AZƏRBAYCAN RESPUBLİKASI TƏHSİL NAZİRLİYİ

BAKI DÖVLƏT UNİVERSİTETİ

Bakalavr pilləsi üçün
050104 “Fizika müəllimliyi” ixtisası üzrə
“Xarici dil” (İngilis dili) fənninin

P R O Q R A M I

Bakı – 2019

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Bakı – 2019

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İzahat vərəqi

Azərbaycan Respublikası müstəqil dövlət olaraq ölkəmizdə təhsilin inkişafı istiqamətində bir sıra islahatlar keçirmişdir. Dünya xalqları ilə ünsiyyət vasitəsi kimi qlobal dil səviyyəsinə çatan ingilis dilinin tədrisi, bu dildə danışan mütəxəssislərin hazırlanması, ayrı-ayrı elm sahələrində ingilis dilində sahə terminologiyasının tədrisi və mənimsənilməsi vacib problemlərdən oldu. Həllini gözləyən önəmli məsələlərdən biri də ingilis dilində müxtəlif elm sahələri ilə bağlı nəzəri ədəbiyyatın, müasir standartlara uyğun praktik dərsliklərin, dərs vəsaitlərinin, metodik vəsaitlərin hazırlanması idi. İngilis dilinin uğurlu tədrisi üçün çalışan və bu sahədə uğurlu nəticələr əldə etmiş BDU-nun təbiət fakültələri üzrə İngilis dili kafedrası əksər fakültələr üçün müxtəlif səpkili materialları hazırlayıb, çap etdirmiş və onları tələbə və müəllimlərin istifadəsinə vermişdir. İngilis dili fənninin ixtisaslar üzrə tədrisini daha effektli etmək üçün bütün təbiət fakültələrində ayrı-ayrı ixtisaslar üzrə bir sıra dərs vəsaiti və metodik vəsaitlər çap etdirilmişdir. Bu proqram da fizika fakültəsində tədris olunan "Physics" dərs vəsaitinə əsaslanaraq hazırlanmışdır.

Yeni dil nümunələrinin öyrənilməsində aşağıdakı mərhələləri nəzərə almaq vacibdir:

1. Şifahi qavrama və onun ilkin təkrarı (ilkin nitq bacarığının inkişafı).

2. Dil nümunələrinin nitqdə avtomatlaşması üçün çalışmaların yerinə yetirilməsi.

3. Nitqdə onların təkbaşına və sərbəst işlədilməsi.

“İngilis dili” fənninin tədris olunmasında **əsas məqsəd** tələbələrə tələffüz bacarığı, oxu və danışıq qabiliyyəti, eləcə də yazı vərdişləri aşılanması, onları dildən kommunikativ, elmi və təcrübi surətdə istifadə etmək bacarığı və sistemli biliklərə yiyələndirməkdir.

Fənnin **vəzifəsi** tələbələrin dil vərdişlərini möhkəmləndirməklə İngiliscə danışmaq qabiliyyəti yaratmağa yönəlmişdir. Oxu üçün seçilmiş mətnlər üzərində aparılan iş bir tərəfdən lüğət ehtiyatının zənginləşdirilməsinə, digər tərəfdən isə mətnlərin çətinlik dərəcəsini artırmaqla onların dərkini tədricən asanlaşdırmağa xidmət edir.

Fənnin tədrisi ilə bağlı tələbələr **bilməlidir**:

- ingilis dilində sərbəst danışmalı;
- fikirlərini müstəqil şəkildə izah edə bilməli;
- seçdikləri konkret sahələr üzrə müstəqil söhbət aparmalı (fizika terminlərini öz təyinatları üzrə işlətməyi bacarmalı);
- fizikayönümlü ixtisas ədəbiyyatlarını sərbəst başa düşməli

Bacarmalıdır:

- tələbələr üçün dörd vərdiş formasını inkişaf etdirmək (oxumaq, yazmaq, danışmaq və dinləmək);
- tələbələrə müxtəlif növ yazı forması və üsullarını (çap və ya kalliqrafik) aşılamaq;
- tələbələrə qrup və cütlük şəklində işləməyi öyrətmək;
- debat və ya konkret rol ifa edən oyunlarda tələbələrin iştirakını və kütləviliyini təmin etmək

