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Notes 2017

IAS Syllabus 2017-UPSC Civil Services Main Examination Syllabus

IAS Syllabus 2017-UPSC Civil Services Main Examination Syllabus

IAS Syllabus 2017-UPSC Civil Services Main Examination Syllabus-Hello friends welcome to **examcapsule.com.** Today here examcapsule team going to provide you IAS syllabus,marking scheme and pattern.IAS Syllabus is the guiding force behind the IAS Preparation. It is the IAS Syllabus which carve out the scope of IAS Preparation and hence chalk out the right path and strategy for the IAS Exam preparation. IAS syllabus

needs to be fully covered to ensure the selection in the IAS Exam.

The Civil Services Mains examination is in written format and aims to test the academic talent and the ability of the candidate to present the answers in a clear and coherent manner. The Examination is intended to assess the overall intellectual traits and depth and understanding of the candidates rather than merely the range of their information and memory.

IAS Examination, also called **Indian Administrative Services** Examination, which is one of the toughest and prestigious examination held in India, gives a chance to get most eminent designation offered by Indian Government. UPSC IAS Exam has three stages. These are: IAS Prelims, IAS Mains & Interview Stage. It is necessary for a candidate to successfully clear all three stages to become an IAS Officer.
UPSC – IAS examination is conducted in three phases:

Phase 1	***Preliminary Examination or CSAT (Objective Section)***
Phase 2	***Main Examination (Subjective Section)***
Phase 3	***Interview (Vocal Section)***

The total mark of the written examination is 1750 Marks.

The Interview/Personality Test will be of 275 marks.

The Grand Total 2025 Marks

Phase 1: Preliminary Examination – CSAT Syllabus

1. CSAT or Civil Services Aptitude Test is the Preliminary examination of UPSC, it test the aptitude of examinee to tackle Reasoning and Analytical questions. Consist of two papers, each of 200 marks and two hours of duration and it is compulsory to appear in both.

2. It is an Objective section, and every wrong attempt will cost you 1/3rd marks of the attempted question.
3. CSAT is just a screening test, thus the marks obtained will not be entertained in your final merit.

IAS Syllabus for CSAT Paper (Qualifying)-(200 marks) Duration: Two hours

1.Comprehension
2.Interpersonal skills including communication skills;
3.Logical reasoning and analytical ability
4.Decision making and problem solving ability interpretation (charts, graphs, tables, data su□ciency etc. – Class X level)
7.English Language Comprehension skills (Class X level).
8.Questions relating to English Language Comprehension skills of Class X level (last item in the
Syllabus of Paper-II) will be tested through passages from English language only without providing
Hindi translation thereof in the question paper.

Syllabus for Paper 1	• **Current events (National and International)** • **History of India** • **Geography of the world (Physical, Social, Economic)** • **Indian Polity and Governance-Constitution** • **Economic and Social Development** • **General Issues (Environmental Ecology, Bio-Diversity, Climate change etcs.)** • **General Science**

Syllabus for Paper 2	• **Comprehension** • **Interpersonal Skills** • **Logical Reasoning and Analytical Ability** • **Decision making and problem solving** • **General mental ability** • **Basic Numeracy** • **Data Interpretation** • **Comprehension Skill (English)**

Summary of the Latest Pattern of Civil Services (Mains) Examination 2017

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Paper – A	Language -300 Marks Candidate can take any Modern Indian language but this paper is of qualifying nature
Paper – B	English -300 Marks This paper is of qualifying nature
Paper – I	Essay – 250 Marks Can be written in the medium or language of the candidate’s choice
Paper-II	General Studies-I 250 Marks (Indian Heritage and Culture, History and Geography of the World and Society)
Paper-III	General Studies -II: 250 Marks (Governance, Constitution, Polity, Social Justice and International relations)
Paper-IV	General Studies -III 250 Marks (Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)

Paper-V	General Studies -IV 250 Marks (Ethics, Integrity and Aptitude) Marks carried by General Studies papers are 4X 250=1000
Paper-VI	Optional Subject – Paper 1 -250 Marks
Paper-VII	Optional Subject – Paper II -250 Marks Candidate is allowed to take up literature as an optional subject "without the condition of having it at the graduation level."
	Sub Total (Written test) 1750 Marks Marks of English and Language will not be counted in the total tally of marks for the written exam. So the total of the Mains exam will be 1750 Marks Only.
	Interview/Personality Test – 275 marks Candidate can give preference of the language in which they may like to be interviewed. UPSC will make arrangement for the translators.
	Grand Total 2025 Marks
	A candidate is allowed to use any one language from the Eighth Schedule of the Constitution or English as the medium of writing the examination.

