PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

××× CASE STUDY ×××

Porter's Five Forces Model

1. **Safe and Wise Advisory Limited (SWAL)** is well established financial planning & risk advisory firm of the country with nation-wide presence. SWAL is engaged in selling third party products be it financial products or insurance products (life assurance only). Financial advisory business of SWAL is doing well and contributing to the half of gross revenue of group and two-third of overall group's bottom line, but insurance brokerage business is not performing as per expectation. 'Independent and impartial advice' to client is unique selling point of SWAL.

   SWAL was established by Mr. Kaushal Jaiswal around two decade ago (when life-assurance business goes private), at then it was one division business i.e. assurance brokerage business. Mr. Kaushal Jaiswal is dynamic leader and presently leading the company as CEO, apart from being major shareholder of the company.

   SWAL is widely acknowledged in market for two distinct features, first being presence wide across the nation, in form of 'sub-agency offices' equipped with professionally trained sale staff headed by financial planner or advisor, where customer can take advise and discuss opinion prior to investing/ buying any insurance or financial product. SWAL has 'sub-agency offices' in 580 cities, towns and blocks. Locations are semi-commercial in nature but prominent. SWAL has practice to sign 30-year lease, when so ever taking and 'sub-agency office' on lease in order to reduce the lease cost and bring stability.

   Secondly, SWAL sold product of all third parties, hence provide a range of products to its client to choose from. In 2010, SWAL signed a 15 year's agency agreement with all 23 life insurance companies recognised then. SWAL's tagline is also depicting the same 'we are ethically committed to understand and deliver your needs'. SWAL believes in organic growth and listed on stock market 3 years back to float additional capital to fund more 'sub-agency offices'.

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22 out of these 23 life assurance companies are private and registered themselves with regulatory between the year 2000-2009 for a period of 25 years. Considering the default by few insurance firms and increasing customer complaints, regulator of insurance business in country tighten the registration criteria and harden the norms.

Typically each of 'sub-agency office' comprises three regular and one contractual employee. One being financial planner/ advisor, 2 sales and relationship officer and contractual worker in role of support staff and vested with miscellaneous clerical responsibilities. The on-roll number of employees engaged in assurance brokerage business has been increased to 1,564 from 720 five year ago (up-till 3 year ago number was 845 but since expansion of 'sub-agency' office division it is around 1,500).

Market trend is changing, since the SWAL commence the business. Each of such insurance company, now has their own network of branch offices to sale their insurance product directly; that too at more prominent locations. SWAL counter this step by highlighting its 'independence and impartial advice' practice, although SWAL managed to retain the revenue at same level, but this result in low profitability of 'sub-agency office' business. Now these insurance companies are not authorising any new agent.

Being in service industry and further in order to ensure wider market reach to compensate the loss of profitability in 'sub-agency office' business, SWAL has established own 'E-platform'- 'Policy at you click' to sell the insurance product with total staff of 50 professionals; as a separate division under insurance brokerage business from 'sub-agency office' division. 'E-platform' division is prospering but 'sub-agency office' business is certainly in trouble.

Supported by revenue figures given below (in '000 Crores), analysts reach to conclusion that growth in the assurance brokerage business is slowing down both for SWAL and industry overall–

Market Size/Year	2019-20	2018-19	2017-18	2016-17	2015-16
SWAL's assurance brokerage business	326	320	312	298	280
Total market size of life assurance	2,240	2,198	2,122	2,004	1,960

Revenue earned by each division of assurance brokerage business (in term of age of the client), is shown in table below for year 2019-20–

Division/Age	20-30	30-40	40-50	50-60	60+	Total
'Sub-agency office' division	2	25	38	164	51	280
'E-platform' division	8	28	8	2	0	46
					Total Business of SWAL	326

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Since the profitability of 'sub-agency office' division is declining, hence the strategic review committee of board of directors are concerned about the company's declining profitability due to poor performance of 'sub-agency office' division and suggest that the 'sub-agency office' division should be sold off and that SWAL shall re-position its assurance business as an online solution.

Extract from financial statement for agency office division only (figures in '000 Crores) –

Particulars/Year	2019-20	2018-19	2017-18
Revenue	280	272	250
Profit before interest and tax	18	16	31
Shareholder's' Equity	156	150	150
8% Long term debt	78	64	50
Current Liabilities	455	437	395
Current Assets	605	565	540

Applicable tax rate is 22%. The nature of cost incurred by 'sub-agency office' division is more or less balanced between the variable and fixed. Fixed costs are largely committed in nature.

But the CEO is not agreed to the suggestion made by strategic planning committee, because CEO is of belief that SWAL's USP or original business model is 'sub-agency offices' through which they ensure 'independence and impartial advice' to their clients.

In next board meeting, board is expected to pass resolution on this agenda item in order to decide either to continue or sale the 'sub-agency office' division.

Required

(i) ASSESS the competitive environment of life-assurance business of SWAL (including 'sub-agency office' division). ***[present only two appropriate points for each phase of assessing the environment]***

(ii) EVALUATE the case for holding the 'sub-agency office' division, backed by financial viability among other criteria. ***[present only two appropriate points for each monetary and the non-monetary issue]***

×××QUESTIONS×××

Overall Equipment Effectiveness (OEE)

2. **Sheetal Bearing Balls Limited (SBBL)** is the famous name for bearing balls of different sizes. Mr. Syal recently joined as Manager Production and Operations at Unit 3 of Ludhiana (in Punjab) plant of the SBBL, wherein 10mm diameter steel ball bearings for bicycles are manufactured. The plant is largely automated and lashed with the latest technology machines.

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From Mr. Singh, Plant Accountant Mr. Syal come to know that since machines are of the latest technology and workers are motivated due to the liberal workman policy of SBBL, hence productivity and quality is and was never an issue, but availability is. Over lunch, when Mr. Syal greets Mr. Kumar, Plant Head, he also expresses his worry over excessive downtime and optimal use of limiting factors.

Mr. Syal, while navigating the ERP and reviewing the files & other documents handed over to him, which was prepared and maintained by his predecessor; come across the OEE rate of 93.555% measured during last week for machine '107-10M-Bearing' (which is limiting factor – caused bottleneck activity) during a normal shift. Since the said machine has a high-performance rate of 105%; hence Mr. Syal decided to dig deep into the composite OEE.

In the normal shift of 9 hours workers are allowed to take 2 short breaks of 15 minutes each and a lunch break of 30 minutes. During such a normal shift, out of the total manufactured 27,216 bearing balls by said machine, only 272 balls are found defective.

Required

(i) DETERMINE the unplanned downtime witnessed by machine 107-10M-Bearing and advise Mr. Syal, the best way-out to reduce the same (in brief).

(ii) MEASURE the Ideal Cycle Time to manufacture a single bearing ball.

(iii) APPLY, Goldratt's five steps that can be applied to remove the bottleneck at the Ludhiana plant of SBBL.

Environmental Management Accounting

3. **Sheetal Paper Mart (SPM)** is in process of getting ISO 14001:2004 Environmental Management Systems (revised ISO 14001:2015) certification. SPM is selling eco-friendly and wheat straw-based paper of different sizes (A3, A4, and A5) and GSM under the brand 'Prime'. Prime is a famous name among both commercial and household consumers.

For purpose of getting certified, a cross-functional team is constituted, which is responsible ***'to improve the environmental impact & image of SPM as eco-friendly enterprise and control environmental cost'***, which collects the following particulars relating to the H1 and H2 (first and second half of the relevant fiscal year respectively)

Disposing of the toxic material costs ₹1.2 crores to SPM in H2 which is 20% lesser than what was spent during H1. Committee responsible for formulating policy matters on environment-related aspects in SPM has departmental budget of ₹6 lakhs p.a., in H1 the utilisation rate was 80% and in H2 it was 110%.

Environmental audits earlier used to conduct on a half-yearly basis, but management decided to reduce the frequency to quarter each, in the mid of such year. Each such audit

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cost ₹8 lakhs to SPM. In the H2 SPM extends the production capacity and installed the new plant & machinery which has put to use cost of ₹77.25 crores, this is the premium version of the plant and machine due to its capability to reduce the generation of waste. Erection and other installation costs including dry-run were ₹65 lakhs and the same for all versions. The standard version has on-board cost of ₹76.20 crores.

SPM is practicing the recycling policy, which was formulated around three years ago; for the scrap, it generates in its plant. The review of the recycling policy is pending for the last 12 months. The cost incurred during the fiscal year was ₹2.75 crores, spent in alignment to scrap generated during the year. The policy document also states– *'zero discharge of waste/scrap into the environment, in order to be true-sense eco-friendly enterprise'*.

In H2 contamination test was performed which cost ₹4 lakhs to SPM. The monitoring cost incurred during the year was ₹78 lakhs; in H2 this was double then H1.

Required

(i) PREPARE the environmental cost statement as per the classification suggested by 'Hanson and Mendoza'.

(ii) ANALYSE the elements of environmental cost at SPM.

(iii) EVALUATE whether the cross-functional team is successful in serving their 'terms of reference'.

Note- Clearly State the assumptions (if any).

Annexure

Scrap Generated (during the year)

Quarter	First	Second	Third	Fourth
Scrap generated and recycled	1,572 MT	1,428 MT	1,114 MT	886 MT

Cellular Manufacturing

4. It has been resolved that cellular manufacturing shall be adopted in order to improve productivity, in the recent board meeting of **Raptor Bearing and Shaft Limited**. In favour of the resolution, Mr. Nayak (the executive director) who is responsible for production and operation function gave a briefing over different layouts of cells. The Managing Director, Mr. Syal believes that each possible cell formation and layout need to be studied in advance by a cross functional team.

Chief HR officer Mr. Mishra shown his concern over the utility of cellular manufacturing to enhance productivity. In response to him, Mr. Nayak mentioned *'Although scientific management is quite an old theory of management pronounced by Frederick Winslow Taylor, which analyses and synthesizes workflows with the objective of improving*

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economic efficiency, especially labour productivity; but still has relevance. This relevance multi-folds when Time and Motion studies are considered in nexus with cellular manufacturing'.

Mr. Nayak constituted a cross-functional team with the term of reference stated in said board resolution. You are also part of teams as a representative of Management Accounting Division. The team started with the study of different possible layouts and machine cell designs. While analysing the production flow it is observed that 5 different parts/ components (P101, P104, P105, P107, and P108) are complexly involved in processing at 5 different machines (M2, M7, M13, M13A, and M15).

Part-Machine Incident Matrix for Production Flow Analysis for the said product is given below–

	P101	P104	P105	P107	P108
M2	1*				
M7		1#			1
M13	1*			1	
M13A		1#	1		
M15				1	

Interpretation

(*) P101 requires processing at M2 and M13, whereas (#) P104 requires processing at M7 and M13A.

Required

(i) DISCUSS the concern expressed by Mr. Mishra over the utility of cellular manufacturing.

(ii) EXPLAIN on utility of at-least three machine cell designs, which can be used.

(iii) FIND logical part families and machine groups based upon Part-Machine Incident Matrix to showcase Machine-Part grouping using Rank Order Clustering Algorithm.

5. You are newly appointed management consultant with experience in Lean System. During discussion at meeting, managing partner (Mr. Gupta) explain the assembly line workflow process at **RIO** along with the machine part incident matrix. You quoted about your past experience of implementing Cellular Manufacturing system. Mr. Gupta asks you to:

(i) FIND appropriate cells using suitable method.

(ii) COMMENT on the results, if any.

Note- Use "Rank Order Clustering method".

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Machine Shop RIO-042

Machine Part Incident Matrix

Part / Machine	P_1	P_2	P_3	P_4	P_5	P_6
M_b			1		1	
M_c				1	1	1
M_d	1	1				
M_e			1		1	1
M_f	1	1		1		

Manufacturing Cycle Efficiency

6. **Glen Electronics** manufactures a wide range of electronic heaters and geysers. Glen was a popular name among retailers and customers, but it keeps on losing the market share; the major reason is emerging competitors are offering economical product customers with similar features and quality. The market where-in Glen operating is price sensitive, hence adding more features and establish itself as a premium brand is not the option. The only possible choice left with glen is to reduce prices for that it needs to reduce the cost to maintain the profit margin.

   A cost management committee was constituted to study the scenario and recommend the solution to the board of directors. The committee based upon their study suggests a 3-phase solution, out of which phase one is 'stress on enhancing manufacturing cycle efficiency from its current level of 62.50%'. The committee collects the following data with help from the office of the Chief Management Accountant–

   - Current batch wait time before the order getting process is 4 days.
   - The time spent working on the products (batch processing time) is currently 20 days.
   - Total time spent by the products waiting –to be processed, moved, inspected, and delivered (batch queue time) is currently 6 days.
   - Currently, the time spent on making sure that the products are not defective (batch inspection time) is double that time spent in transferring products between workstations (batch move time).

   The Board of directors based upon the committee's report decided to apply cellular manufacturing to reduce unnecessary move time. Based upon decision tasks are allocated to concerned functional managers.

   Managers and workers showed their resistance by stating – "*we are not convinced that cellular manufacturing reduces motions on the production floor*". Some workers even mentioned they are not aware of what is current batch inspection time and batch move time.

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Required

You are deputy to management accountant and was part of the committee, hence board approached you to convince the managers and workers as part for change management.

(i) CALCULATE current batch inspection time and batch move time.

(ii) CALCULATE manufacturing cycle time, and how much is non-value-added time? (in term of days)

(iii) CALCULATE revised manufacturing cycle efficiency if both batch inspection time and batch move time cut down to half of the current level and other elements remain constant.

(iv) What makes cellular manufacturing capable to reduce motions on the production floor and how benefit the workers? EXPLAIN.

Decision Making

7. Micro-Guard Industries Limited (MGIL) is a renowned company for a unique range of thoughtfully-engineered products, designed to provide simplified solutions and upscale your home interiors. MGIL engaged in the manufacturing of Power Systems, Batteries, Wires & Cables, Switch Gears & Modular Switches etc. But MGIL is largely famous for its wide range of Voltage Stabilizers. Each product is manufactured in a separate division.

While planning regarding voltage stabilizers division (VSD) for the first half of the fiscal year 20-21 amid the outbreak of COVID-19, the board get through a report from internal expert committee pertaining to crystal series of voltage stabilizers which says– *'due to restricted availability of the input factors (on account of lock-down by the government), only 40,000 crystal voltage stabilizers (CVS) is expected to manufactured and sold during the first half of fiscal, against the normal capacity of 75,000 per quarter; that too at ₹ 1,600/- per CVS'*. At normal capacity level it incurs the following cost to manufacture and sell single unit of CVS–

Particulars	Amount (₹)
Direct material	575
Direct labour	215
Variable overhead	310
Fixed overhead	300
Cost per unit	**1,400**

One of the directors suggested– '*since migrant workers moved to their home states and expected to come back in 3-5 months' time hence it is better to temporary discontinue (lock-out) the production for the first half of fiscal'*. Another director support him by stating– *'it will give the opportunity to our suppliers (or retailers) to clear the old stock available with them'*. On the reference by the board, you (chief management accountant

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at MGIL) provide an estimate to management that 1/3rd fixed overhead at a normal capacity level is unavoidable and additional cost due to discontinue (lock-out) of plant for 6 months and resumption thereafter is ₹ 35 lacs.

Required

You are required to ADVISE the management–

(i) Shall they continue the production of CVS or temporary discontinue (lock-out) for the first half of the fiscal year? (consider monetary aspects)

(ii) The qualitative factors which need to consider, while deciding either discontinue (lock-out) or continue.

(iii) What are the minimum number of CVS that VSD needs to manufacture and sell; in order to economically justify the continuation of the production?

Note– *In a legal sense, Lock-out means the temporary closing of a place of employment or the suspension of work, or the refusal by an employer to continue to employ any number of persons employed by him; which is way different from shut-down. But in management accounting lock-out and shutdown both carry the same meaning.*

Pricing Strategy

8. **Zutus Ltd.** is a leading Indian Pharmaceutical company which is a fully integrated, global healthcare provider. With in-depth domain expertise in the field of healthcare, it has strong capabilities across the spectrum of the pharmaceutical value chain. Zutus has earned reputation worldwide amongst pharmaceutical companies for providing comprehensive and complete healthcare solutions.

One of the drugs, Rifmn is an antibiotic used to treat contagious disease "Tbis". Rifmn is a patented medicine. The patent for which is now going to expire, and several other competitors are expected to enter in the market for selling the medicine using the same components of chemicals, under different other name. In order to reposition itself in the market, the company is reviewing its pricing policy considering the market change and other threat.

The market research for Rifmn indicates that for every ₹4 decrease in price, demand would be expected to increase by 8,000 batches, with maximum demand for Rifmn being one million batches.

Each batch of Rifmn is currently made of using chemical salts:

Salt X: 367.50 gm at ₹0.08 per gm

Salt Y: 301.50 gm at ₹0.40 per gm

Each batch of Rifmn requires 30 minutes of machine time to make and the variable running costs for machine time are ₹40 per hour. The fixed production overhead cost is expected to be ₹35 per batch for the period, based on a budgeted production level of 3,00,000 batches.

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The skilled workforce who has been working on Rifmn until now are being shifted onto the production of Zutus company's new antiviral drug (injection) for Viral Disease-19 which costs millions of ₹ to develop. Zutus has obtained patent for this revolutionary drug and it is expected to save millions of lives all across the world. The launch of this drug is excitedly anticipated all over the world, while its demand in unknown and no other similar specific drug exists. The average labor cost (outsourcing) of each batch of Rifmn is ₹38.60.

The management of Zutus considers that pricing decision of Rifmn should be based on each batch.