Yiyələnməlidir:

- fizika ixtisas kursunun mənimsənilməsi prosesində alınan bilikləri müstəqil şəkildə, lazımi səviyyədə tətbiq etməyi;

Fənnin tədris planında yeri: 050104 “Fizika müəllimliyi” ixtisasında --- “Xarici dil” (İngilis dili)

fənninin tədrisi nəzərdə tutulur. Bu fənnin mənimsənilməsinə 6 kredit, yəni 90 saat (məşğələ) ayrılmışdır. Qarşıya qoyulmuş bütün məqsədlərə tam şəkildə nail olmaq üçün proqramda yeni interaktiv tədris üsulları – radio, televiziya, kompyüter və digər elektron texnikası vasitələrinin istifadəsilə yanaşı, ingilis dilinin tədrisində ənənəvi tədris üsullarından istifadə etmək də nəzərdə tutulur.

Mövzunun saatlar üzrə bölgüsü

№	Mövzuların adı	Dərsin növü	saat	Qeyd
1	**Kinematics p.I**	Məşğələ	2	
2	**Kinematics p.II**	**“----“**	2	
3	**The Metric system**	**“----“**	2	
4	**Kinematics of Cosmic Motion p.I**	**“----“**	2	
5	**Kinematics of Cosmic Motion p.II**	**“----“**	2	
6	**Measuring Temperature**	**“----“**	2	
7	**Acceleration p.I**	**“----“**	2	
8	**Acceleration p.II**	**“----“**	2	
9	**Albert Einstein**	**“----“**	2	
10	**Dynamics**	**“----“**	2	
11	**The law of Inertia**	**“----“**	2	
12	**Our Star-The Sun**	**“----“**	2	
13	**Inertial Reference System p.I**	**“----“**	2	
14	**Inertial Reference System p.II**	**“----“**	2	
15	**Test yourself**	**“----“**	2	
16	**Displacement**	**“----“**	2	
17	**Forces of Pressure p.I**	**“----“**	2	

18	**Forces of Pressure p.II**	**“----“**	2	
19	**Length**	**“----“**	2	
20	**Free Fall of bodies p.I**	**“----“**	2	
21	**Free Fall of bodies p.II**	**“----“**	2	
22	**Radio in Astronomy**	**“----“**	2	
23	**Mass of a body p.I**	**“----“**	2	
24	**Mass of body p.II**	**“----“**	2	
25	**Forces p.I**	**“----“**	2	
26	**Forces p.II**	**“----“**	2	
27	**Speed**	**“----“**	2	
28	**Galileo’s Principle of Relativity p.I**	**“----“**	2	
29	**Galileo’s Principle of Relativity p.II**	**“----“**	2	
30	**Test yourself**	**“----“**	2	
31	**Temperature**	**“----“**	2	
32	**The Fixed Points**	**“----“**	2	
33	**Energy p.I**	**“----“**	2	
34	**Energy p.II**	**“----“**	2	
35	**Great Russian Scientists of the Past**	**“----“**	2	
36	**Test yourself**	**“----“**	2	
37	**Statics p.I**	**“----“**	2	
38	**Statics p.İİ**	**“----“**	2	
39	**Time**	**“----“**	2	
40	**Origin of Deformations p.I**	**“----“**	2	
41	**Origin of Deformation p.İİ**	**“----“**	2	
42	**Heat Gained and Heat Lost**	**“----“**	2	
43	**Experiment**	**“----“**	2	
44	**Specimen Results**	**“----“**	2	
45	**Test yourself**	**“----“**	2	

Mövzular və onların məzmunu

1. KINEMATICS. Part I

(*Frequently used word combinations covering the topic)*

a mechanical motion of a body; relative to other bodies; everyday life;to observe people walking; the motion of the air; all physical phenomena; the branch of physics; to build various machines; for military purposes; with the study of physics; bodies are at rest; the condition of equilibrium

2. KINEMATICS. Part II

(*Frequently used word combinations covering the topic)*

to be brought into motion; a property of material bodies; with respect to diferent bodies; to be known as the reference system; to describe various motion; the branch of mechanics; to be called kinematics; the relativity of motion; to be known as the reference system; the selection of any system

3. METRIC SYSTEM OF WEIGHTS AND MEASURES

(to paraphrase the topic)

Mr. Hall delivers lectures to the students at the same college. He delivers lectures three times a week: on Monday, Wednesday, and Friday. Mr. Hall is a very accurate man. He always begins his lectures in time.