IAS Main Exam Syllabus-2017

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S.No	Name of Paper	Syllabus Overview
1.	GS Paper I	• Indian Heritage and • Culture, History and Geography of the World and Society

2.	GS Paper II	• Governance, • Constitution, Polity, Social Justice and • International relations.
3.	GS Paper III	• Technology, • Economic Development, Bio diversity, • Environment, Security and Disaster • Management. • Indian Economy
4.	GS Paper IV	Ethics, Integrity, and Aptitude
5.	Essay Paper	Any Topic/Topics
6.	Optional Paper I	As opted by Candidate
7.	Optional Paper II	As opted by Candidate
8.	Language Paper	(i) Comprehension of given passages (ii) Precis Writing (iii) Usage and Vocabulary (iv) Short Essays (v) Translation from English to the Indian language and viceversa
9.	English	• Comprehension of given passages • Precis Writing • Usage and Vocabulary • Short Essays

Civil Services Mains Exam Syllabus.The written examination will consist of the following papers:

Paper A – Modern Indian language 300 Marks – Qualifying nature – Marks not counted – Passing mandatory-

(i) Comprehension of given passages.

(ii) Precis Writing

(iii) Usage and Vocabulary.

(iv) Short Essay

(v) Translation from English to the Indian language and vice-versa.

Note 1: The Papers on Indian Languages and English will be of High School level and will be of qualifying nature only. The marks obtained in these papers will not be counted for final ranking.

Note 2 : The candidates will have to answer the English and Indian Languages papers in English and the respective Indian language (except where translation is involved).

Paper B – English – 300 marks – Qualifying nature – Marks not counted- Passing mandatory

The aim of the paper is to test the candidates' ability to read and understand serious discursive prose, and to express his ideas clearly and correctly, in English and Indian Language concerned.

The pattern of questions would be broadly as follows:-

(i) Comprehension of given passages

(ii) Precis Writing

(iii) Usage and Vocabulary

(iv) Short Essay.

Paper-I

Essay – 250 Marks – To be written in the medium or language of the candidate's choice. Candidate is required to write an essay on a specific topic. The choice of subjects will be given. They are expected to keep their thoughts closely to the subject and arrange their ideas in orderly fashion and be

concise. Credit will be given to effective and coherent expression.

Paper-II

1. General Studies-I 250 Marks (Indian Heritage and Culture, History and Geography of the World and Society)
2. Indian culture will cover the salient aspects of Art Forms, Literature and Architecture from ancient to modern times.
3. Modern Indian history from about the middle of the eighteenth century until the present- significant events, personalities, issues
4. The Freedom Struggle – its various stages and important contributors /contributions from different parts of the country.
5. Post-independence consolidation and reorganization within the country.
6. History of the world will include events from 18th century such as industrial revolution, world wars, redrawing of national boundaries, colonization, decolonization, political philosophies like communism, capitalism, socialism etc.- their forms and effect on the society.
7. Salient features of Indian Society, Diversity of India.
8. Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.
9. Effects of globalization on Indian society
10. Social empowerment, communalism, regionalism & secularism.
11. Salient features of world's physical geography.
12. Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India)

13. Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone etc., geographical features and their location- changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

Paper-III

General Studies -II: 250 Marks (Governance, Constitution, Polity, Social Justice and International relations)

1. Indian Constitution- historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
2. Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein.
3. Separation of powers between various organs dispute redressal mechanisms and institutions.
4. Comparison of the Indian constitutional scheme with that of other countries
5. Parliament and State Legislatures – structure, functioning, conduct of business, powers & privileges and issues arising out of these.
6. Structure, organization and functioning of the Executive and the Judiciary Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
7. Salient features of the Representation of People’s Act.
8. Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
9. Statutory, regulatory and various quasi-judicial bodies
10. Government policies and interventions for development in various sectors and issues arising out of their design and implementation.

11. Development processes and the development industry the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders
12. Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and bodies constituted for the protection and betterment of these vulnerable sections
13. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
14. Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources, issues relating to poverty and hunger.
15. Important aspects of governance, transparency and accountability, e-governance- applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
16. Role of civil services in a democracy.
17. India and its neighbourhood- relations.
18. Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests
19. Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
20. Important International institutions, agencies and fora, their structure, mandate.