Required

(i) CALCULATE the optimum (profit-maximizing) selling price for Rifmn and the resulting annual profit which Zutus will make from charging this price.

(ii) RECOMMEND the pricing strategy for launching of new antiviral drug.

[Note– If P = a - bQ, then MR = a - 2bQ]

Just in Time

9. X sells 'mu-50' to its customers. It purchases mu-50 from Y @ ₹ 140 per unit. Y pays all freight to X. No incoming inspection is necessary because Y has a superb reputation for delivery of quality merchandise. Annual demand of X is 13,000 units. X requires 15% annual ROI. The purchase order lead time is 2 weeks. The purchase order is passed through EDI and it costs ₹ 2 per order. The relevant insurance, material handling etc. ₹ 3.10 per unit per year. X has to decide whether or not to shift to JIT purchasing. Y agrees to deliver 100 units of mu-50→ 130 times per year (5 times every two weeks) instead of existing delivery system of 1,000 units→ 13 times a year with additional amount of ₹ 0.02 per unit. X incurs no stock out under its current purchasing policy. It is estimated X incurs stock out cost on 50 units under a JIT purchasing policy. In the event of a stock out, X has to rush order which costs ₹ 4 per unit.

Required

Briefly COMMENT whether X should implement JIT purchasing system.

10. IPL is a leading manufacturing company. Under increasing pressure to reduce costs, to control inventory level and to improve services, IPL's Costing Department has recently undertaken a decision to implement a JIT System.

The management of IPL is convinced of the benefits of their changes. But Supplies Manager "W" fears with the Costing Department's decision. He said:

"We've been driven by suppliers for years ... they would insist that we could only purchase in thousands, that we would have to wait weeks, or that they would only deliver on Mondays!"

Required

COMMENT on Mr. W's viewpoint.

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Budgetary Control

11. The following are 2 types of monthly control report of a CA firm showing gross collection (in ₹'000). The budgeted collection for the year ending on 31 March are ₹4,14,00,000 in total.

Type-X
'Gross Collection' Report for July

Activity	Budget	Most Recent Forecast for the year	Expected Variance
Accounting	16,560	17,250	690 (F)
Auditing	10,350	8,280	2,070 (A)
Taxation	14,490	13,386	1,104 (A)

Type-Y
'Gross Collection' Report for July

Activity	Monthly			Cumulative		
	Budget	Actual	Variance	Budget	Actual	Variance
Accounting	2,415	2,622	207 (F)	6,210	6,486	276 (F)
Auditing	1,380	966	414 (A)	3,450	2,691	759 (A)
Taxation	1,725	1,587	138 (A)	3,450	3,105	345 (A)

Required

IDENTIFY the type of *control system* for both types of report.

SUGGESTED ANSWERS/HINTS

1. **(i)** Michael E Porter, in 1980 in his book "Competitive strategy: Techniques' for analysing industries and competitors" suggested **five force model** to assess the *competitive environment* of an industry. The five forces which are enumerated by this model are the bargaining power of suppliers; the bargaining power of customers (buyers); the threat of new entrants; threat of substitute products; and the level of rivalry among current competitors in the industry.

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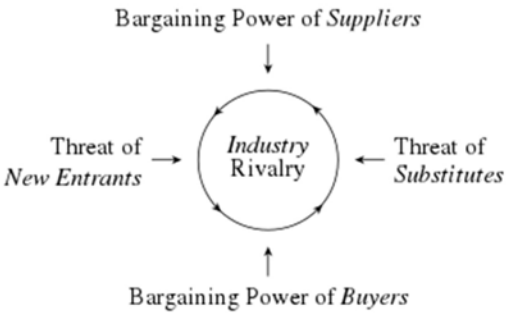

This model is also named as porter's five force analysis. Since each of these five forces *affect the competitiveness of business,* hence can be used to assess the potential of any organisation or entity; life-assurance business of SWAL (including 'sub-agency office' division) is not an exception to this.

The bargaining power of suppliers

Number of suppliers will decide the dominance they possess in term of bargaining power regarding the price of good and service they supply to business. In case of 'sub-agency office' division following factors will affect the suppliers' power–

Control over Value Chain – By adopting the strategy of forward integration the insurance companies them-selves getting into the direct sale through own network of branch offices in order to enhance their margin or reducing the margin earned by SWAL's 'sub-agency office' division. Since number of insurance companies are neither too less nor too much, hence bargaining power of insurance companies; in terms of percentage brokerage they offered to SWAL is *moderate*.

Importance of product – SWAL is also dealing in financial product's marketing and advisory, which contribute 50% of group sales and around 67% of group's profit; thus assurance business which is no doubt significant but *only choice (business) available* to SWAL. Hence, bargaining power of supplier is *moderate*.

Substitution among the brand – Life assurance product offers similar utility to client; hence easily substitutes among the brands, means if insurance company 1 charge lesser premium then insurance company 2, client will buy assurance of company 1. No doubt switching is less viable once policy subscribed. Since SWAL's 'sub-agency' division is offering the product from all 23 insurance companies, hence bargaining power of suppliers become *low*.

Supply of other factors – Other factor such 'sub-agency offices', which are largely on lease, has 30-year lease, this will reduce the lease cost as well as bargaining power of land-lord apart from bringing stability.

(Any Two Points)

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The bargaining power of customers

Whether seller is price taker or makes, this is outcome of bargaining power of customers (true sense competition). If the bargaining power is high seller will become price taker, else he is price maker. Following factors affect the bargaining power of customers of SWAL's 'sub-agency' division–

Number of buyers – In assurance industry the buyers are large (in comparison to few number of suppliers) and diversified, hence their bargaining power is *low***.**

Standardised products – Since the life assurance is the product, which is standard from prospective of core functionality, hence buyers can easily substitute brands and can negotiate to reasonable extent.

Switching – Once policy subscribed can't be easily switched with another, hence due to high switching cost bargaining power reduced to some extent at-least.

(Any Two Points)

The threat of new entrants

Although entry of a new firm to the industry/ market depends upon the level of entry barriers, but if new entity enters into the industry; it will surely bring additional capacity which enhance the stiffness of competition; hence become a kind of threat. In case of 'sub-agency office' division, there are some major barriers to entry–

Less number of new life-assurance licenses by regulator due to tough regulations – As mentioned in the case that after considering the default by few insurance firms and increasing customer complaints, regulator of insurance business in country has tighten the registration criteria and harden the norms; hence this may act as entry barrier and reduce the threat of new entrants.

Less number of new insurance agent due to no new authorisation by insurance companies – As market is revamping, the agents is becoming competitor to the insurance companies and as mentioned insurance companies stopped authorising new insurance agents, hence this will act an entry barrier for new insurance agents, which is a great positive for SWAL's 'sub-agency office' division and intact the competitive advantage.

Learning curve and economies of scale – Since all the 23 insurance companies dealing in life assurance and SWAL are 10 to 20 years old organisations; hence learning curve and economies of scale (shared services for the 580 offices - presence in 580 cities) which they are enjoying may become entry barriers for new firm. Since new firms require huge capital to be at par to such learning curve and economies of scale.

(Any Two Points)

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Threat of substitution

Substitution means the product from some other industry which can render the same function which life assurance is rending. The threat of substitute product is *quiet low*.

Competitive rivalry

The level of competition among the players to acquire or retain the market share directly affects the profitability in an industry. Following factor is affecting the competitive rivalry–

Number of competitors and respective market size – Since there are good number of competitors, hence competition will be intense; may cut throat rivalry. Presently SWAL's insurance business represent 14.55% of market share (in 2019-20) in comparison to 14.29% of market share five year ago, without any major variation, hence possibility of gaining new market share is limited that too at high cost (in form of advertisement and more after sale services).

Lack of differentiation – Standardise product results in high rivalry, since the life assurance is standard product hence rivalry may be high on account of easy substitution effect among the different brands.

Slow market growth – If market is growing at high rate, rivalry may be stiffer or may be moderate; because everyone has reasonable opportunity to grow. The moment growth stagnated rivalry become stiffer because no one wish to lose market share. The industry life cycle curve is flatter here, because during last four years overall industry wide CAGR (compounded annual growth rate) of life assurance business is 3.39%, whereas year-on-year growth from 2018-19 to 2019-20 is 1.91%. Although potential is limited, but competition is still high.

Exit barriers – If the exit cost for player to move out of industry is high, it will have to be in industry and fight for survival, which may make competition tougher. Since agency agreement and lease agreement is already signed by SWAL hence, it becomes difficult to exit from the business, hence need to participate in competition to retain the share.

(Any Two Points)

(ii) Case for holding the 'sub-agency office' division

The strategic review committee suggests that the SWAL's 'sub-agency office' division should be sold off and that SWAL shall re-position its assurance business as an online solution, but the same suggestion firstly needs to be evaluated in terms of *financial perspective* among the other criteria.

The growth in life assurance business is stagnated and industry is in maturity stage of industry life cycle. This is evident from industry size and growth in the same. During last four years overall industry wide CAGR (compound annual growth rate)

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of life assurance business is 3.39%, whereas year-on-year growth from 2018-19 to 2019-20 is 1.91%. The moment growth stagnated rivalry become stiffer because no one wish to lose market share. Hence, there is intense competition in market. In cases where market witnesses intense competition, operating efficiently is essential and reduction in cost become *key success factor*; in order to offer competitive deals to clients and retain market share.

Hence it becomes need of hour, that we review the operating processes followed at 'sub-agency offices' to check whether they are efficient or not, in order to ensure greater profitability rather thinking to sale off the entire 'sub-agency office' division.

Now, move to *financial analysis*, which suggests it is beneficial to hold back 'sub-agency' division.

Contribution to the group – Insurance business is contributing 50% of top-line of overall group revenue (and 1/3rd of bottom line), and around 86% (280/ 326) of this comes from 'sub-agency office' division and 'E-platform' division contribute only remaining 14%.

Profitability – Margins are positive. There are two major parameters to evaluate profitability further on–

- Operating profit *(EBIT/ Revenue)* – No doubt, operating profit shrink from 12.4% to 6.43% in three years' time frame. But as earlier quoted, margin is positive and secondly, there is sign of recovery as well. EBIT increased in absolute terms (from 16 to 18).
- Return on capital employed *(ROCE) [EBIT / (Equity + Long Term Debt)]* – No doubt, ROCE shrink from 15.5% to 7.69% in three years' time frame. But reduction in EBIT is not only a reason, another major reason for decline is also change in capital structure. Long term debt is increased in absolute terms (from 50 to 78).

Liquidity – Current ratio *(Current Assets / Current Liabilities)* being reasonable measure of liquidity indicates enough liquidity in 'sub-agency office' division to meets it obligation. There is minor decline from 1.367 times to 1.33 times. Component analysis of working capital can be performed for greater insight.

Gearing (Debt / Equity) – Gearing ratio depicts the financial leverage, a measure of risk. Gearing ratio no doubt increased as result of introduction of debt, from 1/3 to 1/2, but under control.

(Any Two Points)

Some *other quasi-finance* and *significant factors* relevant to the decision of sale of 'sub-agency office' division and full focus on 'E-platform' division–

Client's demography – Clients from all age groups from 20 to 60+ are clients of SWAL's assurance brokerage business. 66.56% (217/326) of revenue coming from

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clients with 50+ years of age, and 99% (215/217) out of them are associated through 'sub-agency offices', hence holding of 'sub-agency' division become essential. Secondly, clients from all age group may not find it convenient to shift to 'E-platform' 'Policy at you click' and their resistance may result in losing business. Thirdly, they have easily available substitute, because competitors also have branch offices which will give them same feel.

Resistance from employees – Out of 1,564 on-roll employees of assurance brokerage business, only 50 are associated in 'E-platform' division- 'Policy at you click', rest all in 'sub-agency office' division. If SWAL re-structure itself fully as online solution for life assurance then also can't absorb all the employees, many of them need to be retrenched. Resistance will be there in both the cases, because transferred employee may not have requisite skill set, result in poor quality of service and no job satisfaction to employee. Whereas in case of retrenched workers redundancy cost will become additional financial burden. This can be seen as exit barrier.

Legal aspect in term of pre-closure of lease - SWAL has practice to sign 30-year lease, when so ever taking and 'sub-agency office' on lease in order to reduce the lease cost and bring stability. It started the business 2 decades ago and expanded it 3 years ago and many of leases are active right now, in case of pre-closure, it may be possible to bear additional financial burden as per terms of lease agreement.

Loosing USP – 'Independence and impartial advice' with presence wide across the nation, in form of 'sub-agency offices' equipped with professionally trained sale staff headed by financial planner or advisor, where customer can take advise and discuss opinion prior to investing/ buying any insurance or financial product is USP for SWAL's assurance brokerage business. By disposing the 'sub-agency office' division this central idea, with which SWAL was established may be washed out.

(Any Two Points)

In nutshell, the life assurance market has matured in recent years, and result in low growth potential and lower profitability but still yielding positive numbers. Hence, sale of 'sub-agency' division will adversely hit the revenue as well as profitability.

IMPORTANT NOTE

- **This is a comprehensive "Case Study" covering various aspects of 'Porter's Five Forces' model. Students are required to present only two relevant points for each force properly linked with the Case. <u>More points have been given than asked for in the requirement to "assist" students</u>.**
- **Conceptually correct and brief explanation is sufficient for each step or point.**

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2. (i) Unplanned downtime of machine 107-10M-Bearing

Overall equipment effectiveness (OEE) is a quantitative metric for measuring the productivity of individual equipment in a manufacturing plant. According to Seiichi Nakajima who introduced OEE, it is capable to identify and measure the losses in a manufacturing process through availability rate, performance rate, and quality rate.

OEE = Availability Rate × Performance Rate × Quality Rate

Quality Rate

Particulars	Units
Output units – total count	27,216
Rejected units out of the above	272
Good units – good count (which met the quality criteria) (27,216 - 272)	26,944
Quality Rate (Good Counts / Total Counts) (26,944 units / 27,216 units) → 99.00%	

Since the quality rate is 99.00% and performance rate (105%), as well as overall equipment effectiveness (93.555%), is also given in the case; hence availability rate can be measure–

Availability Rate × 105.00% × 99.00% = **93.555%**

The **Availability rate is 90%** i.e., run time [*or* net operating time (NOT)] / planned production time [*or* net available time (NAT)]

Planned Production Time

Particulars	Time in minutes
Total possible time (9 hours × 60 minutes) [scheduled time]	540
Less: Planned down time [scheduled loss]	
Short breaks (2 breaks × 15 minutes)	30
Meal break (30 minutes)	30
Planned production time	**480**

Since the Availability rate is 90% and planned production time is 480 minutes, hence **run time shall be 432 minutes** (run time / 480 minutes = 90.00%).

Since unplanned downtime is the difference between run time and planned production time, hence **unplanned downtime of machine 107-10M-Bearing is 48 minutes.**

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Particulars	Time in minutes
Planned production time	480
Less: Run time (actual time taken)	432
Unplanned Downtime	**48**

Note

Alternate Working
Unplanned downtime = Planned production time (1 – availability rate)
480 minutes (1 - 90%) = 48 minutes

Advise–

In order to reduce the unplanned downtime, preventive maintenance shall be practiced either before or after each shift; and the **shine (out of 5S)** principle shall be adopted by the workman as part of the TPM initiative. It is expected that the time spends on preventive maintenance will be less than the current unplanned downtime of 48 minutes.

☞

Alternate advices are also possible, provided shall be valid and reasonably relevant.

(ii) Ideal Cycle Time to manufacture a single bearing ball

Performance rate can be computed by dividing standard time required [*or* ideal operating time] with run time. Since performance rate (105%) is given in the case and run time (432 minutes) computed above; hence the standard time required to manufacture 27,216 bearing balls is 453.6 minutes (standard time required / 432 minutes = 105.00%)

So, standard time required to manufacture a single bearing ball (i.e., ideal cycle time) is **1 (one) second** (453.6 minutes × 60 / 27,216 balls) i.e., 60 bearing balls per minute.

Note

Alternate Working
OEE = (Good count × Ideal cycle time) / Planned production time
93.555% = (26,944 × Ideal cycle time) / 480 minutes
Ideal cycle time = 1 second per bearing ball

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(iii) Goldratt's five steps to remove the bottleneck at Ludhiana plant of SBBL

Goldratt's theory of constraints describes the following mentioned five steps process of identifying and taking steps to remove the bottlenecks that restrict output.

1. **Identifying the System Bottlenecks,** likewise, at unit 3 of Ludhiana plant of SBBL, 107-10M-Bearing is limiting factor hence activity performed through/using this equipment is bottleneck activity.
2. **Exploit the Bottlenecks –** Limiting factor **(**Bottleneck's activity capacity) must be fully utilised and that too optimally. Currently the overall equipment effectiveness is already 93.555%, attention on the possibility to enhance the same is needful. (Like preventive maintenance shall be practiced to avoid unplanned downtime. Similarly for each production units, way-out depends upon the limiting factor of that unit.)
3. **Non-bottleneck activities are subordinate –** Bottleneck activity should set up the pace for non-bottleneck activities. Production units shall plan their production keeping respective limiting factors at the centre point, because even if the efficiency of non-bottleneck enhanced; same may be worthless due to scarcity of limiting factor (bottleneck activity).
4. **Elevate the bottleneck –** Eliminate the bottleneck by enhancing the capacity and efficiency. Major change (business reengineering) or continuous minor change (kaizen) may do.