Today is the 5^{th} of September, Monday. His lecture is about measurements. Mr. Hall illustrates his lectures with numerous examples, diagrams and experiments. He says: “In scientific work we usually measure in units of the metric system. The metric or decimal system is the international system of length

and weight which is based on the meter and kilogramme. The metric unit of length is the meter. The meter is based on the wave-length of orange-red light which is given off by the element Krypton 86, and is measured with great accuracy in scientific laboratories all over the world.

The meter is divided into 100 centimeters and each centimeter into 10 millimeters.

The unit of mass, the gram, is defined as the mass of a cubic centimeter (cu. cm.) of pure water at the temperature of maximum density (4 degrees Centigrade).

4. KINEMATICS OF COSMIC MOTIONS . Part I

(Frequenly used word combinations covering the topic)

To decribe the motion; to be necessary to measure the distance; along its trajectory; be out of the question; in studying the motion of a spaceship or cosmic bodies; to measure the distance to a spaceship; to locate its position; to send signals to space; a great deal of radio signals; to be observed through a telescope; an important quantitative difference; to be estimated as an enormous distance in space; to travel from moving body to an observer; the observation of an event.

5. KINEMATICS OF KOSMIC MOTIONS. Part II

(Frequently used word combinations covering the topic)

to send a powerful signal in the required direction; the appearance of a target; to be trapped by the radar receiver; the

velocity of the target; the velocity of the light; the light coming from a great distance; with respect to the moment; in observing eclipse; propagation of light or radiowaves; to be obvious in studying the motion of cosmic bodies; the farther body the more important is the veocity.

6. MEASURING TEMPERATURE

(Paraphrase the topic)

On the Centigrade scale the boiling point of water is fixed at 1000 (one hundred degrees), its freezing point is at 0 (zero). The equivalent points on the Fahrenheit scale at 212 and 320.

When it is necessary to convert temperature readings from the Fahrenheit to the Centigrade we subtract 32 and multiply by 5/9

Sometimes scientists use the Absolute Scale in which the temperature is measured in degrees Centigrade from the point at which molecular motion cases. Absolute zero is -273 °C.

7. ACCELERATION. Part I

(Frequently used word combinations covering the topic)

the instantaneous velocity of a moving body; if the velocity decreases; in various non-uniform motion; the velocity can change differently; when goods train starts from a station; on the main track; the movement may be accelerated; to approach the next station; the motion is retarded; the speed of passenger train; the velocity of a bullet; when the bullet hits a target; the

velocity drops very rapidly to zero; velocity grows at first slowly and then faster; by the same magnitude

8. ACCELERATION. Part II

(Frequently used word combinations covering the topic)

during any equal intervals of time; such kind of motion; as uniformly accelerated one; a ball beginning to roll down; to fall freely to the ground; a uniformly accelerated motion ; be violated by friction; the resistance of the air; to incline on the surface; the velocity of the ball; the change in the velocity; an accelerated motion; can be characterized; from a quantitative point of view; any negative acceleration; a retarded motion; by the same amount; a body thrown vertically upward; as the ratio of the change; to become zero; to move its trajectory in the reverse direction; the acceleration can be positive and negative

9. ALBERT EINSTEIN

(To paraphrase the topic)

“See what I have for you, my boy. A mysterious box with a magic needle. Let’s turn the box. Look! Still the needle points only this way”.

Albert took the box and turned it one way then the other. The needle always returned gently and pointed in the same direction as before.

“Papa, what makes the needle always point one and the same way?” the boy asked.

"Well, you won't understand that. The magnetism of the Earth pulls it back".

Albert took the compass to bed with him. It occupied all his thoughts for hours. His curiosity grew. He wanted to know more.

