The AUTOMOBILE

Can You Answer These Questions?

An automobile expert says: "If you are the owner of a motor car and cannot answer the questions listed below, it will pay you to get the information, as in all probability, knowing the answers will save you a great deal of annoyance, time and money."

Number of points of lubrication on your car?

Give at least three reasons for overheating of engine?

Gas and oil consumption per mile?

Road speed in miles per hour at which engine will perform most efficiently and economically?

Firing order of cylinders?

On average road, driving speed of twenty-five miles per hour, what distance is required to bring your car to a dead stop?

Driving in high speed on a level road, what is the lapse of time in seconds to accelerate from five to twenty-five miles per hour?

How many gallons of water are required to fill the cooling system of your car?

Worth Re-Telling and Remembering.

"Why do you turn out for every road hog that comes along?" said the missus, rather crossly. "The right of way is ours, isn't it?"

"Oh, undoubtedly!" answered he, calmly. "As for our turning out, the reason is plainly suggested in this epitaph which appeared in a newspaper recently:

"Here lies the body of William Jay,
Who died maintaining his right of way;
He was right, dead right, as he sped along,
But he's just as dead as if he'd been wrong."

Rules for Truck Users to Lengthen Tire Life.

Here is a set of rules for truck drivers on the care of solid and pneumatic truck tires, formulated by the technical department of a leading tire company for the benefit of truck owners:

1. All truck tires have a load limit. Constant slight or occasional heavy overloads shorten tire life.

2. Distribute the load in the truck body so each tire will bear its proportionate share of the weight carried.

3. Overspeeding a tire has the same harmful effect as overloading. Keep truck speed within prescribed limits.

4. Know—don't guess—your inflation pressure. Proper inflation pressure is as important as proper loads and speeds.

5. Tires are limited in shock-absorbing power. Careful, slow driving on rough or rutty roads will reduce tire costs.

6. Check your wheel alignment. Tires cannot give full service if subjected to the diagonal grind resulting from improper mounting or from misaligned wheels.

7. Use chains only as long as the traction wheels are likely to slip and apply them loosely.

8. Tires, especially pneumatics, are cut or scraped occasionally by bent fenders or loaded truck built bodies when the loaded truck travels over rough places. Carefully watch the clearance of your tires.

9. Neglected cuts lower tire mileage. Trim off loose slivers from the solid tires. Mend the small and repair the large cuts in pneumatics without delay.

10. Turn corners slowly to prevent tire strains. Apply power and brakes gradually to avoid useless spinning or locking of the wheels. Equalize the brake adjustment. These are common and avoidable tire abuses.

11. Running in car tracks causes tires to break down early. Avoid car tracks.

12. Learn the correct method of applying and dismounting pneumatic truck tires. Flap and tube should fit properly in casing and casing fit properly on a dented, rusty or dirty rim.

13. To avoid unnecessary strain on pneumatic, or flat spots on solids, lift the truck weight from the tires when the truck is to be idle any considerable length of time.

Universal Joints.

There are hundreds of moving parts on an automobile or motor truck but none works so hard and so efficiently as a universal joint. Such a joint is necessary on the propeller shaft extending from the clutch to transmission and from the transmission to the rear axle, as the case may be. Universal joints are known to operate at over 98 per cent. efficiency, which cannot be said of any other part of an automobile doing such strenuous work.

The universal joint, as its name indicates, allows for free or universal movement of the propeller shaft. It is like your thumb, which you can wiggle in all directions. A universal joint takes the power of the engine and transmits it to the propeller shaft, at the same time this joint may be constantly moving first in one direction, then another, but usually it moves up and down, because the rear axle keeps moving up and down over the road. The propeller shaft angularity varies according to the relative movement of the rear axle, and were it not for the use of universal joints the shafts would bend or break, and hence could not transmit power.

Every automobile uses universal joints on the propeller shaft. The one in general use is an all-metal joint, and the only care which this hard-working part receives is a little grease twice each year. It is remarkable how this part stands up even when owners forget it. Most owners do not know what a universal joint looks like, because it never gives any trouble; but the wise owner will not allow joints to go without grease.

