

4**SECURITY ANALYSIS****Question 1**

Describe the concept of 'Evaluation of Technical Analysis.

(MTP 4 Marks March '19)

Answer:**Evaluation of Technical Analysis**

Technical Analysis has several supporters as well several critics. The advocates of technical analysis offer the following interrelated argument in their favour:

- (a) Under influence of crowd psychology trend persist for some time. Tools of technical analysis help in identifying these trends early and help in investment decision making.
- (b) Shift in demand and supply are gradual rather than instantaneous. Technical analysis helps in detecting this shift rather early and hence provides clues to future price movements.
- (c) Fundamental information about a company is observed and assimilated by the market over a period of time. Hence price movement tends to continue more or less in same direction till the information is fully assimilated in the stock price.

Detractors of technical analysis believe that it is an useless exercise; their arguments are as follows:

- (a) Most technical analysts are not able to offer a convincing explanation for the tools employed by them.
- (b) Empirical evidence in support of random walk hypothesis cast its shadow over the usefulness of technical analysis.
- (c) By the time an uptrend and down trend may have been signalled by technical analysis it may already have taken place.
- (d) Ultimately technical analysis must be self-defeating proposition. With more and more people employing it, the value of such analysis tends to decline.

In a nutshell, it may be concluded that in a rational, well ordered and efficient market, technical analysis may not work very well. However, with imperfection, inefficiency and irrationalities that characterizes the real-world market, technical analysis may be helpful. If technical analysis is used in conjunction with fundamental analysis, it might be useful in providing proper guidance to investment decision makers.

Question 2

Mention the various challenges to the Efficient Market Theory.

(MTP 4 Marks May '20, RTP Nov 18)

Answer:

Following are main challenges of Efficient Market Theory:

(i) **Information inadequacy** - Information is neither freely available nor rapidly transmitted to all participants in the stock market. There is a calculated attempt by many companies to circulate misinformation.

(ii) **Limited information processing capabilities** - Human information processing capabilities are sharply limited. According to Herbert[®]Simon every human organism lives in an environment which generates millions of new bits of information every second but the bottle necks of the perceptual apparatus does not admit more than thousand bits per seconds and possibly much less.

David Dreman maintained that under conditions of anxiety and uncertainty, with a vast interacting information grid, the market can become a giant.

(iii) **Irrational Behaviour** - It is generally believed that investors' rationality will ensure a close correspondence between market prices and intrinsic values. But in practice this is not true.

J. M. Keynes argued that all sorts of consideration enter into the market valuation which is in no way relevant to the prospective yield. This was confirmed by L. C. Gupta who found that the market evaluation processes work haphazardly almost like a blind man firing a gun. The market seems to function largely on hit or miss tactics rather than on the basis of informed beliefs about the long term prospects of individual enterprises.

(iv) **Monopolistic Influence** - A market is regarded as highly competitive. No single buyer or seller is supposed to have undue influence over prices. In practice, powerful institutions and big operators wield grate Influence over the market. The monopolistic power enjoyed by them diminishes the competitiveness of the market.

Question 3

Explain various Market Indicators.

(MTP 4 Marks Oct' 20, RTP Nov'20)**Answer:****Following are major Market Indicators:**