Albert Einstein was born in Germany on March 14, 1879. His unusual ability to mathematics and physics began to show itself at a technical school in Zuric.....

10. DYNAMICS

(Frequently used word combinations covering the topic)

the branch of physics; causes of motion of bodies; be known as Dynamics; to look absolutely different; with respect to different reference systems; if a train sharply stopped; suitcases will fly off the racks; if train moves uniformly and rectilinearly; the causes of motion; a motion may appear without any visible causes; study of dynamics; with selecting a reference system; a motion may show that; with respect to the Earth; for instance.

11. THE LAW OF INERTIA

(Frequently used word combinations covering the topic)

The observations and experience show that; to change their velocity in magnitude or direction; acted upon by other bodies; to remain at rest; it is practically impossible; any given body; to move without acceleration; any combined action; the first

comprehensive experiments; all the surrounding bodies; to establish following fundamental law; according to this law; to move with acceleration relative to the Earth; the property of bodies; to change under the action of other bodies; the law of inertia; to retain the velocity;

12. OUR STAR – THE SUN

(Frequently used word combinations covering the topic)

Nine planets; in the Solar system; look through the window; the first ray of the Sun lights; the vast space; a mass of flaming matter; at the surface; the Sun's center; the Sun's diameter; the illumination of the Earth; 330,000 times greater; the brightest star of the northern hemisphere; their satellites; revolve round the Sun; force of universal gravitation; it takes our Earth 365 days; the most important body; for mankind; it provides us; the reflected sunlight.

13. INERTIAL REFERENCE SYSTEM. Part I

(Frequently used word combinations covering the topic)

To be complied with; be called inertial systems; to be estimated; a train running at a constant speed over straight track; with respect to the train; under the action of other bodies; to; to remain in place; until somebody moves it;when stating on the ground; in general; any reference system moving translationally; all the accelerations of bodies; this means that; a body not acted upon by others; to move without system

moves translationally relative to the Earth; if a reference system moves translationally relative to an inertial system;

14. INERTIAL REFERENCE SYSTEM. Part II

(Frequently used word combinations covering the topic)

Having an acceleration or rotating; it cannot be an inertial one; a body can be accelerated with respect to such a system; when no other bodies act upon it; a body at rest; relative to a train slowing down or negotiating curve; no other bodies cause this acceleration; it should be noted that; be conducted with a certain degree of accuracy; more precise measurements prove that; may be regarded as an inertial system; violations of the law of inertia; the system related to the Sun; to rotate about its axış; nevertheless; the violations of the law of inertia; as a system of reference; to be used everywhere;

15. TEST YOURSELF

(on the basis of materials you have already past)

16. DISPLACEMENT

(Paraphrase the topic)

For straight-line, or linear, motion, it is convenient to specify position using the familiar Cartesian coordinate system with x and y axes at right angles. The straignt-line path may be in any direction, but for simplicity we usually choose to orient the coordinate axes so that the motion is along one of them. We define displacement as the straight-line distance between two points, along with the direction. Hence, displacement is a vector quantity with both magnitude and direction from the

initial position to the final position. A linear displacement, say along the x axis, is given by.

17. FORCES OF PRESSURE. Part I

(Frequently used word combinations covering the topic)

Everyday experience; liquids may exert certain forces; on the surface of solid bodies; in close contact with them; be known as the forces of pressure of liquid; to close an open faucet with our finger; to feel the pressure exerted by the liquid; the pain is smb´s ears felt by swimmer; a person diving to a certain (considerable) depth; be much stronger than that of an ordinary ship; balancing the force of gravity; to retain the remaining part in equilibrium; be equal to the forces of pressure;

18. FORCES OF PRESSURE. Part II

(Frequently used word combinations covering the topic)

The removed part of the liquid; on the remaining part; the forces acting in direct contact between bodies; the result of deformation of the bodies; some solid bodies; when a body changes its shape or volume; such forces may appear in any liquid; if they change their shape; the mobility of a liquid; due to the absence of elasticity; when the volume is changed; liquids should have necessary elasticity with respect to a change in their volume.

