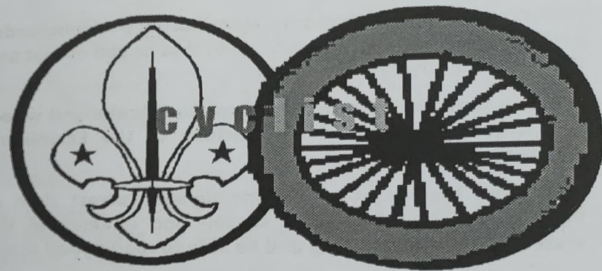
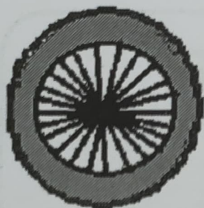


CYCLIST

PROFICIENCY



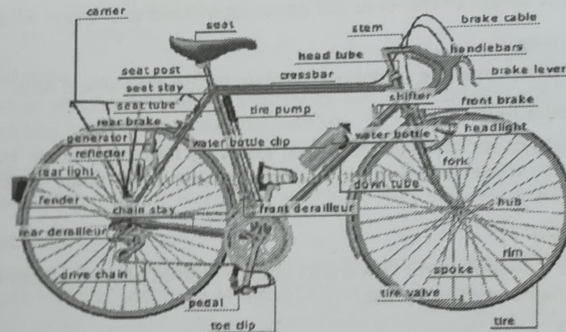
BADGE



CYCLIST

1. Sign a certificate that he owns, or has the use of, for at least six months, a bicycle or motorcycle, in good order correctly equipped with lamp, bell or horn, rear lamp and pump and that he is able and willing to use it in the service of the country, if called upon, at any time, in case of emergency.
2. Ride his machine satisfactorily, keep it in good running order and in the case of a pedal cycle show that he can mount and dismount neatly by either pedal.
3. Mend a puncture, remove and replace a brake and wheel and adjust any part of his machine to the Examiner's satisfaction.
4. Know the Highway Code, traffic signals, correct time of lighting up —i.e. time after sunset— and understand the system of road numbering and be able to read a road map.
5. Repeat correctly a verbal message after a ride at least an hour's duration.
6. Inform the examiner on the use he has made of his machine in the last six months.
7. Must be able to carry a casualty on an improvised bicycle ambulance.

PARTS OF A BICYCLE



Toe clip

Metal device attached to the pedals that covers the front of the feet, keeping the feet in the proper position and increasing pedaling power.

Pedal

Part attached to a crank that the cyclist rotates to provide the bicycle's power.

Front derailleur

Mechanism for changing the front gears by lifting the chain from one chain wheel to another; it allows the cyclist to adapt to road conditions.

Drive chain

Set of metal links meshing with the sprockets on the chain wheel and gear wheel to transmit the pedaling motion to the rear wheel.

Chain stay

Tube connecting the pedal mechanism to the rear-wheel hub.

Rear derailleur

Mechanism for changing the rear gears by lifting the chain from one gear wheel to another; it allows the cyclist to adapt to road conditions.

Reflector

Device returning light toward its source so that other users of the road might see the cyclist.

Fender

Piece of curved metal covering part of the wheel to protect the cyclist from being splashed.

Rear light

Lamp signalling the bicycle's presence in the dark.

Generator

Mechanism activated by the rear wheel, converting the wheel's motion into electric energy to power the front and rear lights.

Carrier

Device attached to the back of the bicycle for carrying bags on each side and packages on top.

Rear brake

Mechanism activated by a brake cable, comprising a calliper and return springs; it forces a pair of brake pads against the sidewalls to stop the bicycle.

Seat tube

Part of the frame leaning slightly to the rear, receiving the seat post and joining the pedal mechanism.

Seat stay

Tube connecting the top of the seat tube with the rear-wheel hub.

Seat post

Component supporting and attaching the seat, inserted to variable depth into the seat tube to adjust the seat's height.

Seat

Small triangular seat attached to the bicycle's frame.

Tire pump

Device that compresses air and is used to inflate a bicycle tire's inner tube.

Crossbar

Horizontal part of the frame, connecting the head tube with the seat tube and stabilizing the frame.

Down tube

Part of the frame connecting the head tube to the pedal mechanism; it is the longest and thickest tube in the frame and gives it its rigidity.

Water bottle clip

Support attached to the down tube or the seat tube for carrying the water bottle.

Water bottle

Soft plastic container, with a quick-open cap, for drinking from.

Tire valve

Small clack valve sealing the inflation opening of the inner tube; it allows air to enter but prevents it from escaping.

Spoke

Thin metal spindle connecting the hub to the rim.

Tire

Structure made of cotton and steel fibres coated with rubber, mounted on the rim to form the casing for the inner tube.

Rim

Metal circle constituting the wheel's circumference and on which the tire is mounted.

Hub

Central part of the wheel from which spokes radiate. Inside the hub are ball bearings enabling it to rotate around its axle.

Fork

Two tubes connected to the head tube and attached to each end of the front-wheel hub.

Headlight

Lamp illuminating the ground a few yards in front of the bicycle.

Front brake

Mechanism activated by a brake cable, comprising a calliper and return springs; it forces a pair of brake pads against the sidewalls to slow down the front wheel.

Brake lever

Lever attached to the handlebars for activating the brake calliper via a cable.

Head tube

Tube using ball bearings to transmit the steering movement to the fork.

Stem

Part whose height is adjustable; it is inserted into the head tube and supports the handlebars.

Handlebars

Device made up of two handles connected by a tube, for steering the bicycle.

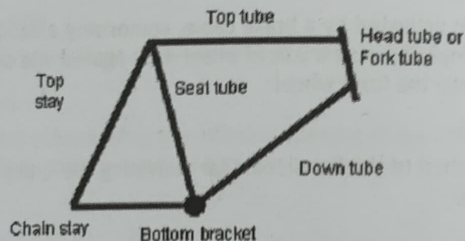
Brake cable

Sheathed steel cable transmitting the pressure exerted on the brake lever to the brake.

Shifter

Lever for changing gears via a cable moving the derailleur.

Bicycles are made of just a few parts that you can immediately see and identify. The core is the frame. A bicycle's frame is made of metal tubes welded together. Each tube has a name, as shown here:



- The front fork is the movable part of the frame that holds the front wheel.
- The wheels - The wheels are made of a hub, the spokes, the metal rim and the rubber tire.
- The seat and seat post
- The handlebars and the handlebar stem that connects the handlebars to the frame
- The cranks and the pedals
- The brakes, consisting of the actuators on the handlebars, the brake cable, the brake callipers and the brake pads
- The chain and gears, consisting of the front chain wheels, the rear freewheel, the front and rear derailleur, the shift levers on the handlebars and the cables.

1. Check your cycling equipment. Before you even set out, it is important to ensure that your bike is roadworthy and safe. This is especially important for aging bikes. Checking your bike means looking at the following:

- Air - are your tires inflated adequately?
 - Brakes - do they work, are they clean?
 - Chain - is it clean, free of debris, and able to turn with no problems?
 - Is the bike right height for you? The right height is that when you sit on the seat, the balls of your feet must touch the ground on both sides. When your pedaling, there must be slight bend at your knees when pedaling downwards.
 - Are you dressed properly? No loose flowing dresses. Dress in light colours and wear reflector stripes on your back pack. Wear comfortable shoes and tied the shoes laces carefully so that they do not get caught in the moving parts like chains or wheels.
2. **START:-** Start by putting your right foot on the right pedal, with your left foot on the ground. Simultaneously push the pedal with your right foot and push off the ground with your left. Swing your left foot over the seat and bring it immediately onto the left pedal.. If you want to get up on your left foot, push off with left on the left pedal and swing in your right foot.

3. Keep the handlebars straight ahead and begin pedaling. Balance yourself as you pedal. Go as far as you can, then turn around and try again. Just practice going straight ahead until you get the hang of it.
4. Learn to turn the handlebars. Once you have the balance mastered, you can begin steering. Turn in small increments at first, as the farther you turn, the harder it is to balance.
5. Begin slow and be patient. Your endurance to speed and distance will grow the more you ride.
6. Obey street signs and riding etiquette. Stop at stop signs. Signal when turning. Ride on the right and inform a walker or a slower rider that you are behind them and that you are preparing to pass them.
7. Be alert and prepared at all times. Bicycling is a pretty quiet ride and many may not hear you coming, so watch for cars backing out of driveways or children playing
8. Maintain your bike when not in use. Check your brakes. Clean the frame and adjust the seat and handles to ensure that your bike will work correctly for future rides.
9. If you fall, get right back. Don't give up too easily - Drink a lot of water while riding

Never try tricks while riding in public places. Never do it without training or safety equipment.

HOW TO REPAIR A TIRE PUNCTURE

Instructions

1. Turn the bike upside down so it is resting on the seat and handlebars.
2. Remove the bolt at the center of the rim of the wheel to be worked on. Once the bolt is loose, remove the wheel. You might need to unhook your brakes to get the wheel off. To unhook the brakes, squeeze the brakes together, then slide the brake cable out of the brakes. The brakes will now be loose, and the wheel will fit between them for removal.
3. Pull off the wheel. Insert the tire lever between the tire and the rim and slide it around the perimeter of the wheel, breaking the tire bead loose from the rim.
4. Take the valve-stem cap off the tube and push the valve stem back through the hole in the rim. Pull the tube out of the tire.
5. Slide your fingers inside the tire spinning the tire around in your hands as you feel for any objects that could puncture the tube and remove them.
6. Stuff the new tube into the tire. Blow a small amount of air into the tube, making it round. Locate the tire puncture that you marked with your fingernail.
7. Fold the dollar bill twice lengthwise. Slip the dollar bill in between the tube and the puncture on the tire. Center the dollar bill over the puncture.

8. Carefully push the tire back on the rim with your thumbs from the bottom up so the last push is directly in front of the puncture and you're sure the dollar stays in place, centered under the puncture.
9. Pump up the tire just enough to ride your bike. Put the valve stem cap back on, mount the tire back on the bike, tighten the quick-release and brake levers, and test ride the bike. If the bike handles poorly or feels unstable, put more air in the tire, and ride home slowly.

CYCLE BRAKE REPAIRS

Older type of cycles have STIRRUP type of brakes which are moved directly by brake levers, while newer types of cycles have cable operated brakes that move CALLIPER type of brakes.

On both the models, the brake pads lie close to the rim of the cycle wheel and stop the cycle movement by pressing against the rim.

If the Brake Pads are worn out, the pads do not exert sufficient pressure to stop the wheel. In that case the brake pads must be changed.

On occasions over the time the Brake Pads have moved farther away than the 1 to 3 millimeter gap and so do not grip the rim sufficiently. In this case either the Stirrup linkages need to be tightened or the cable operating the Calliper need to be shortened.

You will need Pliers and screw driver to tighten either the linkage or the cable.

Brake Cable Problem solving

1. Examine the cable to determine whether it has become rusted, gummed up or bent. If the cable and housing have developed any kinks, replace them.
2. Remove the cable from the callipers by loosening the anchor bolt nut holding the cable in place using a metric wrench.
3. Remove the cable from the lever by turning the adjustment nuts by the lever so the slots line up on the bottom. The cable can fit through the slots and down from the lever.
4. Pull the cable out of the housing. Clean and wipe down the cable with a solvent to remove rust and grime. Put drops of a light oil or lubricant into the cable housing and on the cable. Feed the cable back into the housing.
5. Install the cable onto the bicycle in reverse process. Pull on the cable with pliers after feeding it through the anchor bolt to make the cable tighter and tighten anchor nut. Fine adjustments are made by turning the barrel bolt so the brake pads seat 1 to 2 mm out from the rim.

Brake Pad Problems

6. Remove the brake pads by unbolting the nut attached to the pad's bolt.
7. Examine the brake pads. If the brake pads appear worn, cracked or chipped, the pads need replacing. If they look hardened or glossy the pads need resurfacing.

8. Lay a piece of medium grit sandpaper face up on a flat surface and slide the brake pad across it. This will remove the hardened or glossy surface from the brake pad to provide better grip and less shudder or noise.
9. Reinstall the brake pad, adjusting with the barrel bolt to seat 1 to 2 mm out from the rim.

Calliper Problems

10. Examine the calliper to determine whether it has become gummed up or sticky. If the calliper spring has come off its post, put it back on, using pliers to bend it into place.
11. Unscrew the anchor bolt nut that holds the cable to release the tension on the sticky calliper.
12. Unscrew the nut holding the callipers in place. On the side-pull, there is one nut and bolt. For the center-pull, there is a nut and bolt that holds each piece in place.
13. Clean the callipers with soap and water, then wipe them dry.
14. Bolt the calliper back into place and place a few drops of lubricant at the contact points.
15. Feed the cable back through the anchor bolt and pull on the cable with pliers after feeding it through the anchor bolt to make the cable tighter, and tighten anchor nut. Fine adjustments are made by turning the barrel bolt so the brake pads sit 1 to 2 mm out from the rim.

Bicycle Wheels

A wheel consists of at least a tire, inner tube, rimstrip, rim, spokes and hub. Some wheels also have a disk brake or freewheel incorporated in the hub. Many people mistakenly refer to wheels as "rims" or "tires." The rim is only the metal ring which holds the tire.

Problems can occur in the inner tube, rim, spokes, hub or hub brake. The Tube may be punctured, then you have to repair and patch the tube. Rim might go out of shape due to bad landing or fall, then the Rim need to be straightened (this needs professional help). The spokes may be bent or broken, then they need to be replaced. Problems with Disc or Hub brake may need expert attention as also the case with the 'free wheel'.

1. Place the cycle on its back resting on the seat. It is easier to remove the front wheel, once it is freed from its brake assembly. The Back wheel is bit more complicated since it has the chain connecting to the gear/s
2. Free the brake pads from the rim of the wheel you want to remove
3. Remove all nuts holding the tire in place to the frame of the bike with a wrench. Make sure to have a designated place for the bolts or place them in your pocket for safe keeping. They are small and easily lost if you're not careful.
4. Non-shifting bikes are simpler. Simply lift the tire once the chain and the bolts have been removed.

5. Remove the tire from the rim with a tire lever. All bicycle tires hug the rim tightly and a tire lever will give you the leverage necessary to lift the tire off the rim. Begin by placing the lip of the lever between the rim and the tire. Push down on the lever handle to lift the tire off the rim and continue to work your way around until the tire has been completely removed.
6. Patch any holes in the tire inner tube with a tire patch kit (these kits include tire glue, tire patch, sand paper and rubbing alcohol wipes). First find the hole by placing the tube in a tub of water- air bubbles escaping will indicate the site of the leak. Use the rubbing alcohol wipe to clean off the area you will be patching. Next, sand the area down around the hole to create a textured surface. Finally, apply tire glue to the sand papered area and the patch. After few minutes place the patch on top. Knead the patch to remove any air bubble and to get the edges well stuck. Fill the tube with air once the glue has dried.
7. Place the tire back onto the rim. Again, the tire will snugly fit the rim but you won't need the assistance of the tire lever this time. Push the tire onto the rim with moderate force until it is securely fastened.
8. Install the tire. Your bike is now ready to use.

THE HIGHWAY CODE

The Highway Code is a set of mandatory rules, guides, advice, and information for all road users. Its objective is to promote road

safety. The Highway Code applies to animals, pedestrians, cyclists, motorcyclists, and drivers.. The Highway Code gives information on road signs, road markings, vehicle markings, and road safety. The annexes include information on vehicle maintenance, license requirements, documentation, penalties, and vehicle security.

Failure to comply with the mandatory rules is a criminal offence.

Watching the antics of some cyclists on the road you could be forgiven for thinking that the Highway Code doesn't apply to them. But it does, and those choosing to ignore it are not only putting themselves in danger but other road users and pedestrians.

The code doesn't just specify how you should and shouldn't behave; it also lays out a checklist to follow before you venture out. These involve commonsense items such as correct adjustment of both saddle and handlebars, ensuring that the chain is properly adjusted and oiled, and checking both tyre tread for signs of wear and the pressure as specified by the manufacturer. Another vitally important area is brake efficiency.

Current Industry Standards

Both reflective clothing and accessories are recommended, as well as a helmet that conforms to current industry standards. Remember that all these items are not listed in order to satisfy the government's lust for bureaucracy, but for your own safety. For example, you would have thought that including in the code a specific rule not to ride under the influence of either drink or drugs was unnecessary. After all, what idiot is going to do such a reckless thing? Unfortunately, you would be surprised how many

people seem to have little regard for either their own safety or that of others.

Other transgressions of the code include riding on the pavement and carrying a passenger without having had your bike specifically adapted for the purpose.

Every rule is equally important but the sections laying out road discipline and interacting with other traffic must be carefully studied before attempting to cycle on the highway. After all, if you've never encountered traffic lights while on two wheels, negotiated a bus lane, or understood the rules for tackling road junctions, either approaching from the left or right, then you must familiarise yourself with the various drills.

Signal and Manoeuvre

A good way to begin understanding how roads work is to take your copy of the code out on foot. Find a major road near you and walk along the pavement, observing how vehicles signal and manoeuvre. For specific situations such as traffic lights or junctions, spend as much time as you need studying the ebb and flow of the traffic and how the number and positioning of vehicles create different situations. Mentally put yourself in the saddle as you observe, thinking how you would deal with what you are observing. Of course, such situations change second by second on busy roads, and you are unlikely to encounter exactly the same one when you finally get in the saddle, but these observational exercises will at least mean you are not metaphorically riding blindfold into traffic.

Just as you are required to pay attention to motorists, so they, too, are required by the code to ensure that they behave properly in the presence of a cyclist or cyclists. However, never take it for granted that a motorist is going to act properly. Rather, ride defensively, giving cars extra time and extra room to avoid any potential problems.

The Highway Code exists for your own protection. Make sure you are familiar with it, and never assume you are too experienced to disregard it, otherwise you are surely riding for a fall.

Types of Road Signs

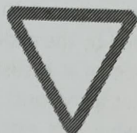
Triangular signs, usually with a red border, are warning signs. They tell you about hazards that are up ahead – a low bridge, sharp bends, a risk of flooding or ice.

Square or rectangular signs give information, such as directions, exits on a roundabout or tourist attractions that are in the vicinity. Their colour depends on the road and the purpose – blue signs are for motorways, green signs are for normal roads, brown signs are for tourist information, and yellow signs are for diversions.

Circular signs are for commands. Speed limit signs are a classic example – they're telling you that's the maximum speed you can do. It's not a suggestion, it's an order. Colour is less important with these signs, although as a rule of thumb a white circle is speed-related, a blue circle tells you what you can and can't do with your vehicle (like the 'No Stopping', or that odd sign with a car and a motorcycle in it, which means Access Only). You'll never get green, brown or yellow circles,

MANDATORY SIGNS

Give way



No entry



Horn prohibited



No parking



No stopping



Compulsory sound horn



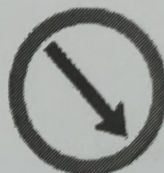
Speed limit



Keep left



Keep right



CAUTIONARY SIGNS

Right hand curve



Left hand curve



Narrow bridge sign



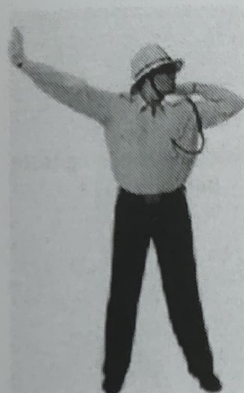
Narrow road sign



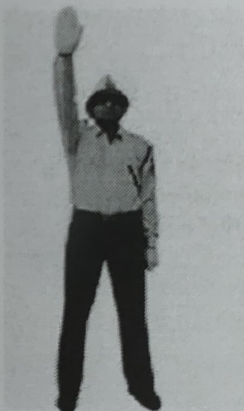
School



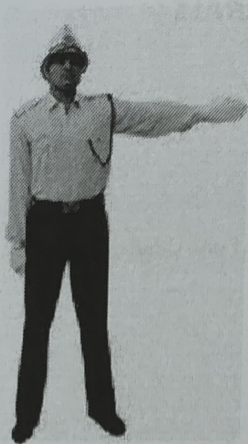
TRAFFIC POLICE HAND SIGNALS



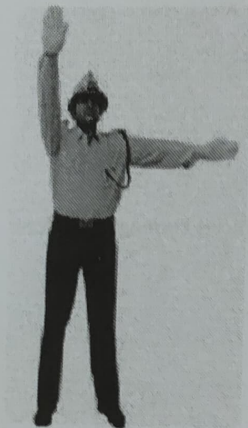
To start one sided vehicles



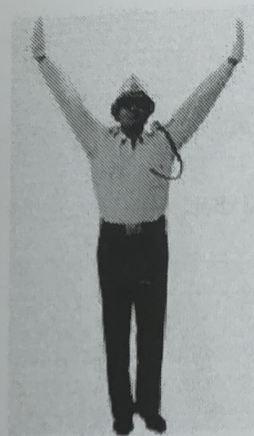
To stop vehicles coming from front



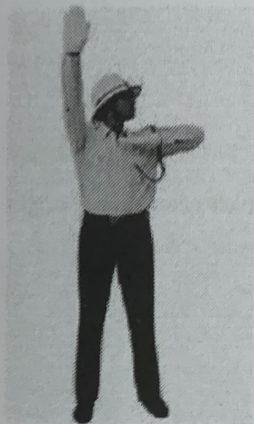
To stop vehicles approaching from
behind



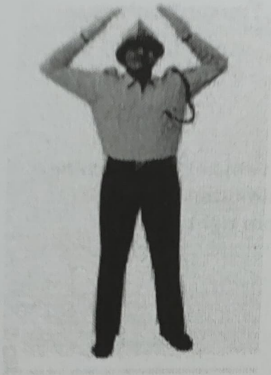
To stop vehicles approaching
simultaneously
from front and behind



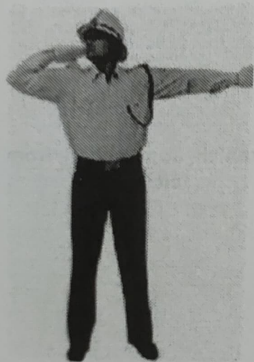
To stop vehicles approaching
simultaneously
from right and left



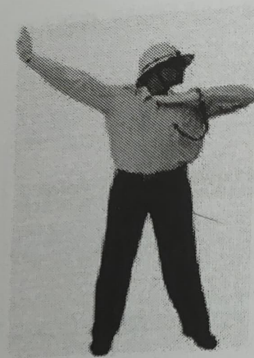
To start vehicle approaching from
left



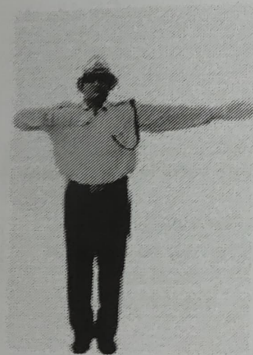
To change sign



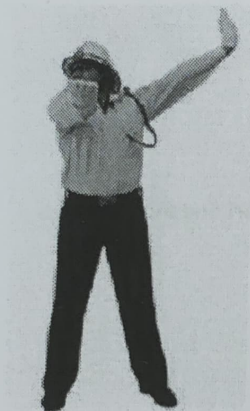
To start vehicles coming from right



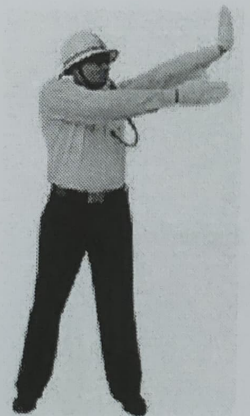
To start one sided vehicles



To give VIP salute



To start vehicles on T-Point



To manage vehicles on T-Point

HAND SIGNALS BY DRIVERS

I intend to move in to
the left
or turn left



I intend to move out to
the right or changing
the lane
or turn right

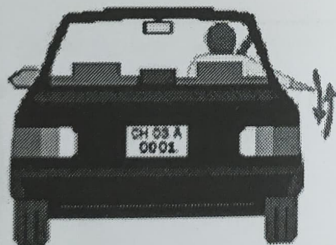


HAND SIGNALS BY DRIVERS

I intend to stop



I intend to slow down



HAND SIGNALS BY DRIVERS

Indicating the car
following
you to overtake

