ST. XAVIER'S SENIOR SECONDARY SCHOOL, DELHI – 110054
Final Examination in **ECONOMICS – Std. 11**   M. Marks : 90
27-2-2015   Time : 3 hrs.

Roll No:

| Total printed pages   : | 07 |
| Total printed questions : | 25 |

General Instructions:

i)   All questions in both the sections are compulsory.

ii) Question Nos. 1-2 and 12-14 are MCQ questions carrying 1 mark each. Write the correct option on your answer sheet.

iii) Question Nos. 3-6 and 15-19 are short-answer questions carrying 3 marks each. Answers to them should not normally exceed 60 words each.

iv) Question Nos. 7-8 and 20 are also short-answer questions carrying 4 marks each. Answers to them should not exceed 70 words each.

v)   Question Nos. 9-11 and 21-23 are long-answer questions carrying 6 marks each. Answers to them should not normally exceed 100 words each.

vi) Question Nos. 24 & 25 are long answer questions of 5 marks each based on OTBA. Answer them in 1000 - 120 words each.

STATISTICS FOR ECONOMICS

1. The average wage of 50 workers is Rs. 400/- with a standard deviation of Rs. 40/-.What will be the coefficient of variation if each worker is given a raise of Rs.100/-?
    a)   6%   b)   8%   c)   10%   d)   12%   (1)

2. If the sum of squares of difference between the ranks obtained in English and Economics of 10 students is 0, the Spearman's correlation coefficient is
    a)   0   b)   1   c)   0.1   d)   (-) 1   (1)

3. State the importance of Statistics in Economics.   (3)

4. Find out the arithmetic mean of the following data: (3)

Items	Frequency
More than 0	28
More than 10	24
More than 20	14
More than 30	4

5.

Marks	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No. of students	3	5	9	3	2

Calculate the value of mode by graphical method and verify your answer.   (3)

6. An incomplete distribution is given below:

CI	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80	Total
f	12	30	?	65	?	25	18	229

If the median value is 46, find the missing frequencies.   (3)

7. The following table shows the marks obtained by A and B in an examination.

Subjects	A	B
Business Studies	80	70
Accounts	90	80
Statistics	95	90
Economics	75	95
English	60	65

Draw two pie diagrams to represent the given data.   (4)

8. Calculate coefficient of rank correlation of the following data: (4)

X	175	173	172	172	163	162	155	150
Y	20	21	23	23	23	30	26	38

9. The following are the scores of two batsmen A and B in a series of innings.

| A | 12 | 115 | 6 | 73 | 7 | 19 | 119 | 36 | 84 | 29 |
| B | 47 | 12 | 76 | 42 | 4 | 51 | 37 | 48 | 13 | 0 |

Who is the better run-getter? Who is more consistent? (6)

10. Construct price index numbers from the following data using 2012 as base year applying: (6)
    a) Laspeyre's method   b) Paasche's method   c) Fisher's method.

| Items | 2012 | | 2013 | |
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

11. Write short notes on:
    a)   Census of India;   b)   NSSO. (6)

INDIAN ECONOMIC DEVELOPMENT

12. Which of these is not a part of the New Economic Policy introduced in India in the 1990s?
    a)   Reduction in tariff and non-tariff barriers   b)   Disinvestment
    c)   Introduction of HYV seeds in agriculture   d)   De-reservation of industries (1)

13. India's first official census was held in-
    a)   1951   b)   1921   c)   1891   d)   1881   (1)

14. Which of these are characteristics of the economy of China?
    a)   Growth due to manufacturing sector, high fertility rate, high degree of urbanization.
    b)   Very high fertility rate, one child norm, growth due to service sector.
    c)   Growth due to manufacturing sector, large population, high degree of urbanization.
    d)   Growth due to service sector, high degree of urbanization, one child norm.   (1)

15. "The demographic condition during the British rule exhibited all features of a backward
    Indian economy." Do you agree? Give reasons. (3)

16. Why was there a need for protection of small scale industries? State the steps undertaken
    by the government for their growth. (3)