19. LENGTH

(Paraphrase the topic)

Length is the base quantity used to measure distances or dimensions in space. We commonly say that length is the distance between two points. But the distance between any two points depends on how space is traversed, which may be in a straight or a curved line.

The SI unit of length is the meter. The meter was originally defined as 1/10,000,000 of the distance from the North Pole to the Equator along a meridian running through Paris. A portion of this meridian between Denmark, France, and Barcelona, Spain, was surveyed to establish the standard length, which was assigned the name metre (from the Greek word metron, meaning " a measure"; the American spelling is meter).A meter is 39.37 inches-slightly longer than a yard.

20. FREE FALL OF BODIES. Part 1

(Frequently used word combinations covering the topic)

Free fall of bodies; a sheet of paper; to be dropped simultaneously from the same height; to reach the ground before the sheet; from such observations; to be accepted as a correct one in science; for almost two thousands years; the resistance of the air; the true law of falling under the action; the force of gravity; to be distorted by the resistance of the air; it depends mainly on the size of the falling body; the force of terrestrial attraction; all bodies fall with the same acceleration; irrespective of their dimensions; the conclusion is confirmed by an experiment with a tube; all the air has been pumped out.

21. FREE FALL OF BODIES. Part II

(Frequently used word combinations covering the topic)

An atmospheric air in the tube; at the same time; for this purpose; if the air is evacuated from the tube; to fall with the same acceleration; the resistance of the air; to be so small; a free fall; to be never strictly constant; if a body is dropped; from a small height above the Earth; a change in the height of the body; to be very small as compared with the radius of the Earth; to be constant for practical purposes; in ordinary conditions may remain constant; with all possible accuracy; at a given place; with the same constant acceleration; in contrast to acceleration; at different latitudes; the Earth is not strictly spherical; daily rotation of the Earth.

22. RADIO IN ASTRONOMY

(Frequently used word combinations covering the topic)

The optical telescope; exploration of space; most of the information; other galaxies; through the radio-telescope; an astronomical device; more efficient means; in the last century; much greater than; optical astronomy; more information of; technical means; the observation of artificial satellites; be quite impossible; the development of radio; in the discovery; giant radio-telescopes; the voices of the star; to reach us; it has been proved; emits radio-waves; radio-waves from the Sun; to practical use; an instrument called a radio sextant.

23. MASS OF A BODY. Part 1

(Frequently used word combinations covering the topic)

Mass of a body; for a given body; by a certain force; to be proportional to any force; to compare accelerations; a number of different bodies; the acceleration depending on the force applied; on the kind of the body; by measuring the acceleration; under the action of same force; the inertia of diferent bodies; the acceleration caused by a given force; made of the same material; the greater is the volume of the body; being inversely proportional to the volume; if experiments are conducted with bodies with identical volumes; be accelerated differently; under the action of the same force; to obtain the same acceleration; the volume of an aluminium; in turn; to be determined directly; by a given force.

24. MASS OF A BODY. Part II

(Frequently used word combinations covering the topic)

The measure of inertia of a body; to be denoted by the letter "M"; the mass of a body; any characteristic physical property; to show the relationship between the forces; the mass of a body; as the ratio of the force; this formula can be used to find the mass of a body; if we act on it with a force "F"; to measure the acceleration; the same value; be obtained for a given body; whatever the force exerted on it; this method of measuring the mass; can be used in experiments; to find the mass of a body; composed of several other bodies; the masses of several bodies; all these bodies; to be combined into a single one; by

linking them together; to receive the same acceleration; under the action of the forces; the sum of the masses of the separate parts; be equal to the mass of the original body; a homogeneous body of a mass; to be divided into N parts; equal in volume; the mass of each part; different bodies with an equal masses; the same tension of the spring; a dynamic experiment.

25. FORCES. Part 1

(Frequently used word combinations covering the topic)

The actions of bodies; to produce an acceleration; to be known as forces; can be divided into two principal types; the forces acting upon direct contact; to act irrespective of whether the bodies are in contact or not; the forces that can act from a distance; one body to act on another in direct contact; the first body should be in a special state; an arm act on a ball; the muscles should be contracted; to act on the cork of a toy pistol; the air or the spring should be compressed; to be the changes in the shape or volume of bodies; in comparison with their initial state; such changes are called deformation or strains.