   Note – There will always be one bottleneck in the system, if such bottleneck is eliminated then a new constraint emerges as a bottleneck. Hence this process continuous. Ultimately improvement is a never-ending continues process.
5. **Repeat the process –** Apply step 1 to new bottleneck activity which emerges at different production units of Ludhiana plant of SBBL and repeat the process.

For Your Understanding

Seiichi Nakajima led the introduction of TPM, OEE and the Six Big Losses in the early 1970s while at the Japanese Institute of Plant Maintenance. OEE is a quantitative metric for measuring productivity of individual equipment in a manufacturing plant. OEE identifies and measures losses of crucial parts in a manufacturing process namely availability rate, performance rate and quality rate.

OEE = Availability × Performance × Quality

OEE Factors are calculated as follows–

1. Availability: NOT / NAT = (432 / 480) × 100 = 90.00%
2. Performance: IOT / NOT = (453.60 / 432) × 100 = 105.00%
3. Quality: (IOT – LOT) / IOT = (453.60 – 4.533….) / 453.60 × 100 = 99.00…%

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Or

$$\left\{\frac{27{,}216 \text{ units} - 272 \text{ units}}{27{,}216 \text{ units}}\right\} \times 100$$

OEE = A × P × Q = 90.00% × 105.00% × 99.00…% = **93.555…%**

Alternative Presentation-I

Good Counts = 27,216-272 = 26,944 units

Planned Production Time= 540 mins. – 60 mins. = 480 mins. (or NAT)

OEE = (Good Counts × Ideal Cycle Time)/ Planned Production Time

{(26,944 / 60 units (per min.)} / 480) x 100 = **93.555…%**

Alternative Presentation-II

OEE = (Ideal operating time –loss operating time)/ Net Available Time

{(453.60 – 4.533….)/ 480} × 100 = **93.555…%**

Workings

1. Scheduled Time (total time) = 540 Minutes (9hrs. × 60 mins.)
2. Planned Down Time = 2 short breaks × 15 minutes +meal break 30 minutes = 60 minutes
3. Net Available Time (NAT) = 540 – 60 = 480 minutes
4. Unplanned Downtime = 48 minutes
5. Net Operating Time (NOT) = Net Available Time – Unplanned Downtime
   NOT = 480 – 48 = 432 minutes
6. Ideal Operating Time (IOT): 27,216 total units / 60 (units per min.) = 27,216 / 60 = 453.60 minutes
7. Lost Operating Time (LOT): 272 units / 60 (units per min.) = 272 / 60 = 4.533… minutes

3. (i)

Sheetal Paper Mart

Environmental Cost Statement

Particulars	H1		H2	
	Amount (in lakhs)	% to total	Amount (in lakhs)	% to total
Environmental Prevention Costs				
Creating Environment policies [(6/2) × 0.8] [(6/2) × 1.1]	2.4	0.68	3.3	0.96
Investment in protective equipment [(7,725 – 65) – 7,620]	-	-	40#	11.58
Sub-Total (a)	**2.4**	**0.68**	**43.3**	**12.54**
Environmental Detection Costs				
Monitoring (78 in the ratio of 1:2)	26	7.40	52	15.06
Performing Contamination test	-	-	4	1.16

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Environmental Audit [1 × 8] [2 × 8]	8	2.28	16	4.63
Sub-Total (b)	**34**	**9.68**	**72**	**20.85**
Environmental Internal Failure Costs				
Recycling Scrap (275 in the ratio of 3:2)	165	46.95	110	31.86
Disposing of Toxic Material	150	42.69	120	34.75
Sub-Total (c)	**315**	**89.64**	**230**	**66.61**
Grand Total (a + b + c)	**351.4**	**100**	**345.3**	**100**

 # Since the details regarding useful economic life of the newly erected plant and the machine is not given, hence the entire incremental cost recognised in H2 only (when put to use); despite the benefit will arise over the useful economic life in form of a reduction in generation of waste.

Concept Insight

Hansen and Mendoza in the year 1999 point out that environmental costs are incurred because of poor quality controls. They classify the environmental cost into the following four categories–

- **Environmental Prevention Costs–** Those costs associated with *preventing* adverse environmental impacts.
- **Environmental Appraisal Costs–** The cost of activities executed to determine whether products, process and activities are in *compliance* with environmental standards, policies and laws.
- **Environmental Internal Failure Costs–** Costs incurred from activities that have been produced but *not discharged* into the environment.
- **Environmental External Failure Costs–** Costs incurred on activities performed *after discharging* waste into the environment.

(ii) Analysis

The environmental cost incurred in H2 (₹345.3 lakhs) is comparatively less than what was incurred in H1 (₹351.4 lakhs). Environmental internal failure costs reduced in H2 (₹230 lakhs) in comparison to H1 (₹315 lakhs), but still a substantial component of total environmental costs (66.61% in H2 against 89.64% in H1). The reduction of environmental internal failure costs is the outcome of increased environmental prevention costs (12.54% in H2 against 0.68% in H1) and environmental detection costs (20.85% in H2 against 9.68% in H1).

Note** – Since the policy document also states 'zero discharge of waste/scrap into the environment, in order to be true-sense eco-friendly enterprise' hence there are no **environmental external failure costs.

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(iii) Evaluation

Apart from getting the certificate, the cross-functional team has terms of reference ***'to improve the environmental impact*** & ***image of SPM as eco-friendly enterprise*** *and* ***control environmental cost'***

In the context of **controlling environmental cost**, the team attained a reasonable reduction in total environmental cost, impact in this environmental cost statement (over H1 and H2) seem low because the incremental cost due to purchase of premium version of plant and machine is charged in H2, which will benefit in form reduced waste over the useful economic life.

In the context of **improving the image of SPM as an eco-friendly enterprise**, the policy document which in practice also states– *'zero discharge of waste/scrap into the environment, in order to be true-sense eco-friendly enterprise'* and same is also visible through environmental cost statement as there are no environmental external failure costs

In the context of **improving the environmental impact**, SPM able to generate low waste in H2 (2,000 MT) in comparison of H1 (3,000 MT) just by installing new plant and machine which produce less waste, increased monitoring, and audits.

Hence it can be concluded that the team is successfully serving the terms of reference.

4. (i) Cellular manufacturing is a lean way to enhance productivity by improving (reducing) the performance in the context of *time* and *motion* involved in the production.

Cellular manufacturing is an application of **group technology** in the manufacturing in which all or a portion of a firm's manufacturing system has been converted into **manufacturing cells**.

Here is important to note that a manufacturing cell is a cluster of machines or processes located in close proximity and dedicated to the manufacturing of a family of parts.

Cellular Manufacturing results in following benefits to improve productivity–

(a) Reduce setup times by using part family tooling and sequencing.

(b) Reduce flow times by reducing material handling and transit time and using smaller batch sizes (even single piece flow – this also results in the requirement of less floor space).

(c) Reduce lead time.

(d) Reduced work-in-process inventory.

(e) Better use of human resources. Hence, reduced direct labour but heightened sense of employee participation.

(f) Better scheduling, easier to control, and automate.

(g) Increased use of equipment & machinery, hence reduced investment on machinery & equipment.

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Hence, concern expressed by Mr. Mishra, regarding the utility of cellular manufacturing to enhance productivity is not material.

(ii) The Machine Cell Design can be classified based on the number of machines and the degree to which the material flow is mechanized between the machines. The most common designs are–

(a) **Single Machine Cell** consists of a machine plus supporting fixtures and tooling to make one or more part families. This can be applied **(useful)** to work parts that are made by one type of process such as turning or milling.

(b) **Group Machine Cell with manual handling** consists of more than one machine used collectively to one or more part families and no provision for mechanical part movement between machines. In this, human operators run the cell and perform material handling.

Note– *If the size of the part is huge or there is a large number of machines in the cell, then regular handling crew may be required.*

Preferable cell shape is ***U-shaped*** *(single/few workers). U shape is useful in the movement of multi-functional workers.*

Since the design simply includes certain machines in the group and restrict their use for specified part family hence often achieved without rearranging the process type layout; So, bring the cost-saving (on rearranging) but lock-in material handling benefits of group technology.

(c) **Group Machine Cell with semi-integrated handling** consists of more than one machine used collectively to one or more-part families and uses a mechanical handling system, such as conveyor, to move parts between machines in the cell.

Note– *There may be* ***in-line layout*** *(identical or similar routing - machines are laid along a conveyor to match the processing sequence) and* ***loop layout*** *(allows parts to circulate in the handling system and permits different processing steps in the different parts in the system).*

(d) **Flexible Manufacturing System** is a highly automated machine cell in group technology that combines automated processing stations with a fully integrated material handling system.

(iii) **Rank Order Clustering Algorithm** to form machine-part groups–

Assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n =5* (the number/ types of components). Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

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Rank the rows in decreasing order of their DE_i values i.e., the largest value is ranked as 1.

j / i	P101	P104	P105	P107	P108	DE_i	Rank
M2	1					16	2
M7		1			1	9	4
M13	1			1		18	1
M13A		1	1			12	3
M15				1		2	5
BW_j	2^{5-1} =	2^{5-2} =	2^{5-3} =	2^{5-4} =	2^{5-5} =		
	16	8	4	2	1		

Now, **Re-arrange** the rows in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_i = 2^{m-i}$) to each row *i* of the matrix, where m =5 (the number of machines). Calculate the **Decimal Equivalent** (DE_j) of the binary values of each column *j* using the formula:

$$DE_j = \sum_{i=1}^{m} (BW_i)(a_{ij})$$

Rank the columns in decreasing order of their DE_j values i.e., the largest value is ranked as 1.

j / i	P101	P104	P105	P107	P108	BW_i	
M13	1			1		2^{5-1}=	16
M2	1					2^{5-2}=	8
M13A		1	1			2^{5-3}=	4
M7		1			1	2^{5-4}=	2
M15				1		2^{5-5}=	1
DE_j	24	6	4	17	2		
Rank	1	3	4	2	5		

Now, **Re-arrange** the columns in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n* =5. Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

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Rank the rows in decreasing order of their DE_i values.

j / i	P101	P107	P104	P105	P108	DE_i	Rank
M13	1	1				24	1
M2	1					16	2
M13A			1	1		6	4
M7			1		1	5	5
M15		1				8	3
BW_j	2^{5-1} =	2^{5-2} =	2^{5-3} =	2^{5-4} =	2^{5-5} =		
	16	8	4	2	1		

Now, **Re-arrange** the rows in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_i = 2^{m-i}$) to each row *i* of the matrix, where m =5. Calculate the **Decimal Equivalent** (DE_j) of the binary values of each column *j* using the formula:

$$DE_j = \sum_{i=1}^{m} (BW_i)(a_{ij})$$

Rank the columns in decreasing order of their DE_j values.

j / i	P101	P107	P104	P105	P108	BW_i	
M13	1	1				2^{5-1}=	16
M2	1					2^{5-2}=	8
M15		1				2^{5-3}=	4
M13A			1	1		2^{5-4}=	2
M7			1		1	2^{5-5}=	1
DE_j	24	20	3	2	1		
Rank	1	2	3	4	5		

Since the ranking is now neatly arranged in order, stop the process. We can now identify the groupings.

Part Families and Machine Groups

Cluster/Cell	Part	Machine
I	P101 and P107	M13, M2, and M15
II	P104, P105, and P108	M13A and M7

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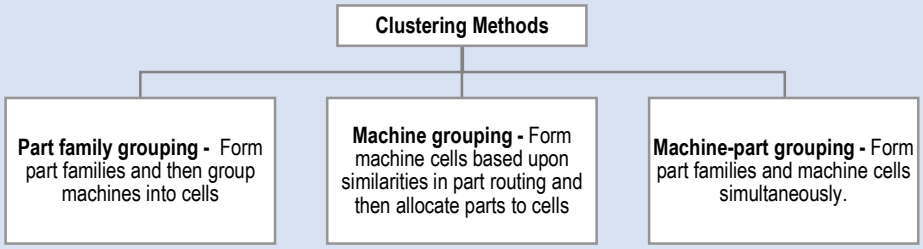
Concept Insight

1. **Production Flow Analysis** rests on the basic idea to identify items that are made with the same processes / the same set of equipment. These parts are assembled into a part family and such the same equipment can be grouped (clustering) into a cell to minimize material handling requirements.



Note - The machine-part grouping is most significant.

2. Various **heuristic and exact methods** have been developed for grouping/clustering, but the simplest one is **binary ordering**, also known as **rank order clustering** or **King's algorithm.**
3. **Rank Order Clustering Algorithm** is a simple algorithm used to form machine-part groups.

Rank Order Clustering Algorithm

The steps in using the Rank Order Clustering Algorithm are as follows:

1. Assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n is* the number/ types of components (parts).
2. Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

3. **Rank** the rows in decreasing order of their DE_i values i.e., the largest value is ranked as 1. Break ties (if any) arbitrarily.
4. **Re-arrange** the rows in the running order of the rankings.
5. If no further rearrangement is necessary, stop. Otherwise, go to next step i.e.,6.
6. Assign **Binary Weight** ($BW_i = 2^{m-i}$) to each rearranged row *i* of the matrix, where m is the number of machines.
7. Calculate the **Decimal Equivalent** (DE_j) of the binary values of each column *j* using the formula:

$$DE_j = \sum_{i=1}^{m} (BW_i)(a_{ij})$$

8. **Rank** the columns in decreasing order of their DE_j values i.e., the largest value is ranked as 1. Break ties (if any) arbitrarily.
9. **Re-arrange** the columns in the running order of the rankings.
10. If no rearrangement is necessary, stop. Otherwise, go to step 1.

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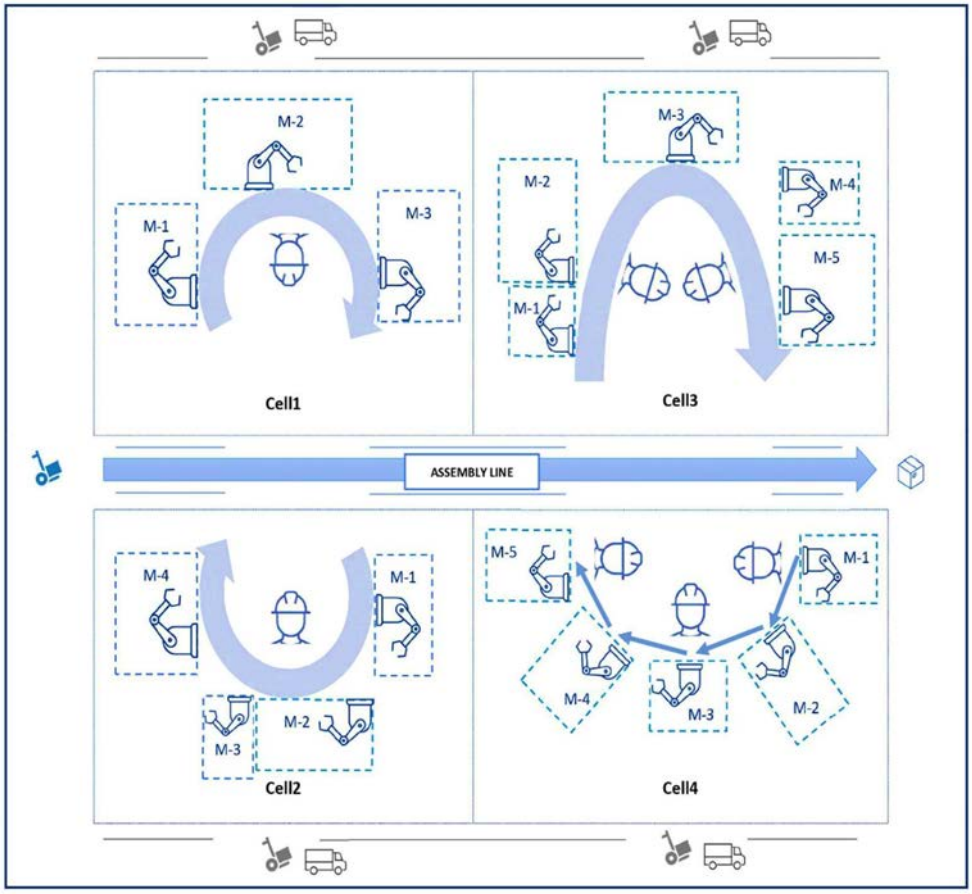
Flow Shop or Assembly Line Workflow



Material flow; Machine utilization; Space utilization; Productivity (compared to process layout); Components standardization; Employee morale; Quality etc.

Planning effort; Paper work; Setup time; Down-time; Work movement; Work-in-process; Material handling cost; Direct/indirect labour cost etc.

Note- This illustrative layout has been given to assist students to comprehend the concept of **U-Shaped** Cells with single/ few workers.

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5. Assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n* =6 (the number/ types of parts). Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

Rank the rows in decreasing order of their DE_i values i.e., the largest value is ranked as 1.

i \ j	P_1	P_2	P_3	P_4	P_5	P_6	DE_i	Rank
M_b			1		1		**10**	**4**
M_c				1	1	1	**7**	**5**
M_d	1	1					**48**	**2**
M_e			1		1	1	**11**	**3**
M_f	1	1		1			**52**	**1**
BW_j	2^{6-1} =	2^{6-2} =	2^{6-3} =	2^{6-4} =	2^{6-5} =	2^{6-6} =		
	32	**16**	**8**	**4**	**2**	1		

Now, **Re-arrange** the rows in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_i = 2^{m-i}$) to each row *i* of the matrix, where m =5 (the number of machines). Calculate the **Decimal Equivalent** (DE_j) of the binary values of each column *j* using the formula:

$$DE_j = \sum_{i=1}^{m} (BW_i)(a_{ij})$$

Rank the columns in decreasing order of their DE_j values i.e., the largest value is ranked as 1. [Break ties arbitrarily]

i \ j	P_1	P_2	P_3	P_4	P_5	P_6	BW_i	
M_f	1	1		1			2^{5-1}=	**16**
M_d	1	1					2^{5-2}=	**8**
M_e			1		1	1	2^{5-3}=	**4**
M_b			1		1		2^{5-4}=	**2**
M_c				1	1	1	2^{5-5}=	**1**
DE_j	**24**	**24**	**6**	**17**	**7**	**5**		
Rank	**1**	**2**	**5**	**3**	**4**	**6**		

Now, **Re-arrange** the columns in the running order of the rankings.