17. Discuss the effects of New Economic Policy on Indian agriculture. (3)

18. Define Outsourcing. India has certain advantages which makes it a favourite outsourcing
    destination. What are these advantages? (3)

19. Describe the reasons for the slow growth and re-emergence of poverty in Pakistan. (3)

20. Explain the adverse effects of the industrial and foreign trade policies followed by India till 1991. (4)

21. Explain the arguments in favour of new economic policy. (6)

22. Describe the reforms in agriculture, industries and foreign trade introduced by China
    in the 1980s. (6)

23. Compare and contrast the development of India, China and Pakistan with respect to
   some salient human development indicators. (6)

ITEMS	INDIA	CHINA	PAKISTAN
Human development Index	0.602	0.755	0.527
Life expectancy at Birth	63.3	71.6	63
Infant mortality rate	63	30	81
Adult literacy rate(%aged 15 &above)	61	90.9	48.7
Maternal mortality rate	540	56	500
GDP Per capita(PPP $)	2892	5003	2097

OPEN TEXT MATERIAL

Theme - **Oil Pricing Policy in India**

We observe that India is richly endowed with crude oil reserves; however these are not being fully utilized. The prices of petrol, diesel, LPG and CNG are often revised. This causes a lot of uneasiness in the economy. The price rise is not taken in well by most sections of society specially the common man. Why do prices of these products rise and how are they influenced by the international prices, these basic questions can be understood in a simple way, although these are very complicated issues. Our economy at present seems to be compelled to import crude oil from the OPEC to meet over 70% of its need. With fluctuating price of foreign exchange in favour of the US dollar, the economy pays a heavy price for its import. It is imperative that ways to be self- reliant in petroleum usage are developed; alternative means of energy need to be used in everyday life. Recently policy decisions have reduced the subsidies provided by the government on petroleum products as these add to its budgetary burden. Fiscal deficit needs to be curbed. One way to reduce the burden of subsidies is to de- regulate the price of petrol and diesel. The need of the hour is to develop refining facilities within the economy, popularize the non-conventional sources of energy like solar, wind and natural gas. Also a lot can be done at home, in place of work, on the roads to reduce energy consumption. It is in the interest of all to consciously adopt ways of conserving energy.

Crude oil is referred to as petroleum in its unprocessed form. It is a dark sticky liquid as you can see in the picture above. It is scientifically called hydro carbon. As you must have read in your previous classes' crude oil is formed from plants and animals that were buried deep millions of years ago. The remains got converted into oil and gas due to heat and pressure.
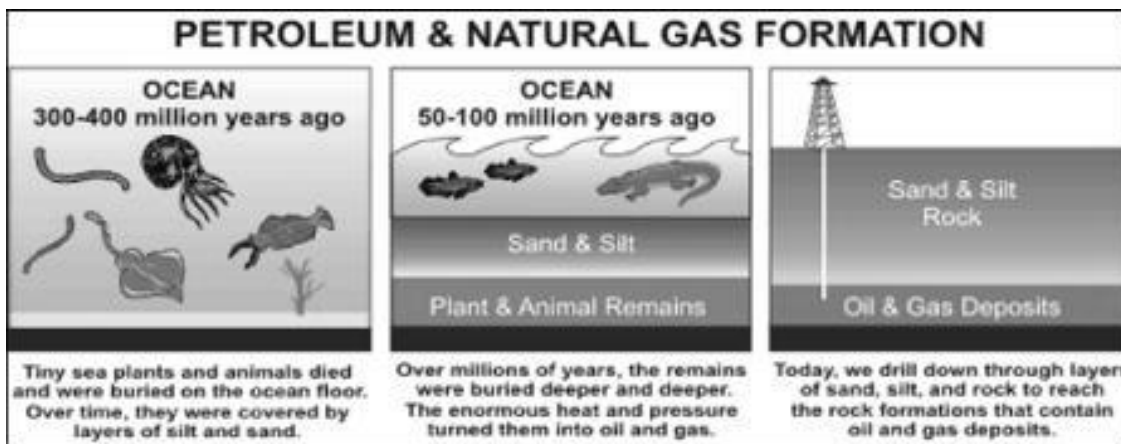
Source: Motorcitytimes.com Fig. 2