26. FORCES. Part 2

Frequently used word combinations covering the topic)

A body with such changes is said to be deformed; to be in a deformed state; to act on contacting bodies; the deformation can be vanished; such kinds of forces are called elastic ones; besides elastic forces; some forces of friction; many also

appear in direct contact; a railway car; a wheel tyre; the force of friction acting on a body, moving in a viscous liquid; the resistance of the medium; the interaction of bodies; to be not so obvious; the forces acting from a distance for elastic ones; the most important example of forces acting from a distance; a force of universal gravitation; as a particular case; the force of terrestrial attraction.

27. SPEED

(Frequently used word combinations covering the topic)

in motion; its position; changes with time; a certain distance; in a given time; important quantities; in describing motion; a pedestrian moving; down a street; travelling a distance; to travel faster; to cover the distance; in a shorter time; can be expressed; average speed; by the total time; is used for distance; the actual path; standard unit; everyday applications; scalar quantity; to be in a straight line; the average speed.

28. GALILEO'S PRINCIPLE OF RELATIVITY. Part 1

(Frequently used word combinations covering the topic)

To conduct various experiment; a railway carriage moving uniformly; over a straight track; when the train stops; one may assume that the train moves without any jolts; you can't say that the train is in motion or at standstill; suppose that the passenger kicks a ball lying on the floor of the carriage; kick a ball lying on the ground; may acquire the same velocity; according to each own system of reference; in the same way; to follow the same law; to fall from a branch of a tree into the

ground; to perform any mechanical experiments in a carriage; to be able to find out.

29. GALILEO'S PRINCIPLE OF RELATIVITY. Part 2

(Frequently used word combinations covering the topic)

All such experiments and observations; bodies may exert the same action; all inertial systems; to be absolutely equal with respect to the causes of acceleration; he was the first to establish this principle; for this reason; it was named the principle of relativity; when dealing with the velocity of anybody; it is necessary to specify the inertial reference system; even if; to be acted upon by any others; on the other hand; the acceleration of the body; to be the same relative to all inertial reference systems; a given body may have a zero; as it moves around the Sun; if a passenger kicks a ball; for instance; with respect to the train.

30. TEST YOURSELF

(on the basis of materials you have already past)

31. TEMPERATURE

(Frequently used word combinations covering the topic)

By our of touch; always reliable; on a cork mat; a sheet of metal; cooler than the cork; be quite wrong; at the same temperature; in the same room for a long time; like the above sheet; is a good conductor of heat; on the other hand; a very bad conductor; placed on the cork mat; leaving the foot warm;

degree of hotness; the instrument which measures; is a thermometer.

32. THE FİXED POİNTS

(Frequently used word combinations covering the topic)

Marked on the thermometer; complete our scale by dividing the space; an agreed number of divisions; special temperatures; the fixed points; can be found very easily; remain the same; the lower fixed point; pure water; the upper fixed points; under standart atmosphere pressure; quite accurately; very simple apparatus; by placing the bulb; in melting ice.

33. ENERGY. Part I

(Frequently used word combinations covering the topic)

Some simple appliances; to be capable of perfoming work; to store any work; on one end of the point; to accumulate the ability to perform work; to give something away; a typical example; a clock worked by weights; a work is performed when the weight is raised; to allow the clock to do any work during a long time; to keep something in motion; the motion is resisted by friction; the weight.

34. ENERGY. Part II

(Frequently used word combinations covering the topic)

Gradually lowers; the store of work; capacity of the mechanism; the deformed body ; the ability to perform work;

for instance; the spring of a watch; the spring motor of toys; when a velocity is imparted to a body; in all these cases; when the state of the body changes; when a weight is lowered; when work is done on a body; a store of work; can subsequently be used; when the body is returned to its initial state.