- (i) **Breadth Index:** It is an index that covers all securities traded. It is computed by dividing the net advances or declines in the market by the number of issues traded. The breadth index either supports or contradicts the movement of the Dow Jones Averages. If it supports the movement of the Dow Jones Averages, this is considered sign of technical strength and if it does not support the averages, it is a sign of technical weakness i.e. a sign that the market will move in a direction opposite to the Dow Jones Averages. The breadth index is an addition to the Dow Theory and the movement of the Dow Jones Averages.
- (ii) **Volume of Transactions:** The volume of shares traded in the market provides useful clues on how the market would behave in the near future. A rising index/price with increasing volume would signal buy[®]behaviour because the situation reflects an unsatisfied demand in the market. Similarly, a falling market with increasing volume signals a bear market and the prices would be expected to fall further. A rising market with decreasing volume indicates a bull market while a falling market with dwindling volume indicates a bear market. Thus, the volume concept is best used with another market indicator, such as the Dow Theory.
- (iii) **Confidence Index:** It is supposed to reveal how willing the investors are to take a chance in the market. It is the ratio of high-grade bond yields to low-grade bond yields. It is used by market analysts as a method of trading or timing the purchase and sale of stock, and also, as a forecasting device to determine the turning points of the market. A rising confidence index is expected to precede a rising stock market, and a fall in the index is expected to precede a drop in stock prices. A fall in the confidence index represents the fact that low-grade bond yields are rising faster or falling more slowly than high grade yields. The confidence index is usually, but not always a leading indicator of the market. Therefore, it should be used in conjunction with other market indicators.
- (iv) **Relative Strength Analysis:** The relative strength concept suggests that the prices of some securities rise relatively faster in a bull market or decline more slowly in a bear

market than other securities i.e. some securities exhibit relative strength. Investors will earn higher returns by investing in securities which have demonstrated relative strength in the past because the relative strength of a security tends to remain undiminished over time.

Relative strength can be measured in several ways. Calculating rates of return and classifying those securities with historically high average returns as securities with high relative strength is one of them. Even ratios like security relative to its industry and security relative to the entire market can also be used to detect relative strength in a security or an industry.

- (v) **Odd-Lot Theory:** This theory is a contrary opinion theory. It assumes that the average person is usually wrong and that a wise course of action is to pursue strategies contrary to popular opinion. The odd-lot theory is used primarily to predict tops in bull markets, but also to predict reversals in individual securities.

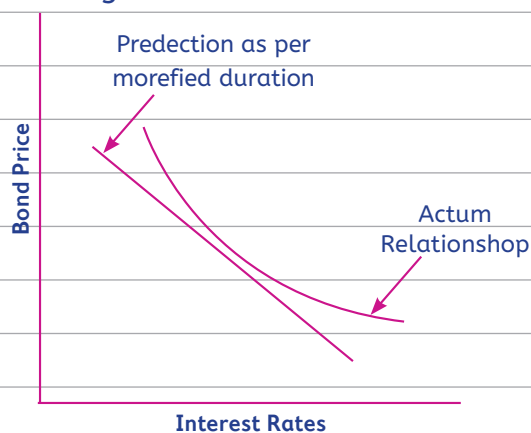
Question 4

Modified Duration is a proxy not an accurate measure of change in price of a Bond due to change interest rate. Discuss. (MTP 4 Marks April'21)

Answer:

Although Modified Duration is a measure of volatility or change in the price of a Bond consequent upon change in the yield or interest rates as it assumes a linear relationship between the Modified Duration and the price of a Bond but is not accurate measure because of Convexity.

Accordingly, the relationship between change in the interest rate and bond value is non-linear i.e., convex curve to the origin as shown below:



From the above diagram it is clear that the actual effect of change in interest rate on Bond Price is different from the predicted linear relationship.

Question 5

EXPLAIN briefly the Dow Jones Theory.

(MTP 4 Marks Oct '22, March '18 & Oct '18, Old & New SM)

Answer:

The Dow Theory is one of the oldest and most famous technical theories. It was originated by Charles Dow, the founder of Dow Jones Company in late nineteenth century. It is a helpful tool for determining the relative strength of the stock market. It can also be used as a barometer of business.