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Since further rearrangement is necessary, assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n* =6. Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

Rank the rows in decreasing order of their DE_i values.

i \ j	P_1	P_2	P_4	P_5	P_3	P_6	DE_i	Rank
M_f	1	1	1				56	1
M_d	1	1					48	2
M_e				1	1	1	7	4
M_b				1	1		6	5
M_c			1	1		1	13	3
BW_j	2^{6-1} =	2^{6-2} =	2^{6-3} =	2^{6-4} =	2^{6-5} =	2^{6-6} =		
	32	16	8	4	2	1		

Now, **Re-arrange** the rows in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_i = 2^{m-i}$) to each row *i* of the matrix, where m =5. Calculate the **Decimal Equivalent** (DE_j) of the binary values of each column *j* using the formula:

$$DE_j = \sum_{i=1}^{m} (BW_i)(a_{ij})$$

Rank the rows in decreasing order of their DE_j values. [Break ties arbitrarily]

i \ j	P_1	P_2	P_4	P_5	P_3	P_6	BW_i	
M_f	1	1	1				2^{5-1}=	16
M_d	1	1					2^{5-2}=	8
M_c			1	1		1	2^{5-3}=	4
M_e				1	1	1	2^{5-4}=	2
M_b				1	1		2^{5-5}=	1
DE_j	24	24	20	7	3	6		
Rank	1	2	3	4	6	5		

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Now, **Re-arrange** the columns in the running order of the rankings.

Since further rearrangement is necessary, assign **Binary Weight** ($BW_j = 2^{n-j}$) to each column *j* of the matrix, where *n* =6. Calculate the **Decimal Equivalent** (DE_i) of the binary values of each row *i* using the formula:

$$DE_i = \sum_{j=1}^{n} (BW_j)(a_{ij})$$

Rank the rows in decreasing order of their DE_i values.

i \ j	P_1	P_2	P_4	P_5	P_6	P_3	DE_i	Rank
M_f	1	1	1				**56**	**1**
M_d	1	1					**48**	**2**
M_c			1	1	1		**14**	**3**
M_e				1	1	1	**7**	**4**
M_b				1		1	**5**	**5**
BW_j	2^{6-1} =	2^{6-2} =	2^{6-3} =	2^{6-4} =	2^{6-5} =	2^{6-6} =		
	32	**16**	**8**	**4**	**2**	1		

Since the ranking is now neatly arranged in order, stop the process. We can now identify the cells.

Cell1	P_1, P_2, P_4	M_f, M_d
Cell2	P_5, P_6, P_3	M_c, M_e, M_b

The following cells, as derived from the Rank Order Clustering Algorithm, shall be presented to Mr. Gupta for consideration along with the below comments.

Cell1		Cell 2	
Part Family 1	**Machine Group 1**	**Part Family 2**	**Machine Group 2**
P_1	M_f	P_5	M_c
P_2	M_d	P_6	M_e
P_4		P_3	M_b

Comments

It is essential to understand that the cells are ***not totally independent***. Since P_4, which is member of cell1, needs processing in M_c. But machine M_c belongs to cell 2. So, some amount of intercell movement/ change will take place in this situation. In general, these moves may become unavoidable in real life circumstances. There are various alternative ways of eliminating intercell moves in a cellular manufacturing system like– redesigning the part so that the machine belongs to other cell is no longer required for processing, subcontracting the part/ adding the necessary machines in the cell. The cell designer should evaluate the consequences of each of these ways and take suitable measures/ ways to minimise these moves.

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6. (i) Batch Inspection Time and Batch Move Time

It is given in the question that currently–

MCE is 62.50%,

Batch process time is 20 days, and

Batch queue time is 6 days.

Let presume batch move time 'x' then batch inspection time will be '2x' because currently double then batch move time.

Hence,

$$62.50\% \; or \; 0.6250 = \frac{20 \text{ days}}{20 \text{ days} + x + 2x + 6 \text{ days}}$$

Solving linear equation

$$\Rightarrow 20 \text{ days} + x + 2x + 6 \text{ days} = \frac{20 \text{ days}}{.6250}$$

$$\Rightarrow 20 \text{ days} + x + 2x + 6 \text{ days} = 32 \text{ days}$$

$$\Rightarrow 3x + 26 \text{ days} = 32 \text{ days}$$

$$\Rightarrow 3x = 32 \text{ days} - 26 \text{ days}$$

$$\Rightarrow 3x = 6 \text{ days}$$

$$\Rightarrow x = 2 \text{ days}$$

So, **Batch move time** (x) is 2 days and **Batch inspection time** (2x) is 4 days

(ii) Manufacturing Cycle Time and Non-Value-Added Time (in days)

$$62.50\% \text{ or } .6250 = \frac{20 \text{ days}}{\text{Manufacturing cycle time}}$$

$$\Rightarrow \text{Manufacturing cycle time} = \frac{20 \text{ days}}{.6250}$$

$$\Rightarrow \text{Manufacturing cycle time} = 32 \text{ days}$$

Or

Manufacturing cycle time includes all form of time a product spends (in manufacturing department).

Hence, Manufacturing cycle time = 20 days + 2 days + 4 days + 6 days = 32 days

Non-Value Added Time is that component of manufacturing cycle time which does not lead to any value creation directly.

Hence, Non-value added time = 32 days – 20 days i.e., 12 days

Or

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2 days + 4 days + 6 days = 12 days

Note – if the discussion is regarding **customer response time** then non-value added time also includes wait time before the order getting processed.

(iii) **Revised Manufacturing Cycle Efficiency** if both batch inspection time and batch move time cut down to half of the current level and other elements remains constant.

Hence,

Batch process time is 20 days,

Batch queue time is 6 days,

Revised batch move time is **1 day** (half of 2) and

Revised batch inspection time is **2 days** (half of 4).

$$\text{MCE}_{\text{Revised}} = \frac{20 \text{ days}}{20 \text{ days} + 1 \text{ day} + 2 \text{ days} + 6 \text{ days}}$$

$$\Rightarrow \text{MCE}_{\text{Revised}} = \frac{20 \text{ days}}{29 \text{ days}}$$

$$\Rightarrow \text{MCE}_{\text{Revised}} = .6897 \text{ or } 68.97\%$$

Improvement is recorded from 62.50% to 68.97%, on account of cut down of batch inspection time and batch move time to half of current level.

(iv) **Cellular manufacturing** capable to reduce motions on the production floor. Cellular manufacturing is a **lean way** to enhance productivity by improving the performance in the context of time and motion involved in the production.

Cellular manufacturing is an application of **group technology** in manufacturing in which all or a portion of a firm's manufacturing system has been converted into **manufacturing cells** (a cluster of machines or processes located in close proximity and dedicated to the manufacturing of a family of parts). In this manner cellular manufacturing results in the reduction of move time by reducing material handling (through integrated cell) and transit time and using smaller batch sizes (even single unit).

Hence motion (movement) of material (& product) and worker on production is reduced on the production floor. This may also result in reduced queue time because batch size is small even single piece flow in some cases. This is beneficial to the worker as well in two ways, apart from enhancing the productivity for organisation; first, due to **less motion, fatigue will also be less** to the worker after working in a shift of the same tenure (if he is a piece-rate worker get more wages) and second since he is working on more than one machine and part hence may feel **more empowered**. So cellular manufacturing leads to win-win situation wherein organisation benefits reduced direct labour cost and the worker has heightened sense of participation.

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7. (i) Demand function

b = change in price/change in quantity b = ₹4/8,000 units = 0.0005

The maximum demand for Rifmn is 10,00,000 units, so where P = 0, Q = 10,00,000, so 'a' is established by substituting these values for P and Q into the demand function:

0 = a – (0.0005 × 10,00,000)

0 = a – 500

Therefore,

a = 500

Demand function is therefore: P = 500 – 0.0005Q

Marginal cost

		Total ₹
Salt X	367.50g × ₹0.08	29.40
Salt Y	301.50g × ₹0.40	120.60
Labour	Given in ques	38.60
Machine running cost	(30/60 × ₹40.00)	20
Total marginal cost per batch		208.60

Marginal revenue function: MR = a – 2bQ

Equate MC and MR and insert the values for 'a' and 'b' from the demand function in step 1

⇒ 208.60 = 500 – (2 × 0.0005 × Q)

Solve the MR function (to determine optimum quantity, Q)

⇒ 208.60 = 500 – 0.001Q

⇒ 0.001Q = 291.4

⇒ Q = 291,400 batches

Calculate the optimum price

⇒ P = 500 – (0.0005 × 291,400)

⇒ P = ₹354.30

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Calculate Profit

	₹
Revenue (2,91,400 batches × ₹354.3)	10,32,43,020
Less: Variable costs (2,91,400 batches × ₹208.60)	6,07,86,040
Less: Fixed costs (3,00,000 batches × ₹35)	1,05,00,000
Profit	3,19,56,980

(ii) Firms often use different pricing strategies when their products are first launched into the market. The most two common approaches are price skimming and penetration pricing.

In ***penetration pricing***, low price is charged initially, thought behind this is that low price will make the product accessible to large number of buyers, so high sales will compensate the low price being charged getting the benefits of economy of scale. This approach works best when customers are *price sensitive*, R & D and marketing expenses are low, or when competitors will quickly enter the market.

In this case, medicines are *highly inelastic* in nature so any reduction in price will not increase the demand of the drug, which clearly indicates that market penetration pricing will not help.

Skimming Pricing refers to charging high price initially than lower the prices. High price in the early stage of the product's life cycle is expected to generate high initial cash flows, which will help the company to recover high development cost. This would enable the company to take advantage of unique nature of the product.

In present case, the unique nature of drug, entry barrier (since company has taken patent) requires huge initial investment and considering this market skimming pricing strategy would be more favorable pricing strategy. However, this strategy only works as long as drug is protected by patent.

In addition, a drug firm is required to consider the expected reactions from national price controllers who in turn may be influenced by political factors and public opinion.

Practical Insight

Most of the people in developing countries buy medicines through out-of-pocket payments, high prices of medicines might force people to forego treatment or go into debt. As a result, price of the medicines may be regulated by the health organisations/ agencies.

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8. **(i)** The loss in case of temporary discontinue is ₹185 lakhs which is less than the loss in case of continuing the production of CVS (i.e., ₹250 lakhs), hence **considering monetary aspects** it is advised to discontinue (lock-out) the production of CSV for the first half of the fiscal year 2020-21.

Comparative Cost and Benefit for the first half of the fiscal year 2020-21

Continue – 40,000 units		Dis-continue (Lock-out)	
Particulars	**Amount in ₹**	**Particulars**	**Amount in ₹**
Contribution (₹500×40,000units)	200 Lakhs	Additional Cost (resumption)	35 Lakhs
Fixed Cost	450 Lakhs	Fixed Cost (unavoidable)	150 Lakhs
Loss	**250 Lakhs**	**Cost**	**185 lakhs**

Working note 1 – Contribution *per unit*

Particulars	Amount in ₹
Sale Price	1,600
Variable Cost (575+215+310)	1,100
Contribution	500

Working note 2 – Fixed Cost & Avoidable Component

Particulars	Amount in ₹
Total Fixed Cost for the first half [(75,000×2) units ×300]	450 Lakhs
Unavoidable (1/3rd)	150 Lakhs
Balance - Avoidable (2/3rd)	300 Lakhs

(ii) **Qualitative factors**, while deciding either discontinue (lock-out) or continue.

(a) **Government advisory regarding lock-down and lock-in** – MGIL is legally bound to observe and comply with government advisories regarding lock-down and lock-in.

(b) **Customer relations** – Discontinuing the production, even temporary may cause adverse reactions from customers, they may move to another product or brand which capable to substitute CVS. Further as per the director's opinion old stock will be cleared during such period, this may cause a *loss of reputation*.

(c) **Supplier relations** – The trade relation with suppliers of VSD/MGIL may turn bitter if supply halted. May also cause a loss of goodwill. Although the director argued that supplier can sell the old stock available with them, but it is nowhere mentioned that whether all the supplier or retailer have a *requisite amount of stock* in order to cater the need of their customers.

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(d) **Employee/Worker relations** – One of the directors mentioned that migrant workers moved to their home states and expected to come back in 3-5 months. It is important to identify– *how much of the workforce* at VSD is migrant and *what is the duration of lock-down* announced by the government, is there any relaxation in the same (for example working with 1/3 or 1/2 capacity)? VSD also need to consider *guideline and term of the agreement with workers*, in regard to the compensation they will get, if it is decided to lock-out (temporarily discontinue the production). Apart from this, staff (or workers) morale is also an important factor to consider.

(e) **Timing of shutdown** – Timing (when to lock and unlock) and duration of lock-out, both are important form preview of VSD, because the kind of product in which MGIL deals either in demand during the *relevant season* or *near festival season* (during sales and bonanzas).

(f) **Whether discontinuing a segment have adverse effects on the sale of other products** – CVS is a *complementary product* to other models sold by VDS and product sold by MGIL. Hence, impact of discontinuing the production of CVS on sale of these relate products need to be considered.

(iii) In order to economically justify the decision of continuing the production, VSD need to manufacture and sell such number of CVS; so that loss (if continued) shall be less than or equal to the loss/ cost of ₹185 lakhs (which is due to discontinue (lock-out) of plant for the first half of fiscal 2020-21).

So, let presume 'x' is such number of CSV

450 Lakhs – (₹ 500 × 'x') ≤ 185 Lakhs

⇒ 500x ≥ 265 Lakhs

x ≥ 53,000 Units

Hence, VSD need to manufacture and sell at least 53,000 units of CVS; in order to economically justify the continuation of the production.

9. **Comparative 'Statement of Cost'** ***for*** **Purchasing from Y under 'Current Policy' & 'JIT'**

Particulars	Current Policy (₹)	JIT (₹)
Purchasing Cost	18,20,000 (13,000 units × ₹140)	18,20,260 (13,000 units × ₹140.02)
Ordering Cost	26.00 (₹2 × 13 Orders)	260.00 (₹2 ×130 Orders)

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Particulars	Current Policy (₹)	JIT (₹)
Opportunity / Carrying Cost	10,500.00 (1/2 × 1,000 units × ₹140 × 15%)	1,050 (1/2 × 100 units × ₹ 140.02 × 15%)
Other Carrying Cost (Insurance, Material Handling etc)	1,550.00 (1/2 × 1,000 units × ₹3.10)	155.00 (1/2 × 100 units × ₹3.10)
Stock Out Cost	---	200 (50 units × ₹4.00)
Total Relevant Cost	**18,32,076**	**18,21,925**

Comments

As may be seen from above, the relevant cost under the JIT purchasing policy is lower than the cost incurred under the existing system. Hence, a JIT purchasing policy should be adopted by the company.

10. *"For successful operation of JIT inventory system, the suppliers chosen must be willing to make frequent deliveries in small lots. Rather than deliver a week's or a month's material at one time, suppliers must be willing to make deliveries several times a day and in the exact quantities specified by the buyer."*

It is described in the problem that suppliers are not willing to

- make frequent deliveries and
- make supplies in the exact quantities as required.

Accordingly Mr. W's doubt is correct on successful implementation of JIT System.

11. Type-X indicates to a feedforward control system. A feedforward control system operates by comparing budgeted results against a forecast. So that, corrective action can be taken to avoid expected adverse variances.

Type-X

'Gross Collection' Report for July

Activity	Budget	Most Recent Forecast for the year	Expected Variance
Accounting	16,560	17,250	690 (F)
Auditing	10,350	8,280	2,070 (A)
Taxation	14,490	13,386	1,104 (A)
Total	**41,400**	38,916	2,484 (A)

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Type-Y reveals feedback control system. A feedback control system identifies variances that has already taken place, by comparing the actual historical results with the budgeted results.

Type-Y
'Gross Collection' Report for July

Activity	Monthly			Cumulative		
	Budget	Actual	Variance	Budget	Actual	Variance
Accounting	2,415	2,622	207 (F)	6,210	6,486	276 (F)
Auditing	1,380	966	414 (A)	3,450	2,691	759 (A)
Taxation	1,725	1,587	138 (A)	3,450	3,105	345 (A)
Total	5520	5175	345 (A)	13110	12282	828 (A)

Note- *Both Feedback and Feedforward Controls may coexist in the same system, but the two designs function in very different ways.*

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PAPER 7: DIRECT TAX LAWS & INTERNATIONAL TAXATION

The November, 2020 edition of the Study Material, based on the provisions of direct tax laws, as amended by the Finance Act, 2020, the Taxation and Other Laws (Relaxation and Amendment of Certain Provisions) Act, 2020 and significant notifications issued upto 31.10.2020, is relevant for May, 2021 examinations. The relevant assessment year for May, 2021 examination is A.Y.2021-22.