After crude oil is extracted it is taken to the refinery by pipelines, ship or barges. At the refinery different components of the crude oil are separated into usable petroleum products like LPG, Jet fuel, diesel and other products. The crude oil is measured in barrels abbreviated as bbls. This unique measure came up as oil was earlier traded internationally in wooden barrels. 1 barrel = 159 litres approximately and one metric ton = little over 7 barrels.

There are many varieties of crude oil like Brent crude oil, Heavy crude oil, Pennsylvania grade, Sweet crude, Synthetic crude, etc. These varieties derive their name from nature of the oil. For example if the sulphur content is less it is called Sweet Crude oil or if it flows freely it is called light crude oil. What are "heavy" crude and "light" crude? Light crude is defined as having a high specific gravity. This classification of oil is easier to pump, transport and refine into high value products like petrol, diesel and jet fuel. Because of this, it tends to be more expensive. Heavy Crude usually contains high concentrations of sulphur and several metals, particularly nickel and high amount of wax. These are the properties that make them difficult to pump out of the ground or through a pipeline and interfere with refining. These properties also present serious environmental challenges. Heavy oil can be broken into the smaller petrol molecules, through the use of a "catalytic cracker", but this process uses energy and the resulting petrol is thus more expensive. That cost is offset by the cheaper cost per barrel of the heavy crude.

What are "sweet" and "sour" Crude?
Sweet Crude has small amounts of sulphur (mainly in the form of hydrogen sulphide H_2S) (0.5% or less) and carbon dioxide, and is used primarily in the production of petrol. Sulphur does damage to the equipment when refining and does damage to the environment (and your car's engine) if not removed. If the percentage exceeds 0.5% it is classified as sour. Because of the costs involved in removing the sulphur, sour oil tends to be cheaper than sweet oil.

What kind of crude do Indian refineries process?

Indian refineries process both a mix of sweet and sour. Similarly in India oil reserves are found below the land or sea bed like the Bombay high off shore station or on shore reserves in Andhra Pradesh, Gujarat, etc. The map given below clearly depicts the crude oil pipelines spread across the country.
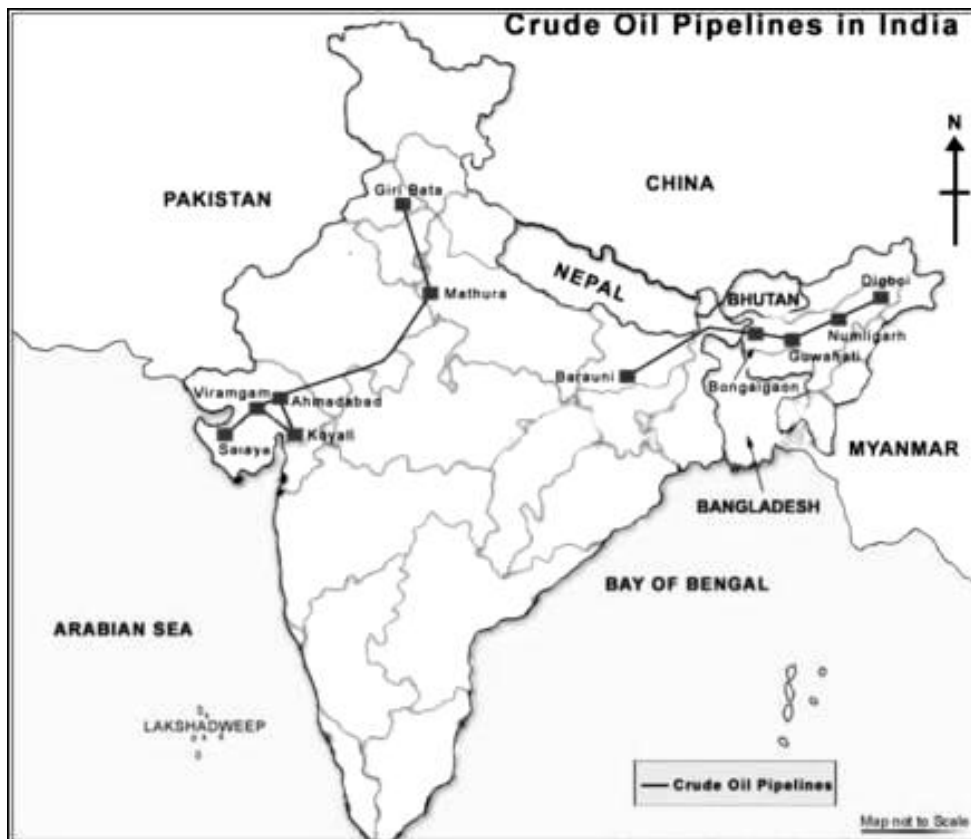
Source: www.maps of india.com

