mūsā al-Khwārizmī was born in Khwarizm in
(a) Afghanistan **(b) Uzbekistan** (c) Iraq (d) Iran
6. Book *Al-Maqala fi Hisab-al Jabr wa-al-Muqabilah* was written in ---------- century
(a) 9 (b) 12 (c) 8 (d) 13
7. Sentences that are either true or false are known as
(a) 0pen (b) close **(c) statements** (d) clause
8. coefficient is a number that is
(a) comes before a number (b) multiplying with variable **(c) both a and b** (d) perfect number
9. The word algebra is a Latin variant of the Arabic word
(a) al-jabr (b) al -kanoon (c) Hidab al-jabr (d) none of these
10. ways to solve addition of algebraic expressions
(a) one (b) four (c) horizontal **(d) two**
11. terms 2abc,45abc,10abc are
(a) like (b) unlike (c) adjacent (d) coefficient
12. Coefficient of x^2 in $4x^3 + 3x^2 - x + 1$ is:
(a) 1 (b) -1 **(c) 3** (d) 2
13. If 4x + 5y is subtracted from 3x + 2y then answer will be
(a) 3x + 6y (b) 2x + 5y **(c) -x - 3y** (d) x + 3y
14. Sum of 5x + 3y and 4x - 2y is
(a) 5x – 8y **(b) 9x + y** (c) 8x+4y (d) 6x+5y
15. In value 200 x , variable is
(a) 100 (b) 200 **(c) x** (d) 10 (20)
16. Algebraic expression of sum of 10a and 15c can be written as
(a) 10a + 15c (b) 25ac (c) 15a + 10c (d) 150ac
17. On simplifying expression 10x + 8x, answer will be
(a)8x (b) 10x **(c) 18x** (d) 180x
18. Algebraic expression of word expression "subtract eight times of number b from ten times of number c" is
(a)2bc (b)8b+10c **(c) 10c-8b** (d) 8b-10c
19. In 15y and 160ab, coefficients are
(a) ab (b) ab ,y (c)15y and ab **(d) 160,15**
20. Statement 7a divided by 8b can be expressed algebraically as
(a)7a/8b (b) 56ab (c)56a/b (d)8b/7a
While adding algebraic expressions we collect the like terms and add them T

21. Differing terms are called like terms F
22. Zero is whole number T
23. $8 \times \Delta = 24$ is not open statement F
24. Muhammad ibn- Mūsā al-Khwarizmi, died around 840 A.D. T
25. In algebraic expressions a+b,x+2y-3z here a ,b x,2y,3z are terms of expressions T
26. 5a-3b =2a F
27. There are two ways of adding algebraic expression T
28. In subtraction of algebraic expression we only subtract variable T
29. Algebra is a branch of geometry F

30. Define algebra.
31. ANS: **Algebra** is a branch of **mathematics** dealing with symbols and the rules for manipulating those symbols.
32. What are like terms?

ANS: ***Like terms*** are ***terms*** that contain the same variables raised to the same power.

33. What is the origin of the word algebra?

ANS: The word "algebra" is a Latin form of the Arabic word *Al-Jabr* .

34. Write down the difference between variable and coefficient.

ANS: A **variable** is a quantity that may change within the context of a **mathematical p**roblem or experiment while a numerical or constant quantity placed before and multiplying the variable in an algebraic expression.

Separate like terms.

35. 2a, 6c, 3a, 9ab, 10c, 12c, ab

ANS: 2a and 3a , 6c ,10c and 12c , 9ab and ab

36. Identify coefficients in algebraic expression

2xy+56ab-36dc

ANS: Coefficients are 2 , 56 and-36

37. Who is the writer of the book Hidab al-jabr wal-muqubala ?

ANS: The Arab mathematician Mohammed ibn-Musa al-Khwarizmi.

38. In which century the book was brought into Europe and translated into Latin?

ANS: 12th century

39. Define terms of expressions.

ANS: **:** In algebraic expressions a+b,x+2y-3z here a ,b x,2y,3z are terms of expression.

40. How many steps involved in subtraction of algebraic expressions?

ANS: Two.

41. Add 5a+6b, 8b+2a

ANS: 7a + 14b

42. If x=2 then find 10x.

ANS: 20

43. Subtract horizontally

10ab+2xy from,3ab+5xy

ANS: 3ab + 5xy

10ab + 2xy

\- -

-7ab +3xy

44. Subtract 3ab from 10ab.

ANS: 10ab – 3ab = 7ab

45. Identify variables and coefficients in the algebraic expression

12xz-15rt+38ab

ANS: Variables = xy ,rt ,at and coefficients = 12 , 15 ,38

46. Write download any two steps involving subtraction of algebraic expression.

ANS: **Steps I:** Arrange the terms of the given expressions in the same order.

Steps II: Write the given expressions in two rows in such a way that the like terms occur one below the other, keeping the expression to be subtracted in the second row.

47. Add by column method

3xy-2cd,5xy+2cd

ANS: 3xy + 5xy – 2cd + 2cd = 8xy + 0

a. Who was Muhammad ibn Mūsā al-Khwārizmī ?

ANS: He was Arab mathematician.

b. Name the city in which book **Hidab** al-jabr wal-muqubala was written.

ANS: **Baghdad.**

48. Can we add 50ab and 10xy as like terms?

No.

49. If two angles are said to be supplementary angles and one of angle is of 122 ° then other angle is of.

(a) 35° **(b) 58°** (c) 60° (d) 32°

50. Angle which is less than 360° and larger than 180° is classified as

(a)acute (b) obtuse (c) right **(d) reflex**