Grease is easily injected through the filler opening by means of a suitable grease run. The joint should not be filled completely—one-third full is sufficient.

—and the worst is yet to come

How Fish Express Their Emotions

Many quaint ideas were held by the ancients with respect to fishes and there are innumerable legends illustrating their habits. According to them, they held converse with man, and not infrequently aided him in his daily occupations, thus showing that they possessed nearly all the attributes of human beings, though in a lesser degree. It has been demonstrated that fishes and the higher land animals are largely swayed by the same emotions and give rational expression to them.

Fishes erect their scales or fin rays when under the influence of anger or terror, exactly as feathers or hairs are erected in birds and animals. As fishes have eyes without movable eyelids and cheeks encased with bony plates or covered with hard scales, which are hardly suitable for smiling, one cannot expect to find facial expressions, as of joy, pain, and astonishment, so well marked as in some of the higher animals. Recent demonstrations, however, have shown change of color to be one of the best indexes to the emotions.

When the fish is sick its color is apt to be faint, as when in health, anger, or breeding, the colors stand out brightly and vividly. Among the best examples of the effect of the emotions on color are the parrotfish and stickleback. These species have violent tempers and appear to be always carrying imaginary chips on their shoulders. During the breeding season combats between the males are exceedingly common. When fighting their Joseph coats stand out with amazing brilliancy, but after the combat is over the defeated one, with colors faded, hides his disgrace among his more pacific companions. Even then he is not left in peace, as the victor seems to take delight in persecuting him in many ways.

Fishes are charged with being voiceless, but nothing could be further from the truth, since there are more than three hundred species that are known to produce sound. The Sciaenidæ are probably the best examples of the falsity of this notion, for they emit noises that may be heard from a depth of twenty fathoms. It has been suggested that the story of the songs of the sirens originated in the utterances of these fishes travelling in schools.

When captured the scad, or horse-mackerel, the globefish, the grunt, the pigfish and the hogfish make sounds resembling the grunting of pigs, while one of the best known fishes on the Atlantic seaboard, the croaker, gets its name from the croak it gives when caught. Carp also croak when taken out of the water.

Formerly it was believed that fishes could not hear, as they have no ears, but anatomists have proved that they have internal organs of hearing. In Sweden the church bells are not rung during the bream season lest the fish take flight and desert the region. During the pilchard fishery the people are no less careful of their sensitiveness to sound.

In contrast to the poorly developed sense of taste in fishes is their acute sense of smell, as evidenced by the selection they make in their food.

PRAIRIE PROVINCES WELL TIMBERED

ONLY SOUTHERN SECTION IS TREELESS.

Forests of the West Will Form a Substantial Source of Revenue in the Future.

It seems a contradiction in terms to speak of timber or the lumber industry in regard to Manitoba, Saskatchewan and Alberta, that vast territory so widely known as the prairie provinces. But it is the term which is at fault for the appellation is a misnomer and only the southern section of these provinces, that area first penetrated and settled, can strictly be called prairie, and even so this apparently treeless vast is relieved by general clumps of brush, by the wooded banks of river and stream, and by the density of forestation on its rocky eminences. When the northern boundary of this prairie expanse is passed, a fine luxuriant parkland is pierced with bush, at first light and scattered, but becoming thicker and denser as progress is made northwards. Finally, in the north, heavy woods and swamps are encountered containing much merchantable timber and pulpwood.

With the vast stands of merchantable timber in other provinces existing in close contiguity to the railroads and other transportation means, and with the comparatively recent settlement of the western provinces and the almost exclusive attention paid to agriculture and its many phases, not a great deal of attention has been paid to timber in the west, excluding, of course, British Columbia, where the industry is of prime importance. But in the light of the universal talk of conservation of forest wealth, the heavy toll put upon other Canadian forest areas by reason of the wasteful methods of other countries in the past in regard to their own forests, with the possibility of their depletion or indeed exhaustion if the most rigorous methods of preservation are not extended, it will not be long before greater attention is paid to the more remote wooded areas of the prairie provinces and these areas be called upon to help out in the situation. A future awaits the prairie provinces at the hands of the lumberman and pulpman.

Five Hundred Million Acres.