The Dow Theory is based upon the movements of two indices, constructed by Charles Dow, Dow Jones Industrial Average (DJIA) and Dow Jones Transportation Average (DJTA). These averages reflect the aggregate impact of all kinds of information on the market. The movements of the market are divided into three classifications, all going at the same time; the primary movement, the secondary movement, and the daily fluctuations. The primary movement is the main trend of the market, which lasts from one year to 36 months or longer. This trend is commonly called bear or bull market. The secondary movement of the market is shorter in duration than the primary movement, and is opposite in direction. It lasts from two weeks to a month or more. The daily fluctuations are the narrow movements from day-to-day. These fluctuations are not part of the Dow Theory interpretation of the stock market. However, daily movements must be carefully studied, along with primary and secondary movements, as they go to make up the longer movement in the market.

Thus, the Dow Theory's purpose is to determine where the market is and where is it going, although not how far or high. The theory, in practice, states that if the cyclical swings of the stock market averages are successively higher and the successive lows are higher, then the market trend is up and a bullish market exists. Contrarily, if the successive highs and successive lows are lower, then the direction of the market is down and a bearish market exists.

Charles Dow proposed that the primary uptrend would have three moves up, the first one being caused by accumulation of shares by the far-sighted, knowledgeable investors, the second move would be caused by the arrival of the first reports of good earnings by corporations, and the last move up would be caused by widespread report of financial well-being of corporations. The third stage would also see rampant speculation in the

market. Towards the end of the third stage, the far-sighted investors, realizing that the high earnings levels may not be sustained, would start selling, starting the first move down of a downtrend, and as the non-sustainability of high earnings is confirmed, the second move down would be initiated and then the third move down would result from distress selling in the market.

Question 6

The closing value of Sensex for the month of October, 2007 is given below:

Date Closing	Sensex Value
1.10.07	2800
3.10.07	2780
4.10.07	2795
5.10.07	2830
8.10.07	2760
9.10.07	2790
10.10.07	2880
11.10.07	2960
12.10.07	2990
15.10.07	3200
16.10.07	3300
17.10.07	3450
19.10.07	3360
22.10.07	3290
23.10.07	3360
24.10.07	3340
25.10.07	3290
29.10.07	3240
30.10.07	3140
31.10.07	3260

With the help of above data evaluate the weak form of efficient market hypothesis by applying the run test at 5% and 10% level of significance.

Following value can be used:

Value of t at 5% is 2.101 at 18 degrees of freedom Value of t at 10% is 1.734 at 18 degrees of freedom.

(MTP 12 Marks April'21, MTP 10 Marks Oct 18, RTP Nov'23, Old & New SM)

Answer:

Date	Sensex Value	Sign of Price Charge
1.10.07	2800	
3.10.07	2780	-
4.10.07	2795	+
5.10.07	2830	+
8.10.07	2760	-
9.10.07	2790	+
10.10.07	2880	+
11.10.07	2960	+
12.10.07	2990	+
15.10.07	3200	+
16.10.07	3300	+
17.10.07	3450	+
19.10.07	3360	-
22.10.07	3290	-
23.10.07	3360	+
24.10.07	3340	-
25.10.07	3290	-
29.10.07	3240	-
30.10.07	3140	-
31.10.07	3260	+

Total of sign of price changes (r) = 8 No. of Positive.

changes = $n_1 = 11$ No. of Negative changes = $n_2 = 8$

$$\mu = \frac{2n_1n_2}{n_1 + n_2} + 1$$

$$\mu = \frac{2 \times 11 \times 8}{11 + 8} + 1$$

$$= \frac{176}{19} = 10.26$$

$$\sigma_r = \sqrt{\frac{2n_1n_2(2n_1n_2 - n_1 - n_2)}{n_1 + n_2(n_1 + n_2 - 1)}}$$

$$\sigma_r = \sqrt{\frac{(2 \times 11 \times 8)(2 \times 11 \times 8 - 11 - 8)}{(11 + 8)^2(11 + 8 - 1)}} = \sqrt{\frac{176 \times 157}{(19)^2(18)}} = \sqrt{4.252} = 2.06$$

Since too few runs in the case would indicate that the movement of prices is not random. We employ a two-tailed test the randomness of prices.