35. GREAT RUSSİAN SCİENTİSTS OF THE PAST

(Frequently used word combinations covering the topic)

A lot of talented people; giants of thought; a number of physics; different technical sciences; invented and constructed his steam-engine; the electric engineer; is known in technique; for lighting purposes; outstanding discoveries in the field of electricity; the first electromagnetic telegraph; a real revolution in mathematics; the technique of galvanoplastics; the first electric motor boat; in the field of electromagnetism; periodic table of chemical elements; the outstanding physicist; the inventor of the electric candle; the first incandescent lamp; tungsten filaments; the pressure of light.

36.TEST YOURSELF

(on the basis of materials you have already past)

37. STATİCS . Part I

(Frequently used word combinations covering the topic)

A body rest; be simultaneously acted upon by two forces; equal in magnitude; directed along one straight line; may remain at rest; the conditions of rest of a body; subjected to the action of forces; may sometimes be more complicated; the task of static´s; the conditions of equilibrium of bodies; in other words; in this manner; to determine first of all the conditions of equilibrium; of the great variety of structures; such as.

38. STATİCS. Part II

(Frequently used word combinations covering the topic)

Practical performance of statics; to give answer to some problems; relating to the motion of bodies; a weight acted upon by the force of gravity; to be attached to one end of a rope passed over a pulley; using the methods of statics; we can find the force F; to be applied to the other end of the rope; more than the conditions; for this purpose; to be applied to the other end of the rope; not only the conditions of equilibrium of bodies; from the very beginning; as a branch of mechanics; to give answer to the simplest questions; on the motion of bodies.

39. TIME

(Frequently used word combinations covering the topic)

A time scale; must be based on; the regular rotation of the Earth; setting on the sun; the passage of a star; across the true north-south line; our time unit; is subdivided into; successive transits; as a sidereal day; standard clocks; of great importance; the division of the day; by means of clocks; use of the rate; through a hole; burning of a candle; oscillating system.

40. ORIGIN OF DEFORMATIONS. Part 1

(Frequently used word combinations covering the topic)

To know the elastic forces; to appear between bodies; to act on a cart with a certain force; the locomotive pushing a wagon; the forces of elasticity to be determined by the magnitude of the deformation; to grow in proportion to it; to deal with the origin of deformations; when we know the laws of motion; different parts of a body may move differently; to move in the same way; to retain its initial shape.

41. ORIGIN OF DEFORMATIONS. Part 2

(Frequently used word combinations covering the topic)

To be deformed; to take a soft eraser and press on it with a finger; the upper layers of the eraser; the bottom layer lying on the table remains stationary; to have a contact with a more rigid surface; different parts of the eraser can change its shape; a deformed eraser may act on bodies; in contact with a certain

force; the pressure of the eraser; to regain original shape; on the contacting bodies; to depend on the amount of the deformation; to recover its undeformed state; the action of the force; the shape of the body.

42. HEAT GAINED AND HEAT LOST

(Frequently used word combinations covering the topic)

The definition of the calorie; the temperature of 1 gm. of water; to raise the temperature of some water; is given; by the product of the mass of the water; its rise in temperature; the heat lost; when water cools; mass of the water; fall in temperature; to find the effect; different masses of water; at different temperatures; we shall now consider; similarly we can say that; heat gained by water.

43. EXPERIMENT

(Toparaphrase the topic)

Heat 40 gm. of water in a beaker to about 500 C. In a second beaker place 60 gm. of water which will be at room temperature. Note each temperature carefully. Quickly pour the hot water into the cold water. Stir with the thermometer and quickly note the maximum temperature.

44. SPECIMEN RESULTS

(Toparaphrase the topic)

Weight of hot water – 40 gm.

Weight of cold water – 60 gm.

Temperature of hot water - 50°C.

Temperature of cold water- 15°C.

Fall in temperature of cold water- (50-28) deg.C = 22 deg.C.

Rise in temperature of cold water- (28-15) deg.C = 13 deg.C…

45. TEST YOURSELF

(on the basis of materials you have already past)

Sərbəst işlərin mövzuları

1. Agriculture
2. Amundsen
3. Alps
4. Antiseptics
5. Anaesthetic
6. Sleep
7. Memory
8. Smoke
9. Africa
10. Microscope
11. Milk
12. Matches
13. Merchant Ships
14. Mercury
15. Metals
16. Meteors
17. Mexico
18. Middle Ages
19. Snow
20. Soap

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