QUESTIONS AND ANSWERS

Case Scenario 1

Mr. Rajesh, aged 53 years, and his wife Mrs. Sowmya, aged 50 years, were born in India. They were living in India till the year 2000, when they moved to Country X and settled there permanently. Since the year 2010, they have become citizens of Country X. They have two sons who are twins, Mr. Dinesh and Mr. Karthik, who are also citizens of Country X. They completed their schooling in an Indian school in Country X. Thereafter, in the year 2015, Mr. Dinesh joined mechanical engineering in IIT Delhi. After completing his engineering, he took up employment in ABC Ltd., a multinational company, in Gurgaon at a monthly salary of ₹ 1,50,000 from September, 2019. Dinesh visits his parents in Country X for one month every year. For the rest of the year, he is in India. Mr. Karthik completed architecture in College of Architecture in Country X and took up a job in LMN Inc., San Fransisco, in the year 2019 for a monthly salary of US $ 5,000. Mr. Rajesh has a textile business in Country X. Mrs. Sowmya, a Carnatic musician, gives concerts in Country X in music programs organized by the Indian community in Country X.

Mr. Rajesh visits India for one month every year to be with his parents, who were born in Coimbatore and have always lived in Coimbatore. The details of his income for P.Y.2020-21 are as follows –

Income from textile business in Country X - US $ 80,000 (You may assume that the currency of Country X is US dollars)

Rental income from house property in Coimbatore – ₹ 60,000 p.m.

Interest on fixed deposits with SBI, Coimbatore – ₹ 10 lakh

Country X does not levy tax on income from business of textiles in order to give a fillip to textile industry in that country. Country X also does not levy tax on income earned by a resident of Country X outside India.

In the P.Y.2020-21, Mrs. Sowmya visited India from 3rd October, 2020 to 31st January, 2021. She was in Trichy during the months of October and November to take care of her ailing mother in Trichy. During the months of December and January, she rendered Carnatic music concerts in the Margazhi Maha Utsav organized in the various music academies in Chennai. Every year, she is in Chennai entirely during these two months for this purpose. She also

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visits Trichy every year for the full month of May to spend time with her mother. She owns a house property in Trichy which she has let out for ₹ 40,000 per month. The municipal taxes of ₹ 6,000 p.a. are paid by her tenant. For the P.Y.2020-21, income from music concerts in Chennai is ₹ 3 lakhs. She also earns interest of ₹ 9 lakhs on fixed deposits with Indian Bank, Trichy Branch.

Mr. Dinesh resigned from his job in ABC Ltd. on 20th September, 2020 and took up an offer for employment in MNC Inc., New York at a salary of US $ 7,000 p.m. He had submitted his resignation to ABC Ltd. on 20th August, 2020, and thereafter, served a notice period of one month as per the condition stipulated in his terms of employment. He left India on 28th September, 2020 and joined MNC Inc. on 1st October, 2020. He earned interest of ₹ 40,000 from fixed deposits with Axis Bank, New Delhi.

Mr. Karthik resigned from LMN Inc. on 30th November, 2020 to join PQR Ltd. in Mumbai. He came to India on 2nd December, 2020 and joined PQR Ltd. on 5th December, 2020. His salary in PQR Ltd. is ₹ 99,200 p.m. He used to visit his maternal and paternal grandparents in India for two months (July and August) during his summer holidays upto the year 2018. In the year 2019, he visited India for one month in July 2019. He earned interest of ₹ 9,500 from savings bank account in SBI, Mumbai.

TT buying rate of US $ on various dates is given below –

Date	TT buying rate of US $	Date	TT buying rate of US $
31.3.2020	₹ 68.00	30.9.2020	₹ 70.00
30.4.2020	₹ 68.60	31.10.2020	₹ 70.40
31.5.2020	₹ 69.10	30.11.2020	₹ 71.00
30.6.2020	₹ 69.50	31.12.2020	₹ 71.30
31.7.2020	₹ 69.70	31.1.2021	₹ 71.90
31.8.2020	₹ 69.90	28.2.2021	₹ 72.00
		31.3.2021	₹ 72.40

On the basis of the facts given above, choose the most appropriate answer to Q.1 to Q.5 below: Your answer should be based on the provisions of the Income-tax Act, 1961. Ignore the provisions of DTAA, if any, between India and Country X.

1. What is the residential status of Mrs. Sowmya for A.Y.2021-22?
   (a) Resident and Ordinarily resident
   (b) Resident but not ordinarily resident
   (c) Non-resident
   (d) Deemed resident

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2. What is the residential status of Mr. Dinesh and Mr. Karthik for A.Y.2021-22?
   (a) Both are non-residents
   (b) Resident and ordinarily resident & Resident but not ordinarily resident, respectively.
   (c) Non-resident & Resident but not ordinarily resident, respectively
   (d) Resident and ordinarily resident & non-resident, respectively.
3. What is the total income of Mr. Dinesh chargeable to tax under the regular provisions of the Income-tax Act, 1961 for A.Y.2021-22?
   (a) ₹ 38,93,000
   (b) ₹ 38,26,200
   (c) ₹ 8,90,000
   (d) ₹ 8,40,000.
4. What is the total income of Mr. Karthik chargeable to tax under the regular provisions of the Income-tax Act, 1961 for A.Y.2021-22?
   (a) ₹ 31,10,000
   (b) ₹ 31,34,500
   (c) ₹ 3,34,000
   (d) ₹ 3,93,500
5. What is the residential status of Mr. Rajesh for A.Y.2021-22?
   (a) Resident and ordinarily resident
   (b) Resident but not ordinarily resident
   (c) Deemed resident
   (d) Non-resident

Case Scenario 2

The following details pertain to Mr. Arvind and his three brothers, Mr. Arjun, Mr. Anand and Mr. Aakash. Mr. Arvind, Mr. Arjun and Mr. Anand are engaged in retail trade business. Mr. Aakash is engaged in the profession of interior decoration. All of them maintain books of account under section 44AA. While the brothers engaged in retail trade business follows mercantile system of accounting, Mr. Aakash engaged in interior decoration profession follows cash system of accounting. The details pertaining to their business for the year ending 31.3.2021 are as under –

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	Particulars	Mr. Arvind	Mr. Arjun	Mr. Anand
(i)	Turnover of P.Y.2020-21	₹ 95 lakhs	₹ 1.80 crore	₹ 5.00 crore
(ii)	Amount received in cash [out of (i) above]	₹ 5 lakh	₹ 8 lakh	₹ 4 lakh
(iii)	Amount received through NEFT/RTGS on or before 31.7.2021 [out of (i) above]	₹ 85 lakh	₹ 1.65 crore	₹ 4.80 crore
(iv)	Total receipts in the P.Y.2020-21	₹ 1.07 crore	₹ 2.00 crore	₹ 5.50 crore
(v)	Cash receipts [out of (iv) above]	₹ 7 lakh	₹ 10 lakhs	₹ 27 lakhs
(vi)	Total payments in the P.Y. 2020-21	₹ 80 lakhs	₹ 1.60 crore	₹ 4.50 crore
(vii)	Cash payments [out of (vi) above]	₹ 5 lakhs	₹ 8.10 lakhs	₹ 22 lakhs
(viii)	Profits and gains as per books of account u/s 44AA	₹ 5.90 lakhs	₹ 10.50 lakhs	₹ 30 lakhs

Mr. Aakash's gross receipts for P.Y.2020-21 are ₹ 48 lakhs, out of which ₹ 3 lakhs has been received in cash and the remaining ₹ 45 lakhs through NEFT/RTGS. His profits as per books of account u/s 44AA for P.Y.2020-21 are ₹ 24.75 lakhs.

From the details given above, choose the most appropriate answer to Q. 6 to Q.10 given below–

6. Which of the following individuals are eligible to declare income on presumptive basis under the provisions of the Income-tax Act, 1961 for A.Y.2021-22?

   (a) Mr. Arvind and Mr. Aakash

   (b) Mr. Arvind, Mr. Arjun, Mr. Anand and Mr. Aakash

   (c) Mr. Arvind, Mr. Arjun and Mr. Aakash

   (d) Mr. Arvind and Mr. Arjun

7. Which of the following individuals have to mandatorily get their books of account audited under section 44AB for A.Y.2021-22?

   (a) Mr. Arjun and Mr. Anand

   (b) Mr. Arjun and Mr. Arvind

   (c) Only Mr. Anand

   (d) None of them.

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8. What is the amount of profits and gains of business chargeable to tax in the hands of Mr. Arvind, Mr. Arjun and Mr. Anand, assuming that they wish to make maximum tax savings without getting their books of account audited?

   (a) ₹ 5.50 lakhs, ₹ 10.54 lakhs and ₹ 29.12 lakhs, respectively

   (b) ₹ 5.90 lakhs, ₹ 11.10 lakhs and ₹ 30.40 lakhs, respectively

   (c) ₹ 5.90 lakhs, ₹ 11.10 lakhs and ₹ 30 lakhs, respectively

   (d) ₹ 5.50 lakhs, ₹ 10.50 lakhs and ₹ 30 lakhs, respectively.

9. Would your answer to MCQ 8 (i.e., the profits and gains of business chargeable to tax in the hands of Mr. Arvind, Mr. Arjun and Mr. Anand) undergo a change, if they decide to get their books of account audited?

   (a) The profits and gains of business chargeable to tax in the hands of Mr. Arjun and Mr. Anand would undergo a change; however, there would be no change in the case of Mr. Arvind.

   (b) The profits and gains of business chargeable to tax in the hands of Mr. Anand would undergo a change; however, there would be no change in the hands of Mr. Arvind and Mr. Arjun.

   (c) The profits and gains of business chargeable to tax in the hands of Mr. Arjun would undergo a change; however, there would be no change in the hands of Mr. Arvind and Mr. Anand.

   (d) The profits and gains of business chargeable to tax in the hands of Mr. Arvind and Mr. Arjun would undergo a change; however, there would be no change in the hands of Mr. Anand.

10. What is the due date of filing of return of income of Mr. Arvind, Mr. Arjun, Mr. Anand and Mr. Aakash for A.Y.2021-22, if they wish to make maximum tax savings?

   (a) 31st July, 2021 for all of them.

   (b) 31st July, 2021 for Mr. Arvind and Mr. Aakash; and 31st October, 2021 for Mr. Arjun and Mr. Anand

   (c) 31st July, 2021 for Mr. Arvind, Mr. Aakash and Mr. Arjun; and 31st October, 2021 for Mr. Anand

   (d) 31st July, 2021 for Mr. Arvind, Mr. Aakash and Mr. Anand; and 31st October, 2021 for Mr. Arjun

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11. ABC & Co. and PQR & Co. are two non-resident entities based in Country A and Country P, respectively. Both the entities own and operate an electronic facility through which they effect online sale of organic products manufactured by them. The details of their receipts from such sale during the P.Y.2020-21 are –

	Particulars	ABC & Co., Country A	PQR & Co., Country P
(a)	Receipts from sale of organic products to persons resident in India	₹ 138 lakhs	₹ 126 lakhs
(b)	Receipts from sale of organic products to persons resident in other parts of the world	₹ 285 lakhs	₹ 377 lakhs
	Out of the sum mentioned in (b), the receipts from persons using internet protocol address located in India	₹ 63 lakhs	₹ 73 lakhs

Is equalisation levy attracted in the hands of ABC & Co. and PQR & Co., assuming that both the entities do not have a permanent establishment in India?

(a) Equalisation levy is attracted in the hands of both ABC & Co. and PQR & Co.

(b) No equalisation levy is attracted in the hands of either ABC & Co. and PQR & Co.

(c) Equalisation levy is attracted in the hands of ABC & Co. but not PQR & Co.

(d) Equalisation levy is attracted in the hands of PQR & Co. but not ABC & Co.

12. ABC Inc., a Country A company whose place of effective management is outside India, receives royalty from A Ltd., an Indian company, in pursuance of an agreement made which is approved by the Central Government. XYZ Inc., a Country B company whose place of effective management is outside India, receives fees for technical services (FTS) from A Ltd. in pursuance of an agreement made which is approved by the Central Government. The DTAA between India and Country A provides that royalty will be subject to tax in the Source State at 9% and the DTAA between India and Country B provides that FTS will be subject to tax in the Source State at 12%. Both ABC Inc. and XYZ Inc. do not have a permanent establishment in India. ABC Inc. and XYZ Inc. have also invested in shares of Indian companies in respect of which they receive dividend. The treaty states that the dividend will be taxed at the rates provided under the domestic laws of the source country. Are ABC Inc. and XYZ Inc. required to file their return of income for A.Y.2021-22, assuming that the tax deductible at source has been fully deducted?

(a) Both ABC Inc. and XYZ Inc. have to file their return of income u/s 139 for A.Y.2021-22

(b) Both ABC Inc. and XYZ Inc. need not file their return of income u/s 139 for

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A.Y.2021-22

(c) ABC Inc. has to file its return of income u/s 139 for A.Y.2021-22, but XYZ Inc. need not file its return of income

(d) XYZ Inc. has to file its return of income u/s 139 for A.Y.2021-22, but ABC Inc. need not file its return of income.

13. Mr. Harsh has to pay ₹ 3 lakhs on 3.3.2021 to "Plan your trip", a travel agency, for a holiday package in Singapore and Malaysia for himself and his wife. He obtained a loan of ₹ 10 lakhs for higher education of his son studying in Columbia University, New York, on 20.3.2021 from SBI, and remitted the said sum through the same bank, which is also an authorised dealer. Is tax required to be collected at source from Mr. Harsh by travel agency and the bank? If so, how much?

(a) No tax is required to be collected by the travel agency since the payment for overseas tour programme package is less than ₹ 7 lakhs; tax has to be collected by SBI@5% of ₹ 3 lakhs, being the amount in excess of ₹ 7 lakhs.

(b) No tax is required to be collected by the travel agency since the payment for overseas tour programme package is less than ₹ 7 lakhs; tax has to be collected by SBI@0.5% of ₹ 3 lakhs, being the amount in excess of ₹ 7 lakhs.

(c) Tax has to be collected by the travel agency@5% on ₹ 3 lakhs; and by SBI@5% of ₹ 3 lakhs, being the amount in excess of ₹ 7 lakhs.

(d) Tax has to be collected by the travel agency@5% on ₹ 3 lakhs; and by SBI@0.5% of ₹ 3 lakhs, being the amount in excess of ₹ 7 lakhs.

14. Mr. Pranav, a resident aged 48 years, and his brother Mr. Vaibhav, a non-resident aged 45 years, received dividend of ₹ 7 lakhs and ₹ 5 lakhs, respectively, from A Ltd., an Indian company in January, 2021. The interest expenditure incurred by them in the P.Y. 2020-21 on loan taken for investing in shares of A Ltd. is ₹ 1.50 lakh and ₹ 80,000, respectively. What is the tax payable by them on such income, assuming it is the only source of income of Mr. Pranav and Mr. Vaibhav and they wish to make maximum tax savings?

(a) ₹ 25,480 and ₹ 8,840, respectively

(b) ₹ 23,400 and ₹ 7,800, respectively

(c) ₹ 19,240 and ₹ 8,840, respectively

(d) ₹ 19,240 and ₹ 1,04,000, respectively

15. ABC Ltd., an Indian company, receives dividend of ₹ 10 lakhs from its subsidiary company XYZ Ltd., also an Indian company in January, 2021. It also receives dividend of ₹ 8 lakhs in February, 2021 from MNC Inc., a foreign company, in which it holds 25% shareholding. ABC Ltd. declares dividend of ₹ 20 lakhs in April, 2021 for the F.Y.2020-21. What is the deduction available to ABC Ltd. under section 80M for

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A.Y. 2021-22?

(a) ₹ 8 lakhs

(b) ₹ 10 lakhs

(c) ₹ 18 lakhs

(d) ₹ 20 lakhs

16. Lords Inc., a British company, received, in the P.Y.2020-21, income by way of fees for technical services of ₹ 3.20 crore from Yamuna Ltd., an Indian company, in pursuance of an agreement between Yamuna Ltd. and Lords Inc. entered into in the year 2012, which is approved by the Central Government. Expenses incurred for earning such income is ₹ 28 lakhs.

(i) Examine the taxability of the above sum in the hands of Lords Inc as per the provisions of the Income-tax Act, 1961 and the requirement, if any, to file return of income, assuming that Lords Inc does not have a permanent establishment in India.

(ii) If Lords Inc. has a permanent establishment in India and the contract/agreement with Yamuna Ltd. for rendering technical services is effectively connected with such PE in India, examine the taxability based on the following details provided relating to P.Y.2020-21 –

	Particulars	Amount
(1)	Fees for technical services received from Yamuna Ltd.	₹ 3.20 crore
(2)	Expenses incurred for earning such income	₹ 28 lakhs
(3)	Fees for technical services received from other Indian companies in pursuance of approved agreement entered into between the years 2006 to 2010	₹ 2 crore
(4)	Expenses incurred for earning such income	₹ 21 lakhs
(5)	Expenditure not wholly and exclusively incurred for the business of such PE [not included in (2) & (4) above]	₹ 8 lakhs
(6)	Amounts paid by the PE to HO (not being in the nature of reimbursement of actual expenses)	₹ 14 lakhs

What are the other requirements, if any, under the Income-tax Act, 1961 in this case?

17. M/s. ABC LLP filed its return of income for A.Y.2021-22, declaring total income of ₹ 18 lakhs, on 2nd October, 2021. On processing of return, the total income determined under section 143(1)(a) was ₹ 22 lakhs, after disallowing claim for deduction under section 10AA on account of late furnishing of return of income. Thereafter, on scrutiny, the Assessing Officer made some additions under section 40(a)(ia) and section 43B and

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passed an assessment order under section 143(3) assessing total income of ₹ 35 lakhs. Later on, the Assessing Officer noticed that certain income had escaped assessment and issued notice for reassessment under section 148. The total income reassessed under section 147 was ₹ 42 lakhs.