Test at 5% level of significance at 18 degrees of freedom using t-table The lower limit

$$= \mu - t \times \sigma_r^{\wedge} = 10.26 - 2.101 \times 2.06 = 5.932$$

Upper limit

$$= \mu + t \times \sigma_r^{\wedge} = 10.26 + 2.101 \times 2.06 = 14.588$$

At 10% level of significance at 18 degrees of freedom Lower limit

$$= 10.26 - 1.734 \times 2.06 = 6.688$$

Upper limit

$$= 10.26 + 1.734 \times 2.06 = 13.832$$

As seen r lies between these limits. Hence, the market exhibits weak form of efficiency.

*For a sample of size n, the t distribution will have n – 1 degrees of freedom.

Question 7

Closing values of BSE Sensex from 6th to 17th[®] day of the month of January of the year 200X were as follows:

Days	Date	Day	Sensex
1	6	THU	14522
2	7	FRI	14925
3	8	SAT	No Trading
4	9	SUN	No Trading
5	10	MON	15222
6	11	TUE	16000
7	12	WED	16400
8	13	THU	17000
9	14	FRI	No Trading
10	15	SAT	No Trading
11	16	SUN	No Trading
12	17	MON	18000

Calculate Exponential Moving Average (EMA) of Sensex during the above period.

The 30 days simple moving average of Sensex can be assumed as 15,000. The value of exponent for 30 days EMA is 0.062. Give detailed analysis on the basis of your calculations.

(MTP 7 Marks March 18, Old & New SM, PYP 8 Marks Nov '19)

(Same concept different figures PYP 8 Marks May'18)

Answer:

Date	1 Sensex	2 EMA for Previous day	3 1 - 2	4 3 x 0.062	5 EMA 2 + 4
6	14522	15000	(478)	(29.636)	14970.364
7	14925	14970.364	(45.364)	(2.812)	14967.55
10	15222	14967.55	254.45	15.776	14983.32
11	16000	14983.32	1016.68	63.034	15046.354
12	16400	15046.354	1353.646	83.926	15130.28
13	17000	15130.28	1869.72	115.922	15246.202
17	18000	15246.202	2753.798	170.735	15416.937

Conclusion - The market is bullish. The market is likely to remain bullish for short term to medium term if other factors remain the same. On the basis of this indicator (EMA) the inventory/brokers can take long position.

EXAMINERS' COMMENTS ON THE PERFORMANCE OF EXAMINEES:

An average performance has been observed in this question.

Question 8

Sensex futures are traded at a multiple of 50. Consider the following quotations of Sensex futures in the 10 trading days during February, 2009:

Day	High	Low	Closing
4-2-09	3306.4	3290.00	3296.50
5-2-09	3298.00	3262.50	3294.40
6-2-09	3256.20	3227.00	3230.40
7-2-09	3233.00	3201.50	3212.30
10-2-09	3281.50	3256.00	3267.50
11-2-09	3283.50	3260.00	3263.80
12-2-09	3315.00	3286.30	3292.00
14-2-09	3315.00	3257.10	3309.30
17-2-09	3278.00	3249.50	3257.80
18-2-09	3118.00	3091.40	3102.60

Abhishek bought one Sensex futures contract on February, 04. The average daily absolute change in the value of contract is ₹ 10,000 and standard deviation of these changes is ₹ 2,000. The maintenance margin is 75% of initial margin.

DETERMINE the daily balances in the margin account and payment of margin calls, if any.