Paper-IV

General Studies -III 250 Marks (Technology, Economic Development, Bio-diversity, Environment, Security and Disaster Management)

1. Development, Bio diversity, Environment, Security and Disaster Management.
2. Indian Economy and issues relating to planning,

mobilization of resources, growth, development and employment.

3. Inclusive growth and issues arising from it.
4. Government Budgeting.
5. Major crops cropping patterns in various parts of the country, different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers
6. Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
7. Food processing and related industries in India- scope and significance, location, upstream and downstream requirements, supply chain management.
8. Land reforms in India.
9. Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
10. Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
11. Investment models.
12. Science and Technology- developments and their applications and effects in everyday life Achievements of Indians in science & technology; indigenization of technology and developing new technology.
13. indigenization of technology and developing new technology.
14. Awareness in the fields of IT, Space, Computers, robotics, nano-technology, bio-technology and issues relating to intellectual property rights.
15. Conservation, environmental pollution and degradation, environmental impact assessment
16. Disaster and disaster management.
17. Linkages between development and spread of extremism.

18. Role of external state and non-state actors in creating challenges to internal security.

19. Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention
20. Security challenges and their management in border areas; linkages of organized crime with terrorism
21. Various Security forces and agencies and their mandate

Paper-V

General Studies -IV 250 Marks (Ethics, Integrity and Aptitude)

1. This paper will include questions to test the candidates' attitude and approach to issues relating to integrity, probity in public life and his problem solving approach to various issues and conflicts faced by him in dealing with society. Questions may utilise the case study approach to determine these aspects. The following broad areas will be covered.
2. Ethics and Human Interface: Essence, determinants and consequences of Ethics in human actions; dimensions of ethics; ethics in private and public relationships.
3. Human Values – lessons from the lives and teachings of great leaders, reformers and administrators; role of family, society and educational institutions in inculcating values.
4. Attitude: content, structure, function; its influence and relation with thought and behaviour; moral and political attitudes; social influence and persuasion.
5. Aptitude and foundational values for Civil Service , integrity, impartiality and non-partisanship, objectivity, dedication to public service, empathy, tolerance and compassion towards the weaker-sections.
6. Emotional intelligence-concepts, and their utilities and application in administration and governance.

7. Contributions of moral thinkers and philosophers from India and world.
8. Public/Civil service values and Ethics in Public administration: Status and problems; ethical concerns and dilemmas in government and private institutions; laws, rules, regulations and conscience as sources of ethical guidance; accountability and ethical governance; strengthening of ethical and moral values in governance; ethical issues in international relations and funding; corporate governance.
9. Probity in Governance: Concept of public service; Philosophical basis of governance and probity; Information sharing and transparency in government, Right to Information, Codes of Ethics, Codes of Conduct, Citizen's
10. Charters, Work culture, Quality of service delivery, Utilization of public funds, challenges of corruption.
11. Case Studies on above issues.

Paper-VI

- Optional Subject – Paper I -250 Marks

Paper-VII

- Optional Subject – Paper II -250 Marks

Candidates may choose any ONE optional subject from amongst the list of subjects given below.

List of the Optional Subjects

The List of Optional Subjects is as follows:

(i)Agriculture

(ii) Animal Husbandry and Veterinary Science

(iii)anthropology

(iv) Botany

(v) Chemistry

(vi) Civil Engineering

(vii) Commerce and Accountancy
(viii) Economics
(ix) Electrical Engineering
(x) Geography
(xi) Geology
(xii) History
(xiii) Law
(xiv) Management
(xv) Mathematics
(xvi) Mechanical Engineering
(xvii) Medical Science
(xviii) Philosophy
(xix) Physics
(xx) Political Science and International Relations
(xxi) Psychology
(xxii) Public Administration
(xxiii) Sociology
(xxiv) Statistics
(xxv) Zoology
Literature of any one of the language such as Assamese, Bengali, Bodo, Dogri, gujarathi, Hindi,
Kannada, Kashmiri, Konkani, Maithili, Malayalam, Marathi, Oriya, Punjabi, Sanskrit,
Santhali, Sindhi, Tamil, Telugu, Urdu, English.