Considering that none of the additions or disallowances made in the assessment or re-assessment as above qualifies under section 270A(6), compute the amount of penalty to be levied under section 270A of the Income-tax Act, 1961 at the time of assessment under section 143(3) and at the time of reassessment under section 147 (Assume under-reporting of income is not on account of misreporting).

18. Ganga Ltd., an Indian company, earned a profit of ₹ 52 lakhs after debit/credit of the following items to its Statement of Profit and Loss for the year ended on 31.3.2021 -

(i) Items debited to Statement of Profit and Loss:

No.	Particulars	₹
1.	Provision for the loss of subsidiary	84,000
2.	Provision for doubtful debts	93,000
3.	Provision for income-tax	1,46,000
4.	Provision for gratuity based on actuarial valuation	4,17,000
5.	Depreciation	3,08,000
6.	Interest to financial institution (unpaid before filing of return)	72,000
7.	Penalty for infraction of law	14,000

(ii) Items credited to Statement of Profit and Loss:

No.	Particulars	₹
1.	Profit from unit established in special economic zone.	15,20,000
2.	Share in income of an AOP as a member	1,95,000
3.	Long term capital gains	3,20,000

Other Information:

(i) Depreciation includes ₹ 80,000 on account of revaluation of fixed assets.

(ii) Depreciation as per Income-tax Rules, 1962 is ₹ 4,12,000.

(iii) Balance of Statement of Profit and Loss shown in Balance Sheet at the asset side as at 31.3.2020 was ₹ 32 lakhs which includes unabsorbed depreciation of ₹ 18 lakhs.

(iv) The AOP, of which the company is a member, has paid tax at maximum marginal rate.

(v) Provision for income-tax includes ₹ 65,000 of interest payable on income-tax.

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Based on the above information, you are required to –

(i) Compute minimum alternate tax under section 115JB of the Income-tax Act, 1961, for A.Y. 2021-22;

(ii) What would be your answer to Q.(i), if Ganga Ltd. is a unit located in an IFSC and derives its income solely in convertible foreign exchange?

(iii) If Ganga Ltd. is a unit of an IFSC and derives its income solely in convertible foreign exchange, what would be the tax consequence of dividend distributed by it in the hands of Ganga Ltd. and its shareholders?

19. EduAid is a charitable trust set up on 1.4.2011 with the object of providing relief of the poor. Later on, in April, 2013, it changed its object to "providing education to the under privileged". It applied for registration for the first time on the basis of its new object, i.e., "education to the under privileged", on 12.8.2013 and was granted registration on 15.3.2014.

On 1.4.2020, EduAid got merged with M/s. Educare (P) Ltd, a company not entitled for registration under section 12AA. All the assets and liabilities of the erstwhile trust became the assets and liabilities of M/s. Educare (P) Ltd. The trust appointed a registered valuer for the valuation of its assets and liabilities. From the following particulars (including the valuation report), calculate the tax liability in the hands of the trust arising as a result of such merger:

(i) Land

Location	Date of purchase	Stamp duty value on 1.4.2020	Value which the land would fetch, if sold in the open market on 1.4.2020	Book Value on 1.4.2020
		₹	₹	₹
Surat	1.10.2011	42 lakhs	46 lakhs	40 lakhs
Baroda	21.11.2014	90 lakhs	105 lakhs	100 lakhs

(ii) Shares

Type of shares	Date of purchase	Face value of each share	Purchase price of each share	Price at which each share is quoted on NSE as on 1.4.2020		Open market value as on 1.4.2020#
				Highest price	Lowest price	
		₹	₹	₹	₹	₹
3000 Quoted equity shares of PQR Ltd.	4.4.2015	100	130	280	250	

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1800 Preference shares of LMN Ltd.	21.8.2016	100	100	-	-	210

on the basis of report of Merchant Banker

(iii) Liabilities

Book value of liabilities on 1.4.2020 = ₹ 112 lakhs. This includes –

(a) Corpus fund ₹ 14 lakhs.

(b) Provision for taxation ₹ 10 lakhs; and

(c) Reserves and Surplus ₹ 21 lakhs

20. Mr. Shyam, aged 47 years, is a resident individual having income from the following sources:

(i) Income from a sole-proprietary business in Noida = ₹ 50 lakhs.

(ii) Share of profit from a partnership firm in Gurgaon = ₹ 30 lakhs.

(iii) Agricultural Income (gross) from coffee estates in Country A, a foreign country with which India has no DTAA, CAD 32000. Tax deducted on the above income CAD 8,000

(iv) Brought forward business loss of F.Y.2019-20 in Country A was CAD 4,000 which is not permitted to be set off against other income as per the laws of that country.

(v) Mr. Shyam has deposited ₹ 1,50,000 in public provident fund and paid medical insurance premium of ₹ 30,000 by account payee cheque to insure his health. He has also paid ₹ 55,000 as insurance premium to insure the health of his mother and father, who are resident Indians aged 70 years and 75 years, respectively. He also incurred ₹ 50,000 on the medical treatment of his dependent sister, who is a person with disability. His sister does not claim deduction under section 80U.

Compute total income and tax liability of Mr. Shyam for the A.Y. 2021-22, assuming that 1 CAD = ₹ 60.

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SUGGESTED ANSWERS

MCQ No.	Most Appropriate Answer
1.	b
2.	d
3.	b
4.	c
5.	d
6.	c
7.	d
8.	c
9.	c
10.	d

MCQ No.	Most Appropriate Answer
11.	c
12.	c
13.	d
14.	d
15.	c

16. (i) Where Lords Inc., a British company, does not have a PE in India

In this case, Lords Inc. would be eligible for a concessional rate of tax@10% (plus surcharge@2% and HEC@4%) of ₹ 3.20 crore under section 115A on the fees for technical services received from Yamuna Ltd., an Indian company, since the same is in pursuance of an agreement entered into after 31.3.1976, which has been approved by the Central Government. No deduction, however, would be allowed in respect of expenditure of ₹ 28 lakhs incurred to earn such income.

If tax deductible at source@10.608% has been fully deducted, Lords Inc. need not file its return of income in India under section 139 for A.Y.2021-22.

(ii) Where Lords Inc., a British company, has a PE in India and rendering technical services is effectively connected with the PE in India.

Since Lords Inc. carries on business through a PE in India, in pursuance of an agreement with Yamuna Ltd. or other Indian companies entered into after 31.3.2003, and the income by way of fees for technical services is effectively connected with the PE in India as per section 44DA, such income shall be computed under the head "Profits and gains of business or profession" in accordance with the provisions of the Income-tax Act, 1961.

Accordingly, expenses of ₹ 49 lakhs (₹ 28 lakhs + ₹ 21 lakhs) incurred for earning fees for technical services of ₹ 5.20 crore (₹ 3.20 crore + ₹ 2 crore) is allowable as

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deduction therefrom. However, expenditure of ₹ 8 lakhs which is not incurred wholly and exclusively for the business of the PE and the amount of ₹ 14 lakhs paid by the PE to the HO is **not** allowable as deduction.

Lords Inc. is required to maintain books of account under section 44AA and get the same audited under section 44AB and furnish report before the specified date i.e., the date one month prior to the due date of filing return u/s 139(1) for A.Y.2021-22.

17. M/s. ABC LLP is deemed to have under-reported its income since:

(1) its income assessed under 143(3) exceeds its income determined in a return processed under section 143(1)(a); and

(2) the income reassessed under section 147 exceeds the income assessed under section 143(3).

Therefore, penalty is leviable under section 270A for under-reporting of income.

Computation of penalty leviable under section 270A

Particulars	₹	₹
Assessment under section 143(3)		
Under-reported income:		
Total income assessed under section 143(3)	35,00,000	
(-) Total income determined u/s 143(1)(a)	22,00,000	
	13,00,000	
Tax payable on under-reported income:		
Tax on under-reported income of ₹ 13 lakhs *plus* total income of ₹ 22 lakhs determined u/s 143(1)(a) *[30% of ₹ 35 lakh + HEC@4%]*	10,92,000	
Less: Tax on total income determined u/s 143(1)(a) *[30% of ₹ 22 lakh +HEC@4%]*	6,86,400	
	4,05,600	
Penalty leviable@50% of tax payable		2,02,800
Reassessment under section 147		
Under-reported income:		
Total income reassessed under section 147	42,00,000	
(-) Total income assessed under section 143(3)	35,00,000	
	7,00,000	
Tax payable on under-reported income:		
Tax on under-reported income of ₹ 7 lakhs *plus* total income of ₹ 35 lakhs assessed u/s 143(3) *[30% of ₹ 42*	13,10,400	

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lakh + HEC@4%]		
Less: Tax on total income assessed u/s 143(3) *[30% of ₹ 35 lakh + HEC@4%]*	10,92,000	
	2,18,400	
Penalty leviable@50% of tax payable		1,09,200

18. (i) Computation of "Book Profit" for levy of MAT under section 115JB for A.Y. 2021-22

Particulars	₹	₹
Net Profit as per Statement of Profit and Loss		52,00,000
Add: Net profit to be increased by the following amounts as per *Explanation 1* to section 115JB:		
- Provision for the loss of subsidiary	84,000	
- Provision for doubtful debts, being the amount set aside as provision for diminution in the value of any asset	93,000	
- Provision for income-tax [As per *Explanation 2* to section 115JB, income-tax shall include, *inter alia*, any interest charged under the Act, therefore, whole of the amount of provision for income-tax including ₹ 65,000 towards interest payable has to be added]	1,46,000	
- Depreciation as per books of account	3,08,000	6,31,000
		58,31,000
Less: Net profit to be decreased by the following amounts as per *Explanation 1* to section 115JB:		
- Share in income of an AOP as a member *[In a case where AOP has paid tax on its total income at maximum marginal rate, no income-tax is payable by the company, being a member of AOP, in accordance with the provisions of section 86. Therefore, share in income of an AOP on which no income-tax is payable in accordance with the provisions of section 86, would be reduced while computing book profit, since the same has been credited to statement of profit and loss]*	1,95,000	

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- Depreciation other than depreciation on revaluation of assets (₹ 3,08,000 – ₹ 80,000)	2,28,000	
- Unabsorbed depreciation or brought forward business loss, whichever is less, as per the books of account.	14,00,000	
[Lower of unabsorbed depreciation ₹ 18,00,000 and brought forward business loss ₹ 14,00,000 as per books of accounts has to be reduced while computing the book profit]		18,23,000
Book Profit		**40,08,000**

Computation of MAT liability under section 115JB

Particulars	₹
15% of book profit of ₹ 40,08,000	**6,01,200**
Add: Health & Education Cess@4%	24,048
Minimum Alternate Tax liability	**6,25,248**
MAT liability (rounded off)	6,25,250

Notes:

(1) It is only the specific items mentioned under *Explanation 1* to section 115JB, which can be adjusted from the net profit as per the Statement of Profit and Loss prepared as per the Companies Act for computing book profit for levy of MAT. Since the following items are not specified thereunder, the same cannot be adjusted for computing book profit:

Interest to financial institution (unpaid before filing of return) and

Penalty for infraction of law

(2) Provision for gratuity based on actuarial valuation is an ascertained liability *[CIT v. Echjay Forgings (P) Ltd. (2001) 251 ITR 15 (Bom.)]*. Hence, the same should not be added back to compute book profit.

(3) As per proviso to section 115JB(6), the profits from unit established in special economic zone cannot be excluded while computing the book profit, and hence, such income would be liable for MAT.

(ii) Computation of MAT liability u/s 115JB where Ganga Ltd. is a unit located in an IFSC and derives its income solely in convertible foreign exchange

Particulars	₹
9% of book profit of ₹ 40,08,000	3,60,720
Add: Health & Education Cess@4%	14,429

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Minimum Alternate Tax liability	**3,75,149**
MAT liability (rounded off)	3,75,150

(iii) As per section 115-O(8), no tax on distributed profits is chargeable in respect of the total income of a company, being a unit of an IFSC deriving income solely in convertible foreign exchange, on any amount of declared, distributed or paid by the company by way of dividends, either in the hands of the company or the person receiving such dividend.

Thus, neither the company nor the shareholders have to pay any tax on dividend distributed by Ganga Ltd.

19. As per section 115TD, the accreted income of "EduAid", a charitable trust, registered under section 12AA which is merged with M/s Educare (P) Ltd., an entity not entitled for registration under section 12AA, would be chargeable to tax at the rate of 34.944% [30% plus surcharge @12% plus cess@4%].

Computation of accreted income and tax liability in the hands of the EduAid trust arising as a result of merger with M/s. Educare (P) Ltd.

Particulars	Amount (₹)
Aggregate FMV of total assets as on 1.4.2020, being the specified date (date of merger) **[See Working Note 1]**	1,16,73,000
Less: Total liability computed in accordance with the prescribed method of valuation **[See Working Note 2]**	67,00,000
Accreted Income	**49,73,000**
Tax Liability @ 34.944% of ₹ 49,73,000 (rounded off)	**17,37,765**
Working Notes:	
(1) Aggregate fair market value of total assets on the date of merger	
- **Land at Surat, being immovable property, purchased on 1.10.2011**	-
Since the trust was registered only on 15.3.2014 and benefit of section 11 and 12 was available to the trust only from A.Y.2014-15, relevant to P.Y.2013-14, being the previous year in which the application for registration is made, the value of land purchased in P.Y.2011-12, in respect of which benefit under sections 11 and 12 was not availed, has to be ignored for computing accreted income.	

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- **Land at Baroda, being an immovable property, purchased on 21.11.2014** [The fair market value of land would be higher of ₹ 105 lakhs i.e., price that the land would ordinarily fetch if sold in the open market and ₹ 90 lakhs, being stamp duty value as on the specified date, i.e., 1.4.2020]	1,05,00,000
- **Quoted equity shares of PQR Ltd. [3,000 x ₹ 265 per share]** [₹ 265 per share, being the average of the lowest (₹ 250) and highest price (₹ 280) of such shares on the specified date]	7,95,000
- **Preference shares of LMN Ltd. [1,800 x ₹ 210 per share]** [The fair market value which it would fetch if sold in the open market on the specified date i.e. FMV on 1.4.2020]	3,78,000
	1,16,73,000
(2) Total liability	
- Reserves and Surplus ₹ 21 lakhs [not includible]	-
- Corpus Fund of ₹ 14 lakhs [not includible]	-
- Provision for taxation ₹ 10 lakhs [not includible]	-
- Other Liabilities [₹ 112 lakhs - ₹ 21 lakhs - ₹ 14 lakhs - ₹ 10 lakhs]	67,00,000
	67,00,000

20. Computation of total income and tax liability of Mr. Shyam for A.Y. 2021-22

Particulars	₹	₹
Profits and gains from business and profession		
Income from sole proprietary concern in India	50,00,000	
Share of profit from a partnership firm in India of ₹ 30 lakhs, is exempt	Nil	
Business profit	50,00,000	
Less: Business Loss[1] in Country A (CAD 4000 x ₹ 60/CAD)	2,40,000	47,60,000

[1] Since the eight year has not expired from the assessment year in which such business loss was incurred, such business loss can be set-off against current year business income.

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Income from Other Sources		
Agricultural income from coffee estates in Country A, is taxable in India (CAD 32000 x ₹ 60/CAD)		19,20,000
Gross Total Income		**66,80,000**
Less: **Deductions under Chapter VI-A**		
Under section 80C [deposit in PPF]	1,50,000	
Under section 80D	75,000	
[Medical insurance premium paid ₹ 30,000 for self, restricted to ₹ 25,000; ₹ 55,000 for senior citizen parents, restricted to ₹ 50,000]		
Under section 80DD		
[Flat deduction of ₹ 75,000 irrespective of the expenditure incurred on dependent sister, being a person with disability]	75,000	
		3,00,000
Total Income		**63,80,000**
Tax on total income		
Tax on ₹ 63,80,000 [(30% x ₹ 53,80,000) *plus* ₹ 1,12,500]		17,26,500
Add: Surcharge@10%, since total income exceeds ₹ 50 lakh		1,72,650
		18,99,150
Add: HEC@4%		75,966
		19,75,116
Average rate of tax in India [i.e., ₹ 19,75,116/₹ 63,80,000 x 100]	30.96%	
Average rate of tax in Country A [i.e., CAD 8000/CAD 32000]	25%	
Doubly taxed income [₹ 19,20,000 – ₹ 2,40,000]	16,80,000	
Rebate under section 91 on ₹ 16,80,000@25% (lower of average Indian tax rate and rate of tax in Country A)		4,20,000
Tax payable in India [₹ 19,75,116 – ₹ 4,20,000]		**15,55,116**
Tax payable in India (rounded off)		**15,55,120**

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Note:

(1) *Since Mr. Shyam is resident in India for the P.Y.2020-21, his global income would be subject to tax in India. He is eligible for deduction under section 91 since the following conditions are fulfilled:-*

(a) He is a resident in India during the relevant previous year.

(b) Agricultural income accrues or arises to him outside India during that previous year.

(c) Such agricultural income is not deemed to accrue or arise in India during the previous year.

(d) The income in question i.e., agricultural income, has been subjected to income-tax in Country A in his hands and he has paid tax on such income in Country A.

(e) There is no agreement under section 90 for the relief or avoidance of double taxation between India and Country A, where the income has accrued or arisen.