(MTP 6 Marks, April'22)

Answer:

Working Notes:

Initial Margin = $\mu + 3\sigma$

Where μ = Daily Absolute Change

σ = Standard Deviation

Accordingly

Initial Margin = ₹10,000 + ₹6,000 = ₹16,000

Maintenance margin = ₹16,000 × 0.75 = ₹12,000

(i) **Margin Account**

Day	Changes in future Values (₹)	Margin A/c (₹)	Call Money (₹)
4/2/09	-	16000	-
5/2/09	50 × (3294.40 - 3296.50) = -105	15895	-
6/2/09	50 × (3230.40 - 3294.40) = -3200	12695	-
7/2/09	50 × (3212.30 - 3230.40) = -905	16000	4210
10/2/09	50 × (3267.50 - 3212.30) = 2760	18760	-
11/2/09	50 × (3263.80 - 3267.50) = -185	18575	-
12/2/09	50 × (3292 - 3263.80) = 1410	19985	-
14/2/09	50 × (3309.30 - 3292) = 865	20850	-
17/2/09	50 × (3257.80 - 3309.30) = -2575	18275	-
18/2/09	50 × (3102.60 - 3257.80) = -7760	16000	5485

(ii) Thus, there will be two margin calls of ₹4,210 and ₹5,485.

Question 9

DESCRIBE the factors affecting Industry Analysis.

(RTP May 19)

Answer:

The following factors may particularly be kept in mind while assessing the factors relating to an industry.

(i) **Product Life-Cycle:** An industry usually exhibits high profitability in the initial and growth stages, medium but steady profitability in the maturity stage and a sharp decline in profitability in the last stage of growth.

(ii) **Demand Supply Gap:** Excess supply reduces the profitability of the industry because of the decline in the unit price realization, while insufficient supply tends to improve the profitability because of higher unit price realization.

- (iii) **Barriers to Entry:** Any industry with high profitability would attract fresh investments. The potential entrants to the industry, however, face different types of barriers to entry. Some of these barriers are innate to the product and the technology of production, while other barriers are created by existing firms in the industry.
- (iv) **Government Attitude:** The attitude of the government towards an industry is a crucial determinant of its prospects.
- (v) **State of Competition in the Industry:** Factors to be noted are- firms with leadership capability and the nature of competition amongst them in foreign and domestic market, type of products manufactured viz homogeneous or highly differentiated, demand prospects through classification viz customer-wise/area wise, changes in demand patterns in the long/immediate/ short run, type of industry the firm is placed viz growth, cyclical, defensive or decline.
- (vi) **Cost Conditions and Profitability:** The price of a share depends on its return, which in turn depends on profitability of the firm. Profitability depends on the state of competition in the industry, cost control measures adopted by its units and growth in demand for its products.
- (vii) **Technology and Research:** They play a vital role in the growth and survival of a particular industry Technology is subject to change very fast leading to obsolescence. Industries which update themselves have a competitive advantage over others in terms of quality, price etc.

Question 10

Explain the factors affecting economic analysis.

(RTP May 20)

Answer:

Some of the factors affecting economic analysis are discussed as under:

- (i) **Growth Rates of National Income and Related Measures:** For most purposes, what is important is the difference between the nominal growth rate quoted by GDP and the 'real' growth after taking inflation into account. The estimated growth rate of the economy would be a pointer to the prospects for the industrial sector, and therefore to the returns investors can expect from investment in shares.

- (ii) **Growth Rates of Industrial Sector:** This can be further broken down into growth rates of various industries or groups of industries if required. The growth rates in various industries are estimated based on the estimated demand for its products.
- (iii) **Inflation:** Inflation is measured in terms of either wholesale prices (the Wholesale Price Index or WPI) or retail prices (Consumer Price Index or CPI). The demand in some industries, particularly the consumer products industries, is significantly influenced by the inflation rate. Therefore, firms in these industries make continuous assessment about inflation rates likely to prevail in the near future so as to fine-tune their pricing, distribution and promotion policies to the anticipated impact of inflation on demand for their products.
- (iv) **Monsoon:** Because of the strong forward and backward linkages, monsoon is of great concern to investors in the stock market too.

Question 11

In an efficient market, technical analysis may not work perfectly. However, with imperfections, inefficiencies and irrationalities, which characterizes the real world, technical analysis may be helpful. Critically analyse the statement.