Interview/Personality Test – 275 Marks

Candidate can give preference of the language in which they may like to be interviewed. UPSC will make arrangement for the translators.IAS Syllabus 2017-UPSC Civil Services Main Examination Syllabus

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CONTENTS

CLASS	PHYSICS CHAPTER	CHEMISTRY CHAPTER	BIOLOGY CHAPTER
9TH	8, 9, 10, 11 & 12	1, 2, 3 & 4	5, 6, 7 & 13

CHAPTER-1-MATTER IN OUR SURROUNDINGS

1. Everything in this universe is made up of material which scientists have named “matter” which occupy space and have mass.
2. Early Indian philosophers classified matter in the form of five basic elements – the “Panch Tatva”– air, earth, fire, sky and water.
3. Modern day scientists have evolved two types of classification of matter based on their physical properties and chemical nature.
4. The particles of matter are very small – they are small beyond our imagination.
5. Particles of matter have space between them.

6. Particles of Matter are Continuously Moving.
7. With increase in temperature the kinetic energy of the particles also increases.
8. Particles of matter intermix on their own with each other by getting into the spaces between the particles.
9. Intermixing of particles of two different types of matter on their own is called diffusion.
10. On heating, diffusion becomes faster.
11. Matter around us exists in three different states– solid, liquid and gas.
12. These states of matter arise due to the variation in the characteristics of the particles of matter.

The Solid State-

- have a tendency to maintain their shape when subjected to outside force.
- break under force but it is difficult to change their shape, so they are rigid.

The Liquid State-

1. liquids have no fixed shape but have a fixed volume.
2. take up the shape of the container in which they are kept.
3. flow and change shape, so they are not rigid but can be called fluid.
4. solids, liquids and gases can diffuse into liquids.
5. The rate of diffusion of liquids is higher than that of solids.
6. This is due to the fact that in the liquid state, particles move freely and have greater space between each other as compared to particles in the solid state.

The Gaseous State-

1. highly compressible as compared to solids and liquids.
2. Due to high speed of particles and large space between them, gases show the property of diffusing very fast

into other gases.

3. On increasing the temperature of solids, the kinetic energy of the particles increases.
4. Due to the increase in kinetic energy, the particles start vibrating with greater speed.
5. The energy supplied by heat overcomes the forces of attraction between the particles.

6. The particles leave their fixed positions and start moving more freely.
7. A stage is reached when the solid melts and is converted to a liquid.
8. The temperature at which a solid melts to become a liquid at the atmospheric pressure is called its melting point.
9. The melting point of a solid is an indication of the strength of the force of attraction between its particles.
10. The process of melting, that is, change of solid state into liquid state is also known as fusion.When a solid melts, its temperature remains the same.
11. The amount of heat energy that is required to change 1 kg of a solid into liquid at atmospheric pressure at its
12. melting point is known as the latent (HIDDEN) heat of fusion.
13. The temperature at which a liquid starts boiling at the atmospheric pressure is known as its boiling point.
14. Boiling is a bulk phenomenon.
15. A change of state directly from solid to gas without changing into liquid state (or vice versa) is called sublimation.
16. solid carbon dioxide (CO 2) is stored under high pressure.
17. Solid CO2 gets converted directly to gaseous state on decrease of pressure to 1 atmosphere without coming
18. into liquid state. This is the reason that solid carbon dioxide is also known as dry ice.

19. Pressure and temperature determine the state of a substance, whether it will be solid, liquid or gas.
20. Change of a liquid into vapours at any temperature below its boiling point is called evaporation.
21. the rate of evaporation increases with an increase of surface area: evaporation is a surface phenomenon, an increase of temperature:,
22. a decrease in humidity:, an increase in wind speed: Evaporation causes cooling.

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SCIENCE-CLASS-VII

CHAPTER-1-NUTRITION IN PLANTS

1. Carbohydrates, proteins, fats, vitamins and minerals are components of food.
2. These components of food are necessary for our body and are called nutrients.
3. Nutrition is the mode of taking food by an organism and its utilisation by the body.
4. The mode of nutrition in which organisms make food themselves from simple substances is called autotrophic
5. (auto = self; trophos = nourishment) nutrition. plants are called autotrophs.
6. Animals and most other organisms take in readymade food prepared by the plants. They are called
7. heterotrophs (heteros =other).
8. the bodies of living organisms are made of tiny units called cells.
9. Cells can be seen only under the microscope.
10. Some organisms are made of only one cell.
11. The cell is enclosed by a thin outer boundary, called the cell membrane cell membrane.
12. Most cells have a distinct, centrally located spherical structure called the nucleus.
13. The nucleus is surrounded by a jelly-like substance

called cytoplasm.