It has been estimated that there are about 500,000,000 acres of forest lands in Canada, about half of which is covered with merchantable timber, and the value of the forest products in 1918 was $279,548,011. The prairie provinces contain about eight million acres of commercial timber lands, 5,400,000 acres of which are in Alberta, 1,920,000 acres in Manitoba, and 750,000 acres in Saskatchewan. In addition to this, there are large resources of pulpwood upon which no really accurate estimate has been made.

Manitoba is about seventy per cent. wooded, and in this province the principal heavily timbered sections have been set aside as government forest reserves located west of the Red River in the southern part of the province. On the upper plateau of this section are spruce, jack pine, and tamarac; in the lower plateau are found poplar and white birch; in the coulees elm, oak, basswood and white pine. The principal trees in order of present importance are white spruce, black spruce, jack pine, tamarac, balsam fir, aspen, cedar, burr oak, paper or white birch, white elm, green ash, white oak, balsam, balm of Gilead, black ash, basswood, Manitoba maple, cotton-wood, red ash, and mountain maple.

Whilst little extensive commercial use has been made of these woods from the lack of exploitation due to conditions already noted, they possess a potential worth commercially of some magnitude, and have already been extensively made use of locally. The province, it has been estimated, contains about 1,920,000 feet of saw timber or 4,000,000 feet B. M.

Alberta is estimated to contain about twenty one billion board feet of saw timber, the principal species being spruce, lodgepole pine, Douglas fir, poplar, balsam fir, white birch and tamarac. Fires have wrought destructive havoc in the forests of the province, much of which has been devastated and on the burnt-over areas the reproduction is mainly lodgepole pine, with area sof poplar and birch. Lumbering operations are principally confined to the Rocky Mountains Reserve, which contains all the lumber at present merchantable in Alberta. There are nearly eight hundred square miles at present under license on permits issued prior to the establishment of the reserve.

Saskatchewan Well Timbered.

In Saskatchewan the area actually timbered with merchantable trees is about 750,000 acres, the country to the north-east being heavily timbered with spruce, tamarac, and jack pine. Prince Albert is the centre of Saskatchewan's lumber industry.

Though the timber trade of the prairie provinces has not as yet made a startling record in Dominion figures it is provincially of a high value and of great local importance, and the economic history of the great plains would have been very different but for their possession of the northern woods. Whilst little, if any, of the timber cut ever gets beyond the borders of its native province, there is a local market whose demands are increasing yearly. The prairie provinces are showing a steady expansion perhaps unprecedented in the history of new countries, and their cities and towns, and above all their agricultural areas, have need of lumber in ever increasing quantities.

The lumber cut for the year 1918, the latest return available, for the prairie provinces, was, according to the Dominion Bureau of Statistics, 152,270 million feet B. M., valued at $3,836,053. This is divided among the three provinces as follows: Manitoba, 54,407 million feet, worth $1,240,052; Saskatchewan, 75,835 million feet, worth $2,122,307; and Alberta, 22,388 million feet, worth $473,694. The total cut of the three provinces represents nearly three per cent. of the cut all over the Dominion.

Administered by Dominion Government.

In the provinces of Alberta, Saskatchewan and Manitoba, in common with the North West Territories and the Railway Belt in British Columbia, the forests are administered by the Department of the Interior of the Dominion government, from whom leases of timber or permits to cut upon forest reserves must be secured. There are thirty-nine forest reserves in Western Canada, twenty-six of which, with an aggregate area of nearly 32,500 square miles, are situated in the three prairie provinces.

Little has yet been noted of the pulpwood resources of these provinces, an important item at the present time in view of the heavy call being made upon the forests of the east and the commencement made upon those of British Columbia on the Pacific coast. Roughly it may be stated that the prairie provinces have substantial resources of the raw material for the continent's paper mills which are delving into every corner of Canada's forests for supplies, and that these are practically untapped as yet.

His Suit.

Bullying Lawyer—"Have you appeared as a witness in a suit before?"

Witness—"Why, of course!"

"What suit was it?"

"Blue serge!"

DAIRYING ON INCREASE IN CANADA

HER PUREBRED STOCK IN GENERAL DEMAND.