(PYP 4 Marks, Nov '20)

Answer:

Yes, this statement is correct.

Arguments for technical analysis:

- (a) Under influence of crowd psychology trend persists for some time. Technical analysis helps in identifying these trends early which is helping decision making.
- (b) Shift in demand and supply is gradual rather than instantaneous. Technical analysis helps in detecting this shift rather early.
- (c) Fundamental information about a company is observed and assimilated by the market over a period of time. Hence price movements tend to move more or less in same direction till the information is fully assimilated in the price of the stock.

Arguments against technical analysis:

- (a) Technical are not able to offer a convincing explanation for tools employed by them.
- (b) Empirical evidence in support of random walk hypothesis cast its shadow on it.
- (c) By the time trends are signaled by technical analysis, trends have already taken place.

Question 12

Describe briefly on which principles Technical Analysis is based.

(PYP 4 Marks Dec '21)

Answer:

Technical analysis is based on the following three principals:

(1) The Market Discounts Everything:

Although many experts criticize technical analysis because it only considers price movements and ignores fundamental factors but the Efficient Market Hypothesis (discussed later in detail) contradicts it according to which a company's share price already reflects everything that has or could affect a company and it includes fundamental factors. So, technical analysts generally have the view that a company's share price includes everything including the fundamentals of a company.

(2) Price Moves in Trends:

Technical analysts believe that prices move in trends. In other words, a stock price is more likely to continue a past trend than move in a different direction.

(3) History Tends to Repeat Itself:

Technical analysts believe that history tends to repeat itself. Technical analysis uses chart patterns to analyze subsequent market movements to understand trends. While many form of technical analysis have been used for many years, they are still considered to be significant because they illustrate patterns in price movements that often repeat themselves.

EXAMINERS' COMMENTS ON THE PERFORMANCE OF EXAMINEES:

Lack of understanding of the concept of Technical Analysis was visible in most of the answers to this theoretical question. Hence poor performance has been noticed in this question.

Question 13

Mr. X is of the opinion that market has recently shown the Weak Form of Market Efficiency. In order to test the validity of his impression he has collected the following data relating to the movement of the SENSEX for the last 20 days.

Days	Open	High	Low	Close
1	33470.94	33513.79	33438.03	33453.99
2	33453.64	33478.11	33427.82	33434.83
3	33414.06	33440.29	33397.65	33431.93
4	33434.94	33446.18	33377.78	33383.41
5	33372.92	33380.27	33352.12	33370.93
6	33375.85	33389.49	33331.42	33340.75
7	33340.89	33340.89	33310.95	33330.98
8	33326.84	33340.91	33306.17	33335.08
9	33307.16	33328.22	33296.43	33301.97
10	33298.64	33318.60	33254.28	33259.03
11	33260.04	33228.85	33241.66	33251.53
12	33255.92	33289.46	33249.46	33285.89
13	33288.86	33535.67	33255.98	33329.28
14	33335.00	33346.21	33276.72	33284.17
15	33293.83	33310.86	33278.54	33298.78
16	33300.02	33337.79	33300.02	33325.38
17	33323.36	33356.34	33322.44	33329.95
18	33322.81	33345.98	33317.44	33319.67
19	33317.51	33321.18	33294.19	33302.32
20	33290.86	33324.96	33279.62	33319.61

You are required:

To test the Weak Form of Market Efficiency using Auto-Correlation test, taking time lag of 10 days.