14. Carbon dioxide from air is taken in through the tiny pores present on the surface of the leaves.
15. These pores are surrounded by ‘guard cells’. Such pores are called stomata.
16. The leaves have a green pigment called chlorophyll. It helps leaves to capture the energy of the sunlight. This energy is used to synthesise (prepare) food from carbon dioxide and water.
17. Since the synthesis of food occurs in the presence of sunlight, it is called photosynthesis (Photo: light; synthesis : to combine).
18. So we find that chlorophyll, sunlight, carbon dioxide and water are necessary to carry out the process of photosynthesis.
19. During photosynthesis, chlorophyll containing cells of leaves in the presence of sunlight, use carbon dioxide
20. and water to synthesize carbohydrates.
21. During the process oxygen is released.
22. The carbohydrates ultimately get converted into starch.
23. The presence of starch in leaves indicates the occurrence of photosynthesis.
24. The starch is also a carbohydrate. You often see slimy, green patches in ponds or in other stagnant water bodies.
25. These are generally formed by the growth of organisms called algae.
26. They contain chlorophyll which gives them the green colour.
27. Algae can also prepare their own food by photosynthesis.
28. The carbohydrates are made of carbon, hydrogen and oxygen.
29. These are used to synthesise other components of food.
30. proteins are nitrogenous substances which contain nitrogen.
31. Soil has certain bacteria that convert gaseous nitrogen

into a usable form and release it into the soil.
32. These soluble forms are absorbed by the plants along with water.
33. Farmers adding fertilisers rich in nitrogen to the soil.
34. In this way the plants fulfill their requirements of nitrogen along with the other constituents.
35. Plants can then synthesise components of food other than carbohydrates such as proteins and fats.
36. humans and animals such plants depend on the food produced by other plants.
37. They use the heterotrophic mode of nutrition.
38. Yellow tubular structures twining around the stem and branches of a tree? This is a plant called Cuscuta (Amarbel).
39. It does not have chlorophyll.
40. It takes readymade food from the plant
41. The plant on which it climbs is called a host.
42. Pitcher plant showing lid and pitcher
43. The apex of the leaf forms a lid which can open and close the mouth of the pitcher.
44. Inside the pitcher there are hairs which are directed downwards.
45. When an insect lands in the pitcher, the lid closes and the trapped insect gets entangled into the hair.
46. The insect is digested by the digestive juices secreted in the pitcher. Such insect-eating plants are called insectivorous plants

SAPROTROPHS

1. cotton-like threads spread on the piece of bread
2. These organisms are called fungi.
3. They have a different mode of nutrition.
4. They secrete digestive juices on the dead and decaying matter and convert it into a solution.
5. Then they absorb the nutrients from it.

6. This mode of nutrition in which organisms take in nutrients in solution form from dead and decaying matter is
7. called saprotrophic nutrition saprotrophic nutrition.
8. Plants which use saprotrophic mode of nutrition are called saprotrophs
9. Fungi also grow on pickles, leather, clothes and other articles that are left in hot and humid weather for long time
10. Some organisms live together and share shelter and nutrients. This is called symbiotic relationship. For example, certain fungi live in the roots of trees.
11. The tree provides nutrients to the fungus and, in return, receives help from it to take up water and nutrients from the soil.
12. This association is very important for the tree.
13. In organisms called lichens, a chlorophyll-containing partner, which is an alga, and a fungus live together.
14. The bacterium called Rhizobium can take atmospheric nitrogen and convert it into a soluble form.
15. But Rhizobium cannot make its own food.
16. So it lives in the roots of gram, peas, moong beans and other legumes and provides them with nitrogen.
17. Most of the pulses (dals) are obtained from leguminous plants.

CHAPTER-2-NUTRITION IN ANIMALS

1. Animal nutrition includes nutrient requirement, mode of intake of food and its utilisation in the body.
2. The components of food such as carbohydrates are complex substances.
3. These complex substances cannot be utilised as such.
4. So they are broken down into simpler substances.
5. The breakdown of complex components of food into simpler substances is called digestion.