Fig. 3

According to the oil and gas journal, India had 5.7 billion barrels of crude oil reserves in the beginning of 2014, which is 2nd largest in Asia Pacific. It has 136 oil fields. Most of these reserves are in the western part of the country like Rajasthan, Gujarat and Maharashtra as shown in Fig. 3. A lot of crude oil is extracted in our economy as the time series graph indicates, yet it is not enough to fulfil the domestic needs. The production of crude oil hasnt increased as much between 2003 to 2013, but consumption has nearly doubled and so Government has to import of crude oil. Though indigenous crude oil from Assam and Mumbai High are sweet, they accounts for only 17 per cent of the total processed oil. India has to import the rest, largely from the Middle East and Africa where crude oils are cheaper and involve smaller tanker voyage. Indian imports comprise of sour crudes from the Middle East and sweet crude from Africa.
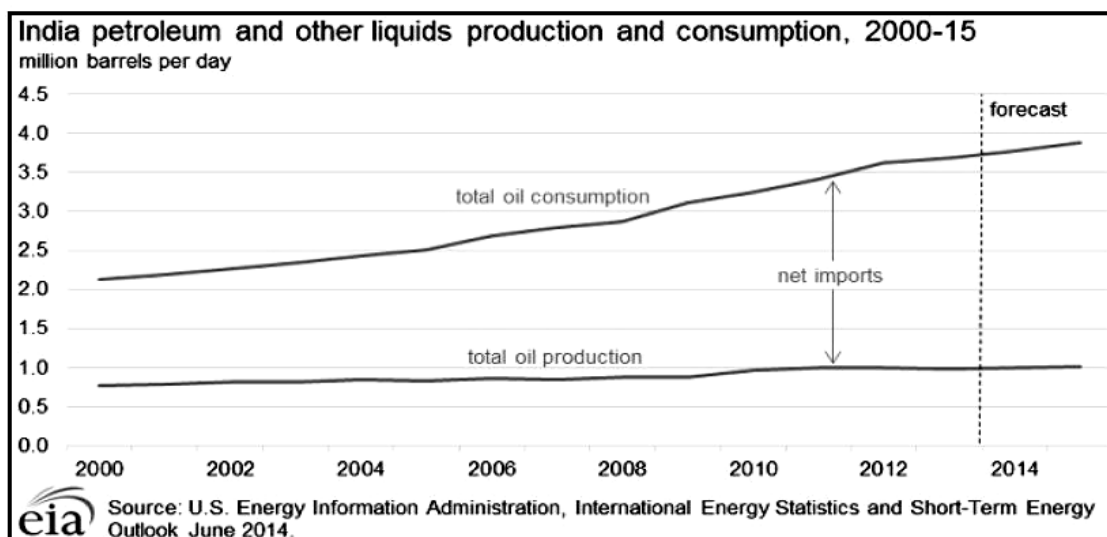

Fig. 4

The time series graph in Fig. 4 shows the gap between production and consumption of crude oil in India.