(PYP 8 Marks Jan '21)

Answer:

Period 1	Closing Prices	Change	Period 2	Closing Prices	Change
1	33453.99		11	33251.53	
2	33434.83	-19.16	12	33285.89	34.36
3	33431.93	-2.90	13	33329.28	43.39
4	33383.41	-48.52	14	33284.17	-45.11
5	33370.93	-12.48	15	33298.78	14.61
6	33340.75	-30.18	16	33325.38	26.6
7	33330.98	-9.77	17	33329.95	4.57
8	33335.08	4.1	18	33319.67	-10.28
9	33301.97	-33.11	19	33302.32	-17.35
10	33259.03	-42.94	20	33319.61	17.29

X	Y	X ²	Y ²	XY
-19.16	34.36	367.11	1180.61	-658.34
-2.90	43.39	8.41	1882.69	-125.83
-48.52	-45.11	2354.19	2034.91	2188.74
-12.48	14.61	155.75	213.45	-182.33
-30.18	26.6	910.83	707.56	-802.79
-9.77	4.57	95.45	20.88	-44.65
4.1	-10.28	16.81	105.68	-42.15
-33.11	-17.35	1096.27	301.02	574.46
-42.94	17.29	1843.84	298.94	-742.43
$\Sigma X = -194.96$	$\Sigma Y = 68.08$	$\Sigma X^2 = 6848.66$	$\Sigma Y^2 = 6745.74$	$\Sigma XY = 164.68$
$X = -21.66$	$Y = 7.56$			

$$b = \frac{\Sigma XY - n\bar{X}\bar{Y}}{\Sigma X^2 - n(\bar{X})^2} = \frac{164.68 - 9(-21.66)(7.56)}{6848.66 - 9(-21.66)^2} = 0.624$$

$$a = \bar{Y} - b\bar{X} = 7.56 - 0.624(-21.66) = 21.08$$

$$r^2 = \frac{a\Sigma Y + b\Sigma XY - n(\bar{Y})^2}{\Sigma Y^2 - n(\bar{Y})^2} = \frac{21.08(68.08) + 0.624(164.68) - 9(7.56)^2}{6745.74 - 9(7.56)^2}$$

$$r^2 = 0.164$$

$$r^2 = 0.405$$

There is moderate degree of correlation between the returns of two periods hence it can be concluded that the market does not show the weak form of efficiency.

Question 14

Closing Values of NIFTY Index from 3rd to 12th day of the month of January 2022 were as follows:

Days	Date	Closing Values of NIFTY Index
1	03/01/2022	17626
2	04/01/2022	17805
3	05/01/2022	17925
4	06/01/2022	17746
5	07/01/2022	17813
6	10/01/2022	18003
7	11/01/2022	18056
8	12/01/2022	18212

The simple moving average of NIFTY Index for the month of December 2021 was 17174.

You are required to calculate

- The value of exponent for 15 days EMA.
- The exponential moving average (EMA) of NIFTY during the above period. (Calculations to be done up to 2 decimals only)
- Analyse the buy & sell signal on the basis of your calculations.

(PYP 8 Marks May '22)

Answer:

- Value of Exponent for 15 days EMA

$$= \frac{2}{n + 1} = 0.125$$

- EMA_t = $\alpha \times P_t + (1 - \alpha) \text{ (EMA (t - 1))}$ Where, α = exponent, P_t = Price of today

Date	1 Sensex	2 EMA for Previous day (EMA(t - 1))	3 1 - 2	4 3 × 0.125	5 EMA 2 + 4
03/01/2022	17626	17174	452	56.50	17230.50
04/01/2022	17805	17230.50	574.50	71.81	17302.31
05/01/2022	17925	17302.31	622.69	77.84	17380.15
06/01/2022	17746	17380.15	365.85	45.73	17425.88
07/01/2022	17813	17425.88	387.12	48.39	17474.27
10/01/2022	18003	17474.27	528.73	66.09	17540.36
11/01/2022	18056	17540.36	515.64	64.45	17604.82
12/01/2022	18212	17604.82	607.18	75.90	17680.71

- (i) A buy (bullish) signal is generated when actual price line (NIFTY in the give case) rises through the moving average, while a sell a (bearish) signal is generated when actual NIFTY level declines through the moving averages. In the case under consideration the price line of NIFTY never breaches the 15-day EMA line. In-fact it is hovering around the 15-day EMA line only.