Remarkable Progress in Past Twenty Years With Bright Prospects for the Future.

Canadian agriculture has achieved a wide renown in a great diversity of products, the latitude being as broad, in fact, as the lines of agriculture followed limited only by situation and climate. Famous, agriculturally, in the first instance for her giant ranches which sent their big fat cattle all over the world, she turned as successfully to grain raising when the farmer invaded the rancher's domain, and in competition with the continent's first agriculturalists carried off the premier honors. Later when the adaptability of certain areas to mixed farming was proved, and the general advisability of this method of farming accepted, the excellent standard of her purebred stock brought a demand from many foreign countries for animals to restock their herds. In the export of fruit and other products Canada is each year penetrating new markets, and would now seem to be making a bid for fame as a dairying country, with the strongest evidence in the way of a yearly increasing output whilst maintaining a quality which keeps the product in general demand.

The Dominion achieved a new record in dairy production in 1920 with an output valued at $144,483,188, which was nine million dollars in excess of the previous year's production. Creamery butter in that year, with an output of 11,030,399 pounds, showed an increase of 6,139,692 over the figures for 1919 with an average price secured of 56½ cents per pound as against 54 cents. Cheese made in factories during the year aggregated 149,521,008 pounds, a decrease of 16,000,000 from the previous year, which makes the increase on the total dairy products all the more remarkable and pleasing. In addition to these two products condenseries turned out 53,369,642 pounds of evaporated milk, and 7,574,668 pounds of milk powder. The total value of all dairy products as previously stated was $144,483,188.

West Features in Production.

The production of creamery butter which has been so favorably received on a wide market and of which more than ten million dollars worth was exported in 1921, is aided in a varying extent by all the provinces of the Dominion, it being an important factor in agricultural revenue in each. In the year under review the province of Quebec led with a production of 40,037,692 pounds, valued at $22,352,146. Ontario followed with 37,148,898 pounds valued at $21,245,664. These two provinces maintain a wide lead over the rest of Canada, Alberta being next in line with a value of more than $6,500,000. Manitoba accounted for over $4,000,000 in this item of production; Saskatchewan, $3,700,000; Nova Scotia, $1,518,757: Prince Edward Island, $674,000 and New Brunswick $607,000.

Ontario led easily in the production of factory cheese with 92,847,769 pounds valued at $24,615,290. This is both a greater output and value for the province than in creamery butter, the only instance to be found among the provinces. Quebec followed in production with a value of $13,356,475. The little province of Prince Edward Island followed with $525,635; Alberta $110,355; New Brunswick $329,782; and British Columbia $96,134.

The rapid manner in which the production of creamery products is increasing in Canada is indicated in a concise manner by a comparison with the figures of ten and twenty years ago. In 1900 the production of creamery butter was 36,066,739 pounds valued at $7,240,972. By 1910 it had nearly doubled, with a production of 64,698,165 pounds valued at $15,645,845. By 1920 it had almost redoubled again with 110,030,399 pounds worth $62,306,794, quadrupling in value. A large factor in maintaining this consistent increase has been the enthusiastic entry of the Western provinces into the industry and the past few years have seen the most remarkable development of dairying on the prairies.

West's Remarkable Development.

To cite the instance of one province only, in 1920 Saskatchewan secured an increase of more than 40,000 pounds of creamery butter over her previous year's record, accounting for an increase of more than half a million dollars in revenue from this source. Taking the four western provinces together, in the last five years they have doubled their total creamery butter production, the comparative amounts being 14,077,743 in 1915 and 28,120,940 in 1920. The value in this five year period has nearly quadrupled, the respective figures being $4,091,874 and $15,908,592. Dairying on the prairie is progressing at a startling rate. Manitoba in five years has increased her annual production of creamery butter from five million pounds to seven millions, Saskatchewan from three millions to six millions, and Alberta the astounding increment of eight million pounds, or from three millions to eleven.