The reasons for rising demand of petroleum products are many like the Indian economy is in a stage of development where energy requirement is at a phenomenal pace. Since the beginning of New Economic Policy 1991, India's population has increasingly moved to cities, households have shifted away from traditional biomass to other energy consumption, power and transport sectors are fast growing and require increasing consumption. Near about 1.4 million barrels of diesel are used per day in India especially by farmers, trucks and industry. India is ranked 4th in the world after USA, China and Russia. Since the demand can't be met internally therefore India imports over 75% of its crude oil needs from the Middle East, Iran, Nigeria and others. Look at the pie chart given below.

India petroleum and other liquids imports by source, 2013
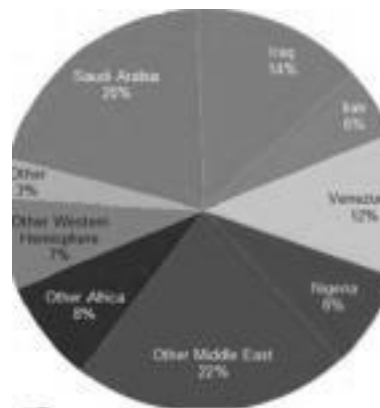
i Source: U S Energy Information Administration, Global Cl3. Trade Atlas
Fig. 5

The pie chart in Fig. 5 indicates the countries from where India imports crude oil. It is clear the majority of India's imports are from the OPEC. OPEC is Organisation of Petroleum Exporting Countries. The organisation came up in 1960 with five founding member countries namely, Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. It has more than 80% of the proven crude oil reserves of the world. Since world over consumption of oil and its products have been increasing, so have the prices per barrel risen. The time series graph shown below indicated this.

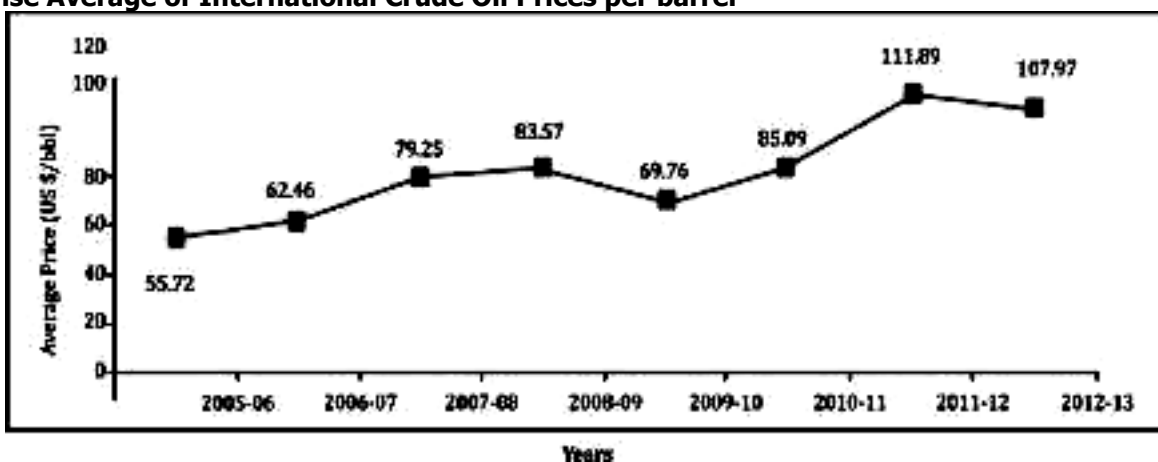**Year-wise Average of International Crude Oil Prices per barrel**

Fig. 6

The current price of crude oil is over $120 per barrel and is expected to soar higher. If as a producer you were importing a raw material and its cost of importing increases then, *what would you do to recover rising cost? Would you not increase the price of the final product you were selling in the market?*