Question 15

Explain the various indicators that can be used to assess the performance of an economy.

(Old & New SM, MTP 4 Marks Oct '19, MTP 5 Marks Apr'19)

Answer:**Techniques Used in Economic Analysis**

Economic analysis is used to forecast national income with its various components that have a bearing on the concerned industry and the company in particular, Gross National Product (GNP) is used to measure national income as it reflects the growth rate in economic activities and has been regarded as a forecasting tool for analyzing the overall economy along with its various components during a particular period.

Some of the techniques used for economic analysis are:

- (a) **Anticipatory Surveys:** They help investors to form an opinion about the future state of the economy incorporates expert opinion on construction activities, expenditure on plant and machinery, levels of Inventory - all having a definite bearing on economic activities. Also future spending habits of consumers are taken into account.

In spite of valuable inputs available through this method, it has certain drawbacks:

- (i) Survey results do not guarantee that intentions surveyed would materialize.
- (ii) They are not regarded as forecasts per se, as there can be a consensus approach by the investor for exercising his opinion, Continuous monitoring of this practice is called for to make this technique popular.

- (b) **Barometer/Indicator Approach:** Various indicators are used to find out how the economy shall perform in the future. The indicators have been classified as under:

- (i) **Leading Indicators:** They lead the economic activity in terms of their outcome. They relate to the time series data of the variables that reach high/low points in advance of economic activity.

Roughly Coincidental Indicators: They reach their peaks and troughs at approximately the same in the economy.

- (ii) **Lagging Indicators:** They are time series data of variables that lag behind in their consequences vis-a-vis the economy. They reach their turning points after the economy has reached its own already.

All these approaches suggest direction of change in the aggregate economic activity but nothing about its magnitude. The various measures obtained from such indicators may give conflicting signals about the future direction of the economy. To avoid this limitation, use of diffusion/composite index is suggested whereby combining several indicators into one index to measure the strength/weaknesses in the movement of a particular set of indicators. Computation of diffusion indices is no doubt difficult notwithstanding the fact it does not eliminate irregular movements.

Money supply in the economy also affects investment decisions. Rate of change in money supply in the economy affects GNP, corporate profits, interest rates and stock prices. Increase in money supply fuels inflation. As investment in stocks is considered as a hedge against inflation, stock prices go up during inflationary period.

- (c) **Economic Model Building Approach:** In this approach, a precise and clear relationship between dependent and independent variables is determined. GNP model building or sectoral analysis is used in practice through the use of national accounting framework. The steps used are as follows:
- (i) Hypothesize total economic demand by measuring total income (GNP) based on political stability, rate of inflation, changes in economic levels.
 - (ii) Forecasting the GNP by estimating levels of various components viz. consumption expenditure, gross private domestic investment, government purchases of goods/services, net exports.
 - (iii) After forecasting individual components of GNP, add them up to obtain the forecasted GNP.
 - (iv) Comparison is made of total GNP thus arrived at with that from an independent agency for the forecast of GNP and then the overall forecast is tested for consistency. This is carried out for ensuring that both the total forecast and the component wise forecast fit together in a reasonable manner.

Question 16

In a rational, well ordered and efficient market, technical analysis may not work very well". Is it true? List out the reasons for this statement regarding Technical Analysis.

(PYP 4 Marks Nov'23)

Answer:

The reasons for the statement "In a rational, well ordered and efficient market, technical analysis may not work very well" are as follows:

- (i) Most technical analysts are not able to offer a convincing explanation for the tools employed by them.
- (ii) Empirical evidence in support of random walk hypothesis cast its shadow over the usefulness of technical analysis.
- (iii) By the time an uptrend and down trend may have been signalled by technical analysis it may already have taken place.
- (iv) Ultimately technical analysis must be a self-defeating proposition. With more and more people employing it, the value of such analysis tends to decline.