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ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

Course: Economic Planning: Techniques and Applications (810) • Level: M.Sc

Semester: Autumn 2026

Assignment No. 2 (Units 6–9)

Total Marks: 100 • Pass Marks: 40

SOLVED ASSIGNMENT GUIDE

(For Study & Reference)

Note: This guide is prepared for study and reference purpose . Students are advised to read the relevant units of the course book, understand the concepts, and then write the assignment in their own words. Copying this guide word for word is not recommended.

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Question 1: How Private Foreign Direct Investment Can Be Increased in Pakistan (20 Marks)

How can private foreign direct investment be increased in Pakistan?

Introduction

Foreign direct investment (FDI) is investment by a foreign firm or individual in productive assets in another country — building a factory, buying a controlling share in a company, or expanding an existing subsidiary — with the intention of lasting ownership and management, as distinct from portfolio investment in shares and bonds, which can leave at short notice. For Pakistan, private FDI is especially valuable: it brings foreign exchange without creating debt, and it arrives bundled with technology, management skill, export market access and jobs. Yet Pakistan's inflows have remained modest and volatile in comparison with the size of its market and with the performance of competitor countries in Asia, and they are concentrated in a few sectors such as power, telecommunications, food and financial services. This answer explains what foreign investors look for, identifies the obstacles that hold FDI back in Pakistan, and sets out, step by step, how private FDI can be increased.

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What Foreign Investors Look For

Surveys of investors and the research literature agree on the main determinants of FDI. Investors seek, first, a market — a large and growing population with rising incomes. Secondly, they seek stability: macroeconomic stability (controlled inflation, a sustainable fiscal deficit and external account), political stability and continuity of policy, so that the rules under which they invest today will still apply when their project matures. Thirdly, they seek a sound legal and regulatory environment: protection of property, enforcement of contracts, freedom to repatriate profits, and protection against arbitrary expropriation. Fourthly, they weigh costs and capabilities: competitively priced and reliable energy, efficient ports and logistics, and labour that is not merely cheap but skilled and productive. Finally, they compare all of this with what rival locations offer, because a multinational chooses not between investing and not investing, but between Pakistan and Vietnam, Bangladesh, Egypt or Central Asia. Policy must therefore be judged competitively, not in isolation.

Obstacles to FDI in Pakistan

- Political instability and policy discontinuity: successive governments have reversed or renegotiated the commitments of their predecessors, and investors price this risk heavily. A power or mining agreement reopened after signature teaches every future investor to demand higher returns or stay away.
- Macroeconomic instability and the stop-go cycle: repeated balance-of-payments crises, sharp currency depreciations, high inflation and emergency programmes interrupt projects, erode the value of local earnings, and make long-term planning by foreign firms hazardous.

- Energy shortages and high input costs: although generation capacity has improved, the cost of electricity and gas, circular debt in the power sector, and supply interruptions raise production costs above those in competing countries.
- Security concerns: periods of terrorism and law-and-order problems, although much improved from their worst years, continue to affect investor perception, insurance costs and the willingness of foreign staff to be posted to Pakistan.
- Weak contract enforcement and slow courts: commercial disputes can take years, intellectual property protection is uncertain, and regulatory decisions by multiple agencies are sometimes contradictory, all of which increase the risk premium investors demand.
- Bureaucratic friction and unpredictable taxation: frequent changes in tax rules, discretionary exemptions, raids and notices, and overlapping federal and provincial regulators raise the cost of doing business and reward connections over efficiency.
- Narrow sectoral and geographic concentration: FDI has flowed mainly into consumption-oriented and protected sectors rather than into export industries, so it has done less than it could to earn the foreign exchange Pakistan chronically needs.

How Private FDI Can Be Increased

- Guarantee policy continuity across governments: investment laws, incentives and contracts should command cross-party consensus and be protected by a strong legal framework, with disputes settled through the agreed forums, including international arbitration where contracted. Pakistan's investment policy and the Board of Investment should operate on the principle that a commitment once made is honoured, whoever is in office.

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- Restore and maintain macroeconomic stability: sustainable public finances, a competitive and predictable exchange rate, single-digit inflation and adequate reserves are not separate from investment policy; they are its foundation. Every avoided balance-of-payments crisis is worth more to FDI than a dozen investment conferences, because it removes the largest single risk investors price.
- Provide reliable and competitively priced energy and infrastructure: ending circular debt, reducing transmission losses and theft, pricing energy rationally, and investing in ports, railways, highways and digital connectivity lower the production costs of every potential investor at once and benefit domestic firms equally.
- Create genuine one-window, time-bound facilitation: the Board of Investment and the Special Investment Facilitation Council (SIFC), established in 2023 to provide a single-window interface for investors, particularly from Gulf countries, point in the right direction. Such facilitation must actually deliver — company registration, land, utilities, visas and approvals within stated days, through one door — rather than adding one more door to the many that already exist.
- Offer stable, simple and competitive taxation: a moderate corporate tax rate, few exemptions, no retroactive changes, quick refunds of sales tax to exporters, and advance rulings that bind the authorities would make Pakistan's effective tax burden predictable — investors fear unpredictable taxation more than they fear taxation itself.
- Develop special economic zones that actually work: zones under the China–Pakistan Economic Corridor (CPEC) and other frameworks attract FDI when they provide plug-and-play land, utilities at the gate, customs facilitation and security. The lesson of successful zones in China and Vietnam is that the package of services, not the tax holiday alone, is the attraction.