(2) *If Mr. Shyam opts for section 115BAC, he would not be able to claim deduction of ₹ 3,00,000 under Chapter VI-A. His total income would be ₹ 66,80,000. His tax liability would be ₹ 19,92,276 (working shown below), which is higher than the tax liability of ₹ 19,75,116 computed as per the regular provisions of the Act. Hence, he would not opt for section 115BAC.*

Particulars	***₹***
Upto ₹ 2,50,000	*Nil*
₹ 2,50,001 – ₹ 5,00,000 [₹ 2,50,000 @ 5%]	*12,500*
₹ 5,00,001 – ₹ 7,50,000 [₹ 2,50,000 @ 10%]	*25,000*
₹ 7,50,001 – ₹ 10,00,000 [₹ 2,50,000 @ 15%]	*37,500*
₹ 10,00,001 – ₹ 12,50,000 [₹ 2,50,000 @ 20%]	*50,000*
₹ 12,50,001 – ₹ 15,00,000 [₹ 2,50,000 @ 25%]	*62,500*
₹ 15,00,001 – ₹ 66,80,000 [₹ 51,80,000 @ 30%]	*15,54,000*
	17,41,500
Add: Surcharge @ 10%	*1,74,150*
	19,15,650
Add: HEC @ 4%	*76,626*
Total tax liability	***19,92,276***
Total tax liability (rounded off)	***19,92,280***

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PAPER-8: INDIRECT TAX LAWS

QUESTIONS

(1) All questions should be answered on the basis of position of (i) GST law as amended by the provisions of the Finance Act, 2020 and the Finance (No. 2) Act, 2019, which have become effective up to 31st October, 2020, including significant notifications and circulars issued and other legislative amendments made, up to 31st October, 2020 and (ii) customs law as amended by the Finance Act, 2020, including significant notifications and circulars issued and other legislative amendments made, up to 31st October, 2020.

(2) The GST rates for goods and services mentioned in various questions are hypothetical and may not necessarily be the actual rates leviable on those goods and services. The rates of customs duty are also hypothetical and may not necessarily be the actual rates. Further, GST compensation cess should be ignored in all the questions, wherever applicable.

Disha Enterprise Pvt Ltd. is a financial service company having its offices in Kolkata, West Bengal and Mumbai, Maharashtra. The company is registered under GST in both the States. The company operates through two segments (a) banking & insurance services and (b) advisory & consulting services. The aggregate turnover of the company during the previous year was (i) ₹ 80 lakh in West Bengal & (ii) ₹ 60 lakh in Maharashtra.

The bouquet of services provided under each of the two segments are as follows:

Banking & insurance services	Advisory & consulting services
Insurance agent services	Company/LLP/Society formation
Recovery agent services	Return filing
Direct Selling Agent (DSA) services (sale of banking products)	Detailed Project Report (DPR) preparation
	Business promotion/ product marketing/ exhibition etc.

The company has carried out following transactions during the month of September:

(Amount in ₹ excluding GST)

Particulars	Kolkata office	Mumbai office
Sale and purchase of foreign currency	Refer Note 3	Refer Note 3
Commission received from Nautiyal Insurance Company/ ADFC Life Insurance Company	90,000	70,000
Commission received as DSA from ICIDI Bank for opening bank account/credit card & loan products	48,000	50,000

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Commission received from private banks for acting as recovery agent	1,20,000	1,50,000
Professional fee received for the formation of a company/LLP/society	80,000 [Refer Note 2]	40,000
Professional fee received for GST/ TDS return filing	65,000	75,000
Participation fee received from customers for the business exhibition organised by the company	50,00,000 (held in Russia) [Refer Note 1]	4,00,000 (held at Chennai) [Refer Note 1]
Legal fee paid to Mr. Sundaram - an advocate	10,000	15,000
Payment made for security services (by way of supply of security personnel) received	25,000 (Globe Security Pvt Ltd.)	25,000 (M/s X & Co, a partnership firm, registered under GST)

Notes:

1. The participation fee of ₹ 50,00,000 received by the company is in respect of a business exhibition organized at St. Petersburg, Russia under the theme "Indian Traditional Fair" in which 10 Indian companies (all registered under GST) had participated. A participation fee of ₹ 5 lakh from each Indian company was collected for providing them a stall, furniture & other amenities at St. Petersburg, Russia.

   The participation fee of ₹ 4,00,000 is in respect of a business exhibition organized by the company at Chennai, in which 100 Indian companies had participated.

2. Out of the professional fee of ₹ 80,000 received by Kolkata office for the formation of a company/LLP/society, ₹ 15,000 was towards reimbursement claimed from client. It was separately mentioned in the invoice indicating that it was deposited with registrar of companies (ROC).

3. Following purchase & sale of foreign currency was made by the company during the month of September:

   (a) Kolkata office had purchased USD 10,000 from M/s Moneywise (a FOREX dealer) @ ₹ 74 per USD on 10th September. The RBI reference rate on that day was ₹ 73 per USD.

   (b) Mumbai office had sold USD 5,000 to M/s Money Matters (a FOREX dealer) on 15th September @ ₹ 73.20 per USD. RBI reference rate for USD on that day is not available.

4. In an order dated 14th September issued to Disha Enterprise Pvt Ltd., the Joint Commissioner of CGST, Mumbai has raised a demand of ₹ 600 crore on Mumbai office in

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respect of an inter-State transaction. The company is disputing the entire demand & wants to file an appeal before the Appellate Authority against the order of Joint Commissioner.

5. The Kolkata office of the company had received ₹ 1 lakh on 22nd April as an advance from Ganesh Flour Mill Pvt Ltd., a client, for preparation of DPR. However, tax collected on the same from the client has not yet been deposited with the Central Government.

All the amounts given above are exclusive of GST wherever applicable (unless otherwise specified). There is no other outward or inward supply transaction apart from the aforesaid transactions in the relevant period.

Based on the facts of the case scenario given above, choose the most appropriate answer to Q. Nos. 1. to 5. below:-

1. Determine the value of taxable supply in respect of sale and purchase of foreign currency by Kolkata office and Mumbai office of the company as per rule 32(2)(a) of the CGST Rules, 2017.

   (a) Kolkata office ₹ 7200, Mumbai office ₹ 3,660

   (b) Kolkata office ₹ 10,000, Mumbai office ₹ 3,660

   (c) Kolkata office ₹ 7,20,000, Mumbai office ₹ 3,66,000

   (d) Kolkata office ₹ 7,30,000, Mumbai office ₹ 3,66,000

2. The value of taxable supply received by Mumbai office in the month of September on which tax is payable under reverse charge is _____.

   (a) ₹ 15,000

   (b) ₹ 25,000

   (c) ₹ 40,000

   (d) ₹ 2,70,000

3. The value of taxable outward supply made by Kolkata office in the month of September on which Disha Enterprise Pvt Ltd. is liable to pay tax under forward charge is _____.

   (a) ₹1,78,000

   (b) ₹ 2,78,000

   (c) ₹ 2,65,000

   (d) ₹ 1,13,000

4. The maximum amount of pre-deposit that Disha Enterprise Pvt. Ltd. can be asked to deposit under the IGST Act, 2017 for filing of an appeal before the Appellate Authority is _____.

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(a) ₹ 30 crores

(b) ₹ 60 crores

(c) ₹ 25 crores

(d) ₹ 50 crores

5. The maximum penalty prescribed under section 122 of the CGST Act, 2017 for failure of Kolkata Office to deposit the tax collected on the advance received from Ganesh Flour Mill Pvt Ltd. is _____.

(a) ₹ 18,000

(b) ₹ 25,000

(c) ₹ 10,000

(d) ₹ 10,000 or tax evaded, whichever is higher.

ABC Ltd. is a Public Sector Undertaking (PSU) engaged in the business of generation of electricity from conventional & non-conventional sources. The Government of India holds 75% equity in the said company & balance equity is held by institutional and domestic investors. The company has taken separate registration under GST in each State where it has business operations. The company has its head office (HO) in Delhi & its power plants are located in the States of Bihar, Odisha & Chhattisgarh.

Following transactions were carried out by the company during the month of February:

(Amount in ₹)

Particulars	Delhi H.O	Bihar plant	Odisha plant	Chhattisgarh plant
Sale of electrical energy to DISCOM	---	2,50,00,000	3,50,00,000	4,50,00,000
Bank interest received on saving bank account & fixed deposit	18,00,000	3,00,000	5,00,000	8,00,000
House rent recovered from the employees for residential accommodation provided to them	55,000	30,000	25,000	40,000
Rent collected from bank, ATM, post office & shops located in office premises	48,000	15,000	12,000	16,000
Sale of iron/ metal scrap (excluding TCS @ 1% as per the Income-tax Act, 1961	-	85,000	45,000	65,000
Other Income	2,50,000	-	-	45,000

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Note:

(a) Other income of Delhi H.O. amounting to ₹ 2,50,000 is in respect of bond money recovered from an ex-employee who had resigned from the service of ABC Ltd. prior to completion of the period specified in the bond, viz., 2 years.

(b) Other income of ₹ 45,000 of Chhattisgarh plant is in respect of penalty recovered from a contractor for delay in supply of material.

In addition to above information, following transactions were also carried out during the month of February:

(1) A supply order for stationery items was awarded by Delhi H.O. to M/s Stationery Mart, New Delhi for ₹ 3,36,000 (including GST @ 12%) in January.

The vendor supplied stationery items worth ₹ 44,800 (including GST@ 12%) & issued the tax invoice in February. Delhi H.O. had made the payment of the said bill in February. The remaining amount was paid in April on supply of balance items.

(2) Odisha plant purchased office furniture for ₹ 2,80,000 during February from an unregistered dealer. Rate of GST on said furniture item is 18%.

(3) A Board meeting for raising term loan for project expansion was held in February. The Delhi H.O. paid ₹ 20,000 each as sitting fee to 4 independent directors who attended the meeting.

(4) For safety & security of its H.O. & power plants, the company has engaged private security as well as CISF. Following payments were made in February, in respect of bills issued in the month of January:

Particulars	Delhi H.O.	Bihar plant	Odisha plant	Chhattisgarh plant
CISF	---	10,00,000 (paid on 07th February)	8,00,000 (paid on 15th February)	14,00,000 (paid on 05th February)
ABS Security Services Pvt Ltd.	5,00,000 (paid on 11th February)	-	-	-

(5) The Bihar plant purchased a machinery in February from M/s Sahoo Enterprises, Patna (not registered under GST) for ₹ 86,000. Full payment was made in February. Rate of GST on the said machinery is 18%.

All the amounts mentioned above are excluding GST, wherever applicable (unless otherwise specified).

Based on the facts of the case scenario given above, choose the most appropriate answer to Q. Nos. 6. to 10. below:

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6. The value of taxable supply on which GST is payable by Delhi H.O. under forward charge, for the month of February is _____.

   (a) ₹ 21,78,000

   (b) ₹ 2,98,000

   (c) ₹ 22,33,000

   (d) ₹ 3,78,000

7. The value of taxable inward supply on which GST shall be payable under reverse charge by Bihar power plant is _____.

   (a) ₹ 11,80,000

   (b) ₹ 10,00,000

   (c) ₹ 10,86,000

   (d) ₹ 10,30,000

8. The value of supply on which TDS under section 51 of the CGST Act, 2017 shall be deducted by Delhi H.O. while making payment to M/s Stationery Mart in February is _____.

   (a) ₹ 40,000

   (b) ₹ 44,800

   (c) ₹ 3,00,000

   (d) TDS is not applicable since payment made in February is less than ₹ 2,50,000.

9. Which of the following statements is true with regard to the penalty of ₹ 45,000 recovered by Chhattisgarh plant from the contractor for delay in supply of material?

   (a) Fine/ penalty levied by a PSU is an exempt supply under section 11 of the CGST Act, 2017.

   (b) It is a supply of services as stipulated in Schedule II of the CGST Act, 2017.

   (c) It is neither a supply of service nor supply of goods as it is covered under Schedule III of the CGST Act, 2017.

   (d) It is not a supply at all under section 7 of the CGST Act, 2017.

10. What is the value of supply on which GST is payable by Odisha plant on sale of scrap?

   (a) ₹ 45,000

   (b) ₹ 45,450

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(c) Sale of scrap is an exempt supply under GST. It is subject to TCS under the Income-tax Act, 1961.

(d) Sale of scrap is neither a supply of service nor supply of goods as it is covered under Schedule III of the CGST Act, 2017.

11. The Resident Welfare Association (RWA) of Kutumb Housing Society is registered under GST in the State of Mahrashtra. There are 100 three BHK flats and 100 four BHK flats in the society. It received/paid the following amounts (excluding GST, wherever applicable) in the months of January and February:

Particulars	January (₹)	February (₹)
Maintenance charges per flat received from all 3 BHK flat owners	7,000	7,000
Maintenance charges per flat received from all 4 BHK flat owners	10,000	10,000
Interest received on the fixed deposit with Dhansukh Bank	5,00,000	5,00,000
Generator purchased for the power back-up of 4 BHK flats		1,00,000
Taps, pipes, other sanitary fittings purchased for 3 BHK flats	50,000	

Determine the net GST liability to be paid for the months of January and February, assuming that the GST rate is 18% on all inward and outward supplies.

(a) January - ₹ 1,71,000; February - ₹ 1,62,000

(b) January - ₹ 1,80,000; February - ₹ 1,62,000

(b) January - ₹ 1,80,000; February - ₹ 1,80,000

(d) January - ₹ 1,71,000; February - ₹ 1,80,000

12. Suhasini Oberoi, an Indian resident who was on a visit to USA, returned after 6 months for contesting in assembly elections of her State. She was carrying with her the following items:

(i)	Personal effects	₹ 59,000
(ii)	Laptop computer	₹ 37,000
(iii)	Jewellery - 25 grams (purchased in USA)	₹ 67,000
(iv)	Music system	₹ 58,000

Compute the customs duty payable by Suhasini Oberoi with reference to the Baggage Rules, 2016.

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(a) ₹ 28,875

(b) ₹ 62,370

(c) ₹ 85,085

(d) ₹ 48,125

13. M/s Sohan Enterprises Ltd. had imported goods after paying the customs duty of ₹ 25,00,000 at the time of import. These goods were used and later re-exported after 19 months of import. The amount of duty drawback that M/s Sohan Enterprises Ltd. is eligible to claim on such re-export made is _____.

(a) nil

(b) 23,75,000

(c) 20,00,000

(d) 24,00,000

14. Sunshine Pvt. Ltd. manufactures taxable goods. The company is registered under GST in the State of West Bengal. The company has provided following information in relation to inward supplies received by it in the month of October:

S. No.	Invoices received for inward supplies	IGST (₹)
1.	Raw material - X	2,00,000
2.	Rent of the factory building	1,50,000
3.	Raw material - Y	1,30,000
4.	Car purchased for the use of the director	1,20,000
5.	Consumables	80,000
6.	Machinery for being used in the manufacturing process	1,50,000
7.	Raw material - Z	1,10,000
8.	Technical consultancy for improvement in the manufacturing process	60,000
9.	Raw material – W (imported from China)	50,000
Total		10,50,000

S. No.	Particulars	IGST (₹)
(i)	Balance in Form GSTR-2A on 28th October	4,80,000

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	(Invoices at S. Nos. 1, 2 and 3 uploaded by the respective suppliers in their Form GSTR-1s)	
(ii)	Balance in Form GSTR-2A on 11th November (Invoices at S. Nos. 1, 2, 3 and 4 uploaded by the respective suppliers in their Form GSTR-1s)	6,00,000
(iii)	Balance in Form GSTR-2A on 20th November (Invoices at S. Nos. 1, 2, 3, 4 and 5 uploaded by the respective suppliers in their Form GSTR-1s)	6,80,000

Compute the ITC that can be claimed by Sunshine Pvt. Ltd. in its Form GSTR-3B for the month of October to be filed by 20th November.

Note: The due date of filing of Form GSTR-1 and Form GSTR-3B for the month of October are 11th November and 20th November respectively. Subject to the information given above, all the other conditions for availing ITC have been complied with.

15. Parikshit Ltd., engaged in providing a bouquet of services, is registered under GST law. It furnishes the following information for the month of March in relation to various services provided by it:

Particulars	₹
Fees from prospective employers for campus interview in its college	5,20,000
Five buses each with seating capacity of 40 passengers given on hire to State Transport Undertaking	6,50,000
Receipts of 'Shiny', a commercial coaching institute providing coaching in the field of commerce (a certificate was awarded to each trainee after completion of the training)	1,82,000
Interest received on fixed deposits of the company with Dhanvarsha Bank	6,50,000
Receipts from running a Boarding School (including receipts for providing residential dwelling service of ₹ 18,20,000)	39,00,000
Receipts of 'Sikshit Samudai' - an Industrial Training Institute (ITI) affiliated to the National Council for Vocational Training (NCVT). Courses run by said ITI are in designated trades	2,60,000
Receipts of 'Pratibha Institute', an institute registered with Directorate General of Employment and Training (DGET), Union Ministry of Labour and Employment, running a Modular Employable Skill Course (MESC) approved by the National Council for Vocational Training (NCVT)	1,30,000
Professional services provided to foreign diplomatic mission located in India	1,04,000

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Compute the GST payable by Parikshit Ltd. assuming that all the above receipts are exclusive of GST wherever applicable and the rate of GST applicable on all the supplies is 18%.

16. Briefly examine whether the appeal/review application filed in the following independent cases is within the time limit prescribed under the GST law:-

    (i) The adjudicating authority issued the adjudication order on 23rd April and the same is communicated to the taxpayer - Mr. X - on 28th April. Mr. X, aggrieved by the order of the adjudicating authority filed an appeal to the Appellate Authority on 26th July.