6. Starfish feeds on animals covered by hard shells of calcium carbonate.

DIGESTION IN HUMANS

1. The food passes through a continuous canal which begins at the buccal cavity and ends at the anus. The canal can be divided into various compartments:(1) the buccal cavity, (2) food pipe oesophagus, (3)stomach, (4) small intestine , (5) large intestine ending in the rectum rectum and (6) the anus.These parts together form the alimentary canal alimentary canal (digestive tract) .
2. The digestive tract and the associated glands together constitute the digestive system.
3. The saliva breaks down the starch into sugars.
4. The swallowed food passes into the food pipe or oesophagus.
5. The stomach-widest part of the alimentary canal
6. The inner lining of the stomach secretes mucous, hydrochloric acid and digestive juices.
7. The mucous protects the lining of the stomach.
8. The acid kills many bacteria that enter along with the food and makes the medium in the stomach acidic.
9. The digestive juices break down the proteins into simpler substances
10. The small intestine-The small intestine is highly coiled and is about 7.5 metres long.
11. It receives secretions from the liver and the pancreas. Besides, its wall also secretes juices.
12. The liver is a reddish brown gland situated in the upper part of the abdomen on the right side.
13. It is the largest gland in the body.
14. It secretes bile juice that is stored in a sac called the gall bladder gall bladder.
15. The bile plays an important role in the digestion of fats.
16. The pancreas is a large cream coloured gland located

just below the stomach.

17. The pancreatic juice acts on carbohydrates and proteins and changes them into simpler forms.
18. The digested food can now pass into the blood vessels in the wall of the intestine. This process is called absorption.
19. The inner walls of the small intestine have thousands of finger-like outgrowths. These are called villi (singular villus).
20. Large intestine is wider and shorter than small intestine. about 1.5 metre in length. Its function is to absorb water and some salts from the undigested food material.
21. The remaining waste passes into the rectum and remains there as semi-solid faeces.
22. The faecal matter is removed through the anus from time-to-time. This is called egestion.

DIGESTION INGRASS-EATING ANIMALS

- Actually, they quickly swallow the grass and store it in a separate part of the stomach called rumen.

Diarrhoea

1. Sometime you may have experienced the need to pass watery stool frequently. This condition is known as diarrhoea. caused by an infection, food poisoning or indigestion.
2. very common in India, particularly among children.
3. Under severe conditions it can be fatal because of the excessive loss of water and salts from the body.
4. Diarrhoea should not be neglected.
5. Even before a doctor is consulted the patient should be given plenty of boiled and cooled water with a pinch
6. of salt and sugar dissolved in it. This is called Oral Rehydration Solution (ORS).

7. Food partially digested and is called cud.
8. But later the cud returns to the mouth in small lumps and the animal chews it.This process is called rumination and these animals are called ruminants.
9. The grass is rich in cellulose, a type of carbohydrate.
10. Many animals, including humans, cannot digest cellulose.
11. Ruminants have a large sac-like structure between the small intestine and large intestine.

FEEDING AND DIGESTION IN AMOEBA

1. Amoeba is a microscopic single-celled organism found in pond water.
2. Amoeba has a cell membrane, a rounded, dense nucleus and many small bubble-like vacuoles in its cytoplasm.
3. Amoeba constantly changes its shape and position.
4. It pushes out one, or more finger-like projections, called pseudopodia or false feet for movement and capture of food.
5. Amoeba feeds on some microscopic organisms.
6. When it senses food, it pushes out pseudopodia around the food particle and engulfs it.
7. The food becomes trapped in a food vacuole.
8. Digestive juices are secreted into the food vacuole.
9. They act on the food and break it down into simpler substances.
10. Gradually the digested food is absorbed.
11. The absorbed substances are used for growth, maintenance and multiplication.
12. The undigested residue of the food is expelled outside by the vacuole.
13. The basic process of digestion of food and release of energy is the same in all animals.
14. In a later chapter you will learn about the transport of food absorbed by the intestine to the various parts

of the body.

CHAPTER-4-HEAT

1. Our sense of touch is not always a reliable guide to the degree of hotness of an object.
2. Temperature is a measure of the degree of hotness of an object.
3. Thermometer is a device used for measuring temperatures.
4. Clinical thermometer is used to measure our body temperature. The range of this thermometer is from 35°C to 42°C. For other purposes, we use the laboratory thermometers. The range of these thermometers is usually from –10°C to 110°C.
5. The normal temperature of the human body is 37°C.
6. The heat flows from a body at a higher temperature to a body at a lower temperature.
7. There are three ways in which heat can flow from one object to another. These are conduction, convection and radiation.
8. In solids, generally, the heat is transferred by conduction. In liquids and gases the heat is transferred by convection. No medium is required for transfer of heat by radiation.
9. The materials which allow heat to pass through them easily are conductors of heat.
10. The materials which do not allow heat to pass through them easily are called insulators.
11. Dark-coloured objects absorb radiation better than the light-coloured objects. That is the reason we feel more comfortable in light-coloured clothes in the summer.


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