India primarily imports crude oil at rising prices and with the weakening of the rupee lands up paying enormous amounts for crude oil imports. Depreciation of the rupee makes our imports expensive as we have to pay more for every $ of goods bought. For example foreign exchange rate was 52 rupees = 1$ and then rupee depreciates to 60 rupees = 1 $ and if you had to pay 100 $ for importing then earlier you paid (100 x 52) rupees 5200 and now you pay (100x 60) rupees 6000, for the same volume of goods. This burden of rising import prices has to be borne by the Government Being a welfare state it can't pass on the burden of rising prices to the common man. *This is where the Government plays a vital role. It offers subsidies* to the Oil and Marketing Companies (OMC's) like the Oil and Natural Gas Commission (ONGC), Indian Oil Corporation (IOC), etc.

What are subsidies? Subsidy is a monetary assistance or tax benefit given by the Government to individuals or institutions to encourage production by reducing cost or encourage consumption. Government provides a variety of subsidies as can be seen in the pie chart given below. While a subsidy on fertilizers is meant to encourage the use of fertilizers by farmers, subsidy on diesel is expected to reduce the cost of transportation for the producers and consumers.
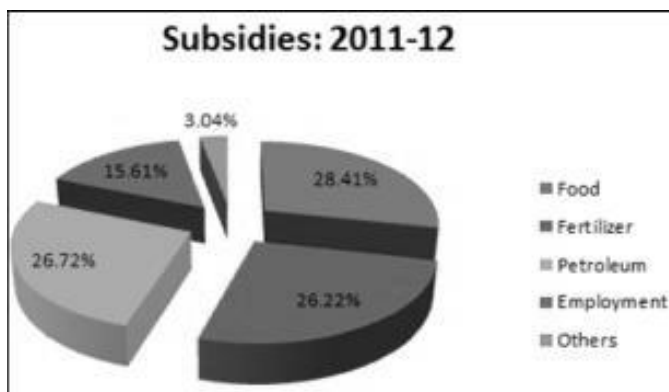

Fig. 7

It is expected that the Government will provide subsidised food articles for poor population, sponsor employment generation schemes and like. As can be seen the maximum subsidy expenditure is provided on petroleum by the Government. This expenditure on subsidies adds to its total budget expenditure and ultimately increases the **fiscal deficit** of the Government Fiscal deficit is the excess expenditure of the Government which has to be funded through borrowings. Borrowings add to the future liability of the country and should be kept to a minimum level. Let us review the bar chart given in Fig. 8. What does it indicate?
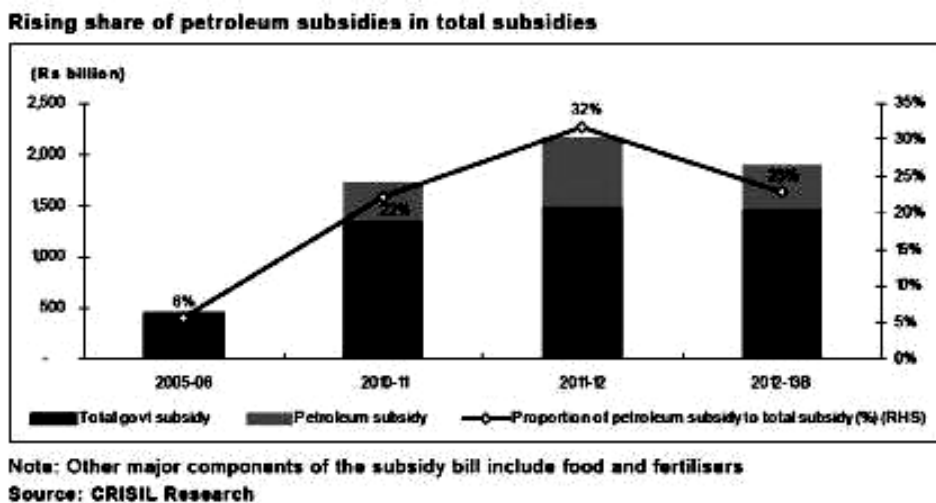
Fig. 8

It indicates that not only is the subsidy bill of the Government risen since 2005-06, the proportion of subsidy given to petroleum has sharply risen. The Government has doled out rupees 1,50,500 crores since 2009-10 to 2011-12 as cash compensation to the oil marketing companies (OMC's).