Canada in the past twenty years has made remarkable progress in the production of creamery products and the proportionately greater attention devoted to the industry in the past few years augurs yet greater triumphs for Canada's dairy herds with a maintenance of the same high standard of production. Indications of her prominence in this industry, excellent forecaste of her greater future are many. Already the dairy herds of Canada are being drawn upon to improve the stock of older countries. In 1920 after securing practically all the Canadian prizes in the same class, a Saskatchewan butter-maker carried away the second prize for creamery butter at the National Dairy Show, Chicago. To cap this a new world's record for milk and butter production has been set by Bella Pontiac, an Ontario Holstein Friesian cow owned by T. A. Barron, of Brantford, who in a year under test ending in June last produced 27,017 pounds of milk, 1,259 pounds of fat, and 1,594 pounds of butter. Is anything further needed to give Canada a prominent place among the dairy nations of the world?

Uncertain.

A minister, on the occasion of a marriage was at a loss in trying to discover the bridegroom among the company of young men present.

Fixing on a young man with a large flower in his buttonhole, he asked him, quietly:

"Are you the happy man?"

"That remains to be seen," was the solemn answer.

"But are you the man who is to be married?"

"Oh, that's another matter."

How It Was Done.

A certain man has a wonderful garden, where he grows water-melons.

"How do you put the water in the watermelons?" a facetious friend asked him.

"Oh, I plant the seeds in the spring," he said.

The myrtle and the leek are regarded as luck bringers, and in Wales they say a leek growing on a wall will keep off witches.

Bob White.

There's a plump little chap in a speckled coat,
And he sits on the zigzag rails remote,
Where he whistles at breezy, bracing morn,
When the buckwheat is ripe and stacked the corn,
"Bob White! Bob White! Bob White!"

Is he hailing some comrade as blithe as he?
Now I wonder where Robert White can be!
O'er the billows of gold and amber grain
There is no one in sight, but hark again:
"Bob White! Bob White! Bob White!"

Ah! I see why he calls; in the stubble there,
Hides his plump little wife and babies fair,
So contented is he and proud of the same
That he wants all the world to know his name:
"Bob White! Bob White! Bob White!"

Candles.

These are the candles that I light
When loneliness draws too near,
When the wings of the night brush over my heart
With their little sounds of fear.

Sometimes they burn too dim, too low,
Sometimes too bright and too high,
And sometimes their light is put out by a tear
Or the breath of a sigh.

Ever I keep them freshly trimmed,
Ever they comfort me
With the wavering flame of their tender light—
Candles of memory.

Curiosity.

Two Irishmen were sharing a bedroom in a lodging-house. Paddy, however, did not go to bed, but stood with closed eyes in front of the looking-glass.

"Phwat are ye doin', Paddy?" said his friend in surprise.

"Be quiet," said Paddy. "I am jist thryin' to see what I look like when I am asleep!"

Words of Wisdom.

The purpose of life does not only consist in observing things, but, first of all, in doing them.

Work alone will not save us—it is the aim we are working for that matters. Mephisto also works and is very busy indeed.

The problem is WHAT heart and WHAT feelings. A cannibal has also a heart and feelings.

To observe things that interest nobody, to do things that most people find tiresome—in this lies the heroism of the future.

Mankind was not created for religiousness, but religiousness was created for mankind.

Philanthropy is content with alms; but, nowadays, the poor do not ask alms, they want justice.

The thoughtless man totters from left to right; the thinker, conscious of his strength, minds his own business, for him there is no left, no right. He surmounts obstacles, masters them, creates new ones, but chooses, unblindfolded, to make eleven foolish things out of ten.

A deep belief and wisdom express themselves in simple words.

I am bound to believe in progress—that the life of the individual and all people is improving and will continue to improve. They who believe in progress will not be impatient. Progress means victory over the bad. To make bad good is not so difficult, but to make good better is a harder task.

Baseball in Japan.

Boys in all the high schools and colleges in Japan now play baseball, and the people go to the games. At a recent match between two Japanese college teams fifty thousand "fans" stormed the stadium, and spectators swarmed on every roof and tree overlooking the grounds. When a nation of fifty-six million people changes its national sport it is an event. For a thousand years or more wrestling has been the great sport of Japan, and the professional wrestlers have formed a class by themselves. Now the athletes are going in for baseball, and Japanese capitalists are preparing to organize and finance the sport as we in Canada do.