    (ii) The adjudicating authority passed the order on 3rd March (communicated same day to the Commissioner). The Commissioner directs his subordinate officer to file a review application with the Appellate Authority. The subordinate officer filed the review application on 23rd September.

17. Determine the place of supply in the following independent cases:-

    (i) Mr. Sahukaar (New Delhi) boards the New Delhi-Kota train at New Delhi. Mr. Sahukaar sells the goods taken on board by him (at New Delhi), in the train, at Jaipur during the journey.

    (ii) Vidhyut Pvt. Ltd. imports electric food processors from China for its Kitchen Store in Noida, Uttar Pradesh. Vidhyut Pvt. Ltd. is registered in Uttar Pradesh.

    (iii) Mr. Aatmaram, a manager in a Bank, is transferred from Bareilly, Uttar Pradesh to Bhopal, Madhya Pradesh. Mr. Aatmaram's family is stationed in Kanpur, Uttar Pradesh. He hires Gokul Carriers of Lucknow, Uttar Pradesh (registered in Uttar Pradesh), to transport his household goods from Kanpur to Bhopal.

    (iv) Bholunath, a resident of New Delhi, opens his saving account in New Delhi branch of Best Bank after undergoing the KYC process. He goes to Amritsar for some official work and withdraws money from Best Bank's ATM in Amritsar thereby crossing his limit of free ATM withdrawals.

    (v) Mr. Chakmak, an architect (New Delhi), enters into a contract with Mr. Zeeshaan of New York to provide professional services in respect of immovable properties of Mr. Zeeshaan located in Pune and New York.

18. Paridhi Ltd. is a registered manufacturer engaged in taxable supply of goods. Paridhi Ltd. purchased the following goods during the month of January and provided the following information:

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S. No.	Particulars	GST paid (₹)
1.	Capital goods purchased on which depreciation has been taken on full value including input tax thereon	15,000
2.	Goods purchased from Rupesh Enterprises (Rupesh Enterprises sent the invoice in the month of January, but goods were received in month of April)	20,000
3.	Car purchased for making further supply of such car. Such car is destroyed in accident while being used for test drive by potential customers	30,000
4.	Goods used for setting up telecommunication towers being immovable property	50,000
5.	Goods purchased from Sumo Ltd. (Full payment has been made by Paridhi Ltd. to Sumo Ltd. against such supply, but tax has been deposited by Sumo Ltd. in April)	10,000
6.	Truck purchased for delivery of output goods	80,000

Determine the amount of input tax credit (ITC) available to Paridhi Ltd. while filing GSTR-3B for the month of January by giving necessary explanations for treatment of various items as per the provisions of the CGST Act, 2017. You may assume that all the necessary conditions for availing the ITC have been complied with by Paridhi Ltd.

19. SGNA Industries Ltd. of Surat imported one machine through vessel from Japan, in the month of September and has furnished the following details:-

S. No.	Particulars	Amount in Japanese Yen (¥)
(i)	Cost upto port of exportation incurred by exporter	5,00,000
(ii)	Loading charges at port of exportation	1,25,000
(iii)	Freight charges from port of export to port of import in India.	50,000

Following additional amounts paid by SGNA Industries Ltd.:-

(i) Designing charges, necessary for such machine, paid to consultancy firm in Mumbai ₹ 9,50,000

(ii) Commission paid (not the buying commission) to local agent of exporter ₹ 50,000

(iii) Actual landing charges paid at the place of importation ₹ 20,000

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(iv) Actual insurance charges paid to the place of importation are not ascertainable.

(v) Lighterage charges paid at the port of importation ₹ 30,000

The rate of basic customs duty is 10% and rate of social welfare surcharge is 10%. Integrated tax leviable under section 3(7) of Customs Tariff Act, 1975 is 12%. The rate of exchange to be taken is 1 Japanese Yen (¥) = ₹ 0.68. Ignore GST compensation cess.

You are required to compute the total customs duty, including integrated tax payable under section 3(7) of the Customs Tariff Act, 1975 with appropriate working notes.

20. KTU Limited has imported certain goods for sale in India from Country Z, which are liable for anti-dumping duty. Country Z sell the like goods in its domestic market in the ordinary course of trade at USD 300 per piece. The imported goods are sold in domestic Indian industry @ USD 275 per piece. KTU Limited has imported the goods at USD 180 per piece. Landed value of the imported goods is USD 190 per piece.

Compute the anti-dumping duty payable by KTU Limited for 800 pieces of these goods it has imported during the year assuming conversion rate @ ₹ 72 per USD.

SUGGESTED ANSWERS

1. (b)

2. (c)

3. (a)

4. (d)

5. (d)

6. (b)

7. (b)

8. (a)

9. (b)

10. (a)

11. (b)

12. (a)

13. (a)

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14. ITC to be claimed by Sunshine Pvt. Ltd. in its GSTR-3B for the month of October to be filed by 20th November will be computed as under-

Invoices	**Amount of input tax involved in the invoices (₹)**	**Amount of ITC that can be availed (₹)**
Balance in GSTR-2A on 11th November [Note 1] (Invoices at S. Nos. 1, 2, 3 and 4 uploaded by the respective suppliers in their GSTR-1s)	6,00,000	4,80,000 [Note 2]
Invoices at S. Nos. 5, 6 7 and 8 not uploaded in GSTR-1	4,00,000	48,000 [Note 3]
Invoice at S. No. 9	50,000	50,000 [Note 4]
Total	10,50,000	5,78,000

Notes:

(1) ITC in respect of the invoices whose details have not been uploaded by the suppliers shall not exceed 10% of the eligible input tax credit available to the recipient in respect of invoices or debit notes the details of which have been uploaded by the suppliers under section 37(1) of the CGST Act, 2017 as on the due date of filing of the returns in Form GSTR-1 of the suppliers for the said tax period. The taxpayer can ascertain the same from his auto populated Form GSTR 2A as available on the due date of filing of Form GSTR-1 under section 37(1) [Rule 36(4) of the CGST Rules, 2017 read with *Circular No. 123/42/2019 GST dated 11.11.2019*].

(2) 100% ITC can be availed on invoices uploaded by the suppliers in their Form GSTR-1. However, section 17(5) of the CGST Act, 2017 blocks ITC on motor vehicles for transportation of persons having approved seating capacity of not more than 13 persons if they are not used for making the following taxable supplies, namely:—

(A) further supply of such motor vehicles; or

(B) transportation of passengers; or

(C) imparting training on driving such motor vehicles

Since Sunshine Pvt. Ltd. is not using the car for any of the aforesaid mentioned purpose, ITC thereon will not be available.

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Thus, 100% ITC will be available in respect of invoices at S.Nos. 1, 2 & 3.

(3) In respect of invoices at S.Nos. 5, 6 7 and 8 not uploaded in Form GSTR-1s, the ITC has been restricted to 10% of eligible ITC in respect of invoices uploaded in Form GSTR-1s, i.e. 10% of ₹ 4,80,000 in terms of rule 36(4) of the CGST Rules, 2017.

(4) The restriction of availment of ITC is imposed only in respect of those invoices, details of which are required to be uploaded by the suppliers under section 37(1) of the CGST Act, 2017 and which have not been uploaded. Therefore, full ITC can be availed in respect of IGST paid on imports which are outside the ambit of section 37(1) *[Circular No. 123/42/2019 GST dated 11.11.2019].*

15. Computation of GST payable by Parikshit Ltd. for the month of March

Particulars	**Value (₹)**	**GST @ 18% (₹)**
Fees from prospective employers for campus interview in its college [Taxable since such services are not specifically exempt]	5,20,000	93,600
Five buses each with seating capacity of 40 passengers given on hire to State Transport Undertaking [Services by way of giving on hire to a State transport undertaking (STU), a motor vehicle meant to carry more than 12 passengers, are exempt vide *Notification No. 12/2017 CT(R) dated 28.06.2017* (hereinafter referred to as exemption notification).]	Nil	Nil
Receipts of Shiny– a coaching institute [Services provided by an educational institution to its students, faculty and staff are exempt vide exemption notification. However, coaching institute is not an educational institution.]	1,82,000	32,760
Interest received on fixed deposits of the company with Dhanvarsha Bank [Services by way of extending deposits, loans or advances in so far as the consideration is represented by way of interest or discount (other than interest involved in credit card services) are exempt vide exemption notification.]	Nil	Nil
Receipts from Boarding School including receipts for residential dwelling service [Services provided by an educational institution to its students, faculty and staff are exempt vide exemption	Nil	Nil

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notification. Boarding School providing education up to higher secondary school or equivalent is an educational institution since it provides composite supply of education service coupled with other services like providing dwelling units for residence and food wherein the principal supply is supply of education service.]		
Receipts of Sikshit Samudai [Services provided by an educational institution to its students, faculty and staff are exempt vide exemption notification. Sikshit Samudai is an educational institution running approved vocational education course.]	Nil	Nil
Receipts of 'Pratibha Institute' running Modular Employable Skill Course [Services provided by an educational institution to its students, faculty and staff are exempt vide exemption notification. Pratibha Institute is an educational institution running approved vocational education course.]	Nil	Nil
Professional services provided to foreign diplomatic mission located in India [While services provided by a foreign diplomatic mission located in India are exempt from GST vide exemption notification, no such exemption is available to the services provided to such mission.]	1,04,000	18,720
GST payable	8,06,000	1,45,080

16. (i) A person aggrieved by any decision/order of an adjudicating authority can file an appeal to the Appellate Authority within 3 months from the date of communication of such decision/order. The Appellate Authority can condone the delay in filing of appeal by 1 month if it is satisfied that there was a sufficient cause for such delay [Section 107 of the CGST Act, 2017].

In view of the aforesaid provisions, in the given case, the relevant date for computing the period of 3 months (for filing the appeal to Appellate Authority) is 28th April (date of communication of order) and not 23rd April. Accordingly, an appeal can be filed by Mr. X to Appellate Authority within 3 months from the date of communication of order (28th April), i.e. 28th July.

Thus, Mr. X has filed the appeal within the time limit prescribed under the GST law.

(ii) The Commissioner may, by order, direct any officer subordinate to him to apply to the Appellate Authority within 6 months from the date of communication of the decision/

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order for the determination of such points arising out of the said decision/ order as may be specified by him.

The Appellate Authority can condone the delay in filing of appeal by 1 month if it is satisfied that there was sufficient cause for such delay [Section 107 of the CGST Act, 2017].

In the present case, the Commissioner directs his subordinate officer to file a review application with the Appellate Authority. The subordinate officer should have filed the said application till 3rd September (i.e. within 6 months from the date of communication of order). However, the subordinate officer filed the application on 23rd September, i.e. after the expiry of period of 6 months from the date of communication of order. Thus, in the given case, appeal has not been filed within the time limit prescribed under the GST law.

However, Appellate Authority can condone delay in filing of appeal upto 3rd October (up to 1 month) if it is satisfied that there was sufficient cause for such delay.

17. (i) Section 10(1)(e) of the IGST Act, 2017 lays down that place of supply of goods supplied on board a conveyance like aircraft, train, vessel, or a motor vehicle, is the location where such goods have been taken on board. Thus, in the given case, the place of supply of the goods sold by Mr. Sahukaar is the location at which the goods are taken on board, i.e. New Delhi and not Jaipur where they have been sold.

(ii) As per section 11(a) of the IGST Act 2017, if the goods have been imported in India, the place of supply of goods is the place where the importer is located. Thus, in the present case, the pla ce of supply of the goods imported by Vidhyut Pvt. Ltd. is Noida, Uttar Pradesh.

(iii) As per section 12(8) of the IGST Act, 2017, the place of supply of services by way of transportation of goods, including by mail or courier provided to an unregistered person, is the location at which such goods are handed over for their transportation.

Since in the given case, the recipient – Aatmaram – is an unregistered person, the place of supply is the location where goods are handed to Gokul Carriers over for their transportation, i.e. Kanpur.

(iv) As per section 12(12) of the IGST Act, 2017, the place of supply of banking and other financial services, including stock broking services to any person is the location of the recipient of services in the records of the supplier of services. Thus, in the given case, the place of supply is the location of the recipient of services in the records of the supplier bank, i.e. New Delhi.

(v) As per section 13(4) read with section 13(6) of the IGST Act, 2017, where services supplied directly in relation to an immovable property are supplied at more than one location, including a location in the taxable territory, the place of supply is the location in the taxable territory. Since in the given case, the immovable pro perties

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are located in more than one location including a location in the taxable territory, the place of supply of architect service is the location in the taxable territory, i.e. Pune.

18. Computation of ITC available with Paridhi Ltd. in January

S. No.	Particulars	Amount (₹)
1.	Capital goods [Since depreciation has been claimed on the tax component of the value of the capital goods, ITC of such tax cannot be availed in terms of section 16 of the CGST Act, 2017.]	Nil
2.	Goods purchased from Rupesh Enterprises [ITC in respect of goods not received cannot be availed (Section 16 of the CGST Act, 2017). Since the goods have been received in the month of April, ITC thereon can be availed in April and not January even though the invoice for the same has been received in January.]	Nil
3.	Cars purchased for making further supply [Though ITC on motor vehicles used for further supply of such vehicles is not blocked, ITC on goods destroyed for whichever reason is blocked (Section 17(5) of the CGST Act, 2017).]	Nil
4.	Goods used for setting telecommunication towers [ITC on goods used by a taxable person for construction of immovable property on his own account is blocked even when such goods are used in the course or furtherance of business (Section 17 of the CGST Act, 2017).]	Nil
5.	Goods purchased from Sumo Ltd. [ITC can be claimed provisionally in January since all the conditions necessary for availing the same have been complied with (Section 16 of the CGST Act, 2017). However, the claim will get confirmed only when the tax charged in respect of such supply has been actually paid to the Government.]	10,000
6.	Trucks purchased for delivery of output goods [ITC on motor vehicles used for transportation of goods is not blocked (Section 17(5) of the CGST Act, 2017).]	80,000
	Total ITC available with Paridhi Ltd.	90,000

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19. Computation of assessable value of the imported goods

	Japanese Yen
Cost upto port of exportation	5,00,000
Add: Loading charges at the port of exportation [Note-1]	1,25,000
Total in Japanese Yen	6,25,000
	₹
Total in Indian rupees @ ₹ 0.68 per Japanese Yen	4,25,000.00
Add: Commission paid to local agent of exporter [Note-3]	50,000.00
FOB value as per customs	4,75,000.00
Add: Freight charges from port of export to port of import in India [Note-1] [50,000 Japanese Yen × 0.68 = ₹ 34,000]	34,000.00
Add: Lighterage charges paid by the importer at port of importation [Note-1]	30,000.00
Add: Insurance charges @ 1.125% of FOB [₹ 4,75,000 × 1.125%] [Note-4]	5,343.75
CIF value	5,44,343.75
Assessable Value (rounded off)	5,44,344
Add: Basic customs duty @ 10% of ₹ 5,44,344 (rounded off) (A)	54,434
Add: Social welfare surcharge @ 10% of ₹ 54,434 (rounded off) (B)	5,443
Total	6,04,221
Add: Integrated tax @ 12% of ₹ 6,04,221 (rounded off) (C)	72,507
Total custom duty and integrated tax payable [(A) +(B) + (C)] (rounded off)	1,32,384

Notes:

(1) The cost of transport, loading, unloading and handling charges associated with the delivery of the imported goods to the place of importation are includible in the assessable value [Rule 10(2) of the Customs Valuation (Determination of Value of Imported Goods) Rules, 2007 (hereinafter referred to as CVR)]. Further, explanation to rule 10(2), *inter alia*, clarifies that cost of transport of the imported goods includes lighterage charges.

(2) Design and engineering work is includible in the assessable value only when the same is undertaken elsewhere than in India and necessary for the production of the imported goods [Rule 10(1) of the CVR].

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(3) Buying commission is not included in the assessable value [Rule 10(1) of the CVR]. Commission paid to local agent of exporter is includible in the assessable value since it is not buying commission.

(4) Since the insurance cost is not ascertainable, the same shall be added @ 1.125% of FOB value of the goods [Rule 10(2) of the CVR].

20. The quantum of anti-dumping duty is:

(i) margin of dumping

or

(ii) injury margin

whichever is lower.

Margin of dumping is the difference between export price and normal value of the imported article.

Injury margin is the difference between the fair selling price [non-injurious price (NIP)] due to the domestic industry and the landed value of the dumped imports.

Export price in relation to an article, means the price of an article exported from the exporting country or territory. KTU Limited has imported the goods at USD 180 per piece. Thus, export price is USD 180 per piece.

Normal value in relation to an article, means comparable price, in the ordinary course of trade, for the like article when destined for consumption in the exporting country or territory as determined in accordance with the rules. Since Country Z sell the like goods in its domestic market in the ordinary course of trade at USD 300 per piece, thus normal value in the given case is USD 300 per piece.

Fair Selling Price (FSP) [Non-Injurious Price] is that level of price, which the industry is, expected to have charged under normal circumstances in the Indian market during the period defined. Since the imported goods are sold in domestic Indian Industry @ USD 275 per piece, thus Fair selling price in the present case is USD 275 per piece.

Landed Value is taken as the assessable value under the Customs Act and the applicable basic customs duties except CVD, SAD and special duties. Landed value in the given case is USD 190 per piece.

In the given case, anti-dumping duty per piece is:

(i) Margin of dumping is USD 120 [USD 300- USD 180]

or

(ii) Injury margin is USD 85 [USD 275 – USD 190]

whichever is lower i.e. USD 85

Anti-dumping duty for 800 pieces (in rupees) = USD 85 × 800 pieces × ₹ 72

= ₹ 48,96,000.

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