This compensation is given as the OMC's sell the petrol, diesel and other products at a highly subsidised rate. For example in the 1st quarter of 2012 -13 the price of crude oil per barrel was $ 109.82 and the companies gave a discount of $56 per barrel and therefore they underwent losses to the value of $ 53.82 per barrel. Such losses incurred by selling products at less than market price are called under recoveries (difference between market price and administered price = under recovery). The Government seems to be trapped in the maze of rising subsidies, under recoveries and rising international petroleum prices. To make things better economic advisors (the *Kirit Parikh committee June 2010) recommended deregulation of petrol and diesel prices to liberalise the energy sector in India. Deregulation is defined as the partial removal of Government control, withdrawal of state interference, encouraging free market operations, simplification of Government rules and regulations. The merits of this strategy are-*

* Reduction of the Government burden on subsidies. Cost of subsidy on oil for the year 20122013 is estimated to be Rs 43,580 crores. This extra expenditure can be diverted towards health and education2 sector instead.
* Help the OMC's to overcome their under recoveries.
* The private companies like ESSAR, Reliance etc. will now get a level ground to compete with the public sector OMC's as the administered prices are no longer protecting the OMC's.
* In the long run foreign investment can also feel welcomed to join the oil and petroleum sale and refining sector.
* In the long run the country's need to import will decrease and so would the import bill.
* Aligning the petrol prices to the international market forces.

Is there any relation between the oil prices in India and the world?

Yes petrol price is calculated on the basis of worldwide supply and demand factors. Foreign suppliers sell crude oil to Oil Marketing Companies (OMCs) in India at benchmark prices. Delivery price at the refinery and Brent crude's daily price are considered to calculate actual cost of petrol in India.

One barrel of crude oil contains about 159 litres of oil priced in US dollars. To calculate price per litre, the total amount paid in US dollars are converted to Indian rupee and then divided by 159 litres. For example if each barrel of oil cost $110 and 200 barrels have been ordered for, also the exchange rate is Rs 60 = 1 $. Then the cost per litre will be calculated as follows.

1 bbl x 110 $ per = 110 $.

Rs 60 = 1 $ or 110 $ x 60 = Rs 6600

Cost per litre = 6600 / 159 = Rs 41.509 per lt

After buying, crude oil is transported to refineries in India. India at present has about 20 refineries. Crude oil is then separated into various products like petrol, diesel, coal tar, etc in distillation towers of these refineries. Cost of distillation and refining is added to the price of petrol. Also custom levy and charges from ports to the refinery is added.

Separated petrol is now ready to be stored in the storage tanks of the oil companies. Oil companies now pay to the refineries and to this is added the cost of transporting petrol from refinery to OMC's tanks. So the actual price of petrol that a consumer pays includes all the above mentioned cost plus commission of a dealer, VAT, excise duty, total duties and taxes.

Thus petrol price is the cost price that includes procuring, refining and marketing plus taxes that include central and state taxes. Suppose if the petrol price per litre in Chennai is Rs 51.90 Rs per litre, here is the break-up of cost calculated by the government:

Basic Price = Rs. 21.93 per litre
Excise duty = Rs. 14.35
Education tax = Rs. 0.43
Dealer commission = Rs. 1.05
VAT = Rs. 5.5
Crude Oil Custom duty = Rs. 1.1 Petrol
Custom = Rs. 1.54 Transportation Charge =
Rs. 6.00 **Total price = Rs. 51.90**

So for a Rs 22 litre petrol at pumps, consumers in India pay Rs 29.90 and tax extra. While policy makers view so much merit in deregulating petrol prices the common man can't read between lines and only cribs about the rising prices of petrol, diesel and other cooking fuels.

Look at the cartoons in Fig. 9 (a) and Fig. 9 (b) what do you understand from the cartoons? Are the two cartoons related? Yes these cartoons are expressing the sentiments of the common man on the rising petrol, diesel and CNG prices. It is becoming difficult for the commoner to understand why are these prices rising and who is going to benefit from such an increase?

The rise in petrol price in turn has a *rippling effect.* As all the commodities are transported across India on vehicles that run on petrol or diesel, so increase in petrol price results in price rise of these commodities as well. The greatest sufferer of all this is a common man. He is already bearing the pressure of inflation and any increase in petrol/ diesel prices will further reduce his disposable income. With the increase in petrol price food item will get costlier; it will result in less of savings and more of expenditure. This in turn will affect the real estate, banking and other sectors of the economy. Eventually, more and more people will be pushed towards poverty line.

It is interesting to know that In USA, at present the fuel price is 3.74$ per gallon, after conversion it becomes Rs 53.80 per litre. They have fixed per gallon taxes. In fact, in US taxes and charges only account for 12-15 percent. In Pakistan fuel prices are 16 percent lesser than ours and in Sri Lanka, they are 15 percent lesser.

While consumers feel frustrated about the heavy taxation on petrol prices, oil companies in India have to struggle to make profits. Fuel pricing in India is an extremely complicated process between the various entities involved. Locally decreasing fuel tax can decrease fuel prices. The VAT or value added tax on petrol or diesel differs from one state to another and is the primary reason for the difference in petrol costs across the country. The revenue generated through VAT on petrol is meant to be used for development within the states. It varies between 15% and 33% depending on the states that have complete control over it. Should they choose to do so, states can reduce or increase the VAT amount. Goa for example, recently reduced the VAT on petrol thereby making it cheaper by Rs 11.

We need a balance where one can enjoy affordable fuel prices. Oil companies are getting reasonable returns whereas our government gets the required revenue.

The entire exercise proves that petroleum pricing is a complex challenge for the Government It is trying to balance between the interests of the consumers, producers and create a pool for renewing poverty alleviation programmes. Following are some methods and strategies which contribute towards solving the problem. Some of these even promote sustainable development. Can you think of more such solutions?

-        The refining capacity in the country needs to be increased so that we can use our own indigenous reserves and reduce dependence on imports.
-        Modern technology for refining needs to be used like, installation of waste heat recovery system for example reinjecting gas to underground reservoir. This way the wastage of resources is minimized.
-        Encourage the development of equipment for household practices like fans, LED lamps, refrigerators, etc. that are fuel efficient. Similarly developing fuel efficient machinery for industry and agriculture, like fuel efficient pump sets. Making it mandatory for these appliances to carry energy labelling as per international standards.
-        Turning towards renewable sources of energy like solar panels, biogas, wind energy etc. using these in everyday life situations like running the traffic signals, using solar geysers, smoke less chulah in rural areas and many more.
-        Conducting energy audits in households, offices and other organizations to find out the usage and wastage of energy. Such audits can also keep a check on the use of energy efficient appliances (with 3 stars) and renewable energy equipments.
-        Replacing lubricants of lower efficiency with that of higher efficiency, like using unleaded petrol, low sulphur content in diesel, reducing benzene content in gasoline, using CNG for buses, auto and PNG instead of LPG for cooking purposes. These will reduce the environmental pollution.
-        Change always begins from "me" we all can contribute by making a conscious effort to switch off lights and fans when not required, use public transport instead of private vehicle, do car pool, write on both sides of paper, reuse our pens and practice the 3 R's of REDUCE, REUSE AND RECYCLE. AS ENERGY SAVED IS ENERGY GENERATED. This is essential for leading a comfortable life today and tomorrow.

24.   The oil marketing companies have started selling LPG at market price. The Government gives the subsidy amount to the buyer as cash in his/her bank account, instead of reducing the market price of LPG. Why do you think the Government has changed the policy? Are there any demerits in the new policy?   (5)

25.   Write a report detailing the graph shown in fig. 4 of the theme provided.   (5)

-x-x-x-x-x-x-