- Target export-oriented and technology-intensive sectors: incentives should be tied to what the country needs — exports earned, technology transferred, local suppliers developed and workers trained — in sectors such as information technology, agro-processing, textiles upgrading, pharmaceuticals, minerals and renewable-energy equipment. Linking incentives to performance avoids subsidising purely import-dependent assembly behind high protection.
- Build skills and local supply chains: investors stay where they can hire technicians, engineers and managers and buy inputs locally. Aligning technical and vocational training with investor needs, encouraging joint ventures with Pakistani firms, and developing local suppliers multiply the employment and technology benefits of every dollar of FDI.
- Use investment promotion and Pakistan's diaspora and partner networks: professional promotion — accurate information, sector studies, aftercare for existing investors, and missions to target countries — matters because existing satisfied investors are the most convincing advertisement. The large Pakistani diaspora, and partner countries in the Gulf, China, Europe and North America, are natural channels for such promotion.
- Protect investors through treaties and fair regulation: a modern network of bilateral investment treaties, double-taxation agreements and transparent sector regulation (telecom, banking, energy) lowers perceived risk, provided treaties are drafted carefully to preserve the state's right to regulate in the public interest.

Table 1: Obstacles and Remedies at a Glance

Obstacle	Remedy
Policy reversal by new governments	Legal protection of commitments; cross-party consensus; honour contracts
Macroeconomic crises	Fiscal discipline, competitive exchange rate,

	reserve build-up
Costly, unreliable energy	Power-sector reform; end circular debt; infrastructure investment
Bureaucratic delay	One-window facilitation (BOI / SIFC) with time-bound approvals
Unpredictable taxation	Simple, stable taxes; no retroactive changes; quick exporter refunds
Few export-oriented projects	Performance-linked incentives for export and technology sectors

Conclusion

In conclusion, private FDI in Pakistan can be increased, but not by exhortation or by tax holidays alone. Investors respond to a package: political and policy continuity, macroeconomic stability, reliable energy and infrastructure, enforceable contracts, simple and predictable taxation, working special economic zones, skilled labour and professional one-window facilitation through bodies such as the Board of Investment and the SIFC — all benchmarked against what competing countries offer. Pakistan's large market, young workforce, strategic location and CPEC connectivity are real assets; converting them into sustained FDI inflows requires making the country the low-risk, low-friction location its fundamentals deserve, and directing the investment that comes towards exports and technology, where it does Pakistan the most lasting good.

Question 2: Importance of Enhancing Technical Knowledge for Economic Growth (20 Marks)

Discuss the importance of enhancing technical knowledge for economic growth.

Introduction

Why do some countries grow rich while others, equally endowed with labour and natural resources, remain poor? Classical economics explained output by land, labour and capital, but the experience of the modern world shows that the decisive factor is what an economy knows: its technical knowledge — the body of scientific, engineering, agricultural, medical and organisational know-how by which inputs are converted into output. Solow's famous growth accounting for advanced economies found that only a small part of growth could be explained by accumulating more capital and labour; the large 'residual' was attributed to technical progress. Endogenous growth theory, developed by Romer and others, then brought knowledge inside the model: knowledge is produced by education, research and experience, it spills over from firm to firm, and unlike a machine it is not used up when it is used. This answer explains the concept and discusses, in detail, why enhancing technical knowledge is so important for economic growth, especially in a developing country like Pakistan.

The Concept of Technical Knowledge

Technical knowledge exists at several levels. At the frontier, it is new science and invention — a new seed variety, a new drug, a new production process. Below the frontier, and for developing countries more important in the short run, it is the capacity to absorb, adapt and diffuse existing world knowledge: to run a modern factory properly, to maintain machinery, to irrigate scientifically, to keep accounts, to meet export quality standards. Knowledge also includes organisational and managerial know-how — inventory control, quality management, marketing — and the tacit skills carried in the minds and hands of engineers, technicians, farmers and workers. A country enhances its technical knowledge through

education and training, research and development, learning-by-doing in production, importing machinery and technology, foreign direct investment, and contact with world markets through exports.

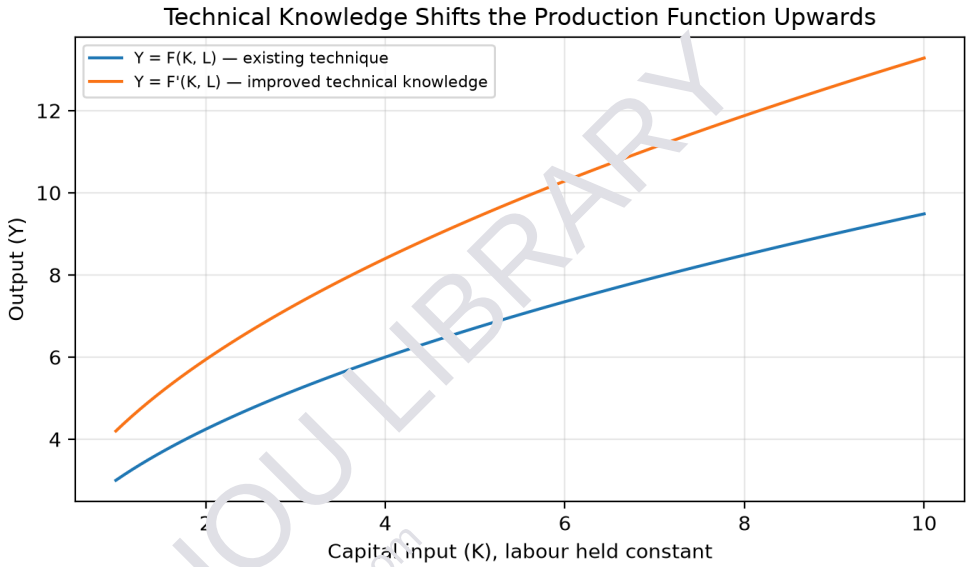


Figure 1: Improved technical knowledge raises output from the same inputs — the production function shifts upwards.

Why Enhancing Technical Knowledge Matters for Growth

- It raises productivity, the true source of rising living standards: growth obtained merely by adding more labour and capital runs into diminishing returns. Technical knowledge raises total factor productivity — more output from the same inputs — which is the only source of growth that can continue indefinitely. In the diagram, improved knowledge shifts the whole production function upwards: at every level of capital, output is higher.
- It multiplies the value of physical investment: a modern plant embodies advanced technology, but it yields its rated output only if engineers and technicians can operate, maintain and repair it. Pakistan's industrial history contains many cases of expensive imported machinery working far below capacity for want of skills and spare-part know-

how. Knowledge and capital are complements: raising knowledge raises the return on every rupee of investment and therefore encourages more investment.

- It transforms agriculture: the Green Revolution, discussed in Question 5 of this assignment, was essentially the application of new technical knowledge — high-yielding varieties, fertiliser practice, plant protection and water management — to farming. Agricultural research and extension continue to offer some of the highest measured returns to public spending in developing countries, because better technique raises yields on land that cannot be expanded.
- It makes exports competitive and diversified: world markets pay for quality, design, reliability and delivery, all of which are knowledge products. Countries that upgraded technical knowledge moved from exporting raw materials to exporting garments, then electronics, then services. Pakistan's exports remain concentrated in textiles of relatively low value-added largely because of knowledge gaps in design, compliance, branding and technology; closing those gaps is the route to higher export earnings.
- It creates new industries and employment: entire sectors — information technology, pharmaceuticals, biotechnology, renewable energy, business process services — are knowledge industries. Pakistan's recent growth in IT exports and freelance services shows how quickly employment for educated youth expands when technical knowledge meets connectivity, and how foreign exchange can be earned without factories or imported fuel.
- It improves health, and health improves growth: medical and public-health knowledge — immunisation, sanitation, nutrition, safe water — reduces mortality and morbidity, lengthens working life, improves children's learning, and lowers the dependency burden.

A healthier workforce is a more productive workforce, so knowledge applied to health feeds directly back into economic growth.

- It enables adaptation and problem-solving: economies constantly face new problems — water scarcity, climate change, energy costs, new pests, changing world demand. A society with deep technical knowledge adapts: it develops drought-resistant crops, adopts drip irrigation, shifts to solar energy, and redesigns products. A society without that knowledge suffers each shock passively. Technical knowledge is thus a country's insurance policy against a changing world.
- It generates spillovers and increasing returns: when one firm trains workers or demonstrates a better method, rivals imitate, workers carry skills to new employers, and suppliers upgrade. Because knowledge spills over and can be reused without being depleted, investment in knowledge yields social returns higher than its private returns — which is precisely why economists argue that government must support education and research beyond what private markets alone would finance.
- It reduces dependence: a country that cannot design, maintain or reproduce its technology must import it repeatedly, pay royalties and fees, and accept the supplier's terms. Enhancing domestic technical knowledge — universities, research institutes, standards and testing institutions — progressively converts imported technique into national capability, as the experience of South Korea and China demonstrates.

How Technical Knowledge Is Enhanced

The main channels are: universal quality schooling with strong science and mathematics; technical and vocational training aligned with industry; universities linked to research and to firms; public research in agriculture, health and industry with extension services that carry

results to users; incentives for private research and development; technology embodied in imported capital goods and FDI, deliberately absorbed through training requirements and local partnerships; and openness to trade and information, including the digital access that now puts much of the world's codified knowledge within reach of any student with a connection. For Pakistan, the priorities are the quality (not only the quantity) of schooling, the revival of agricultural research and extension, university-industry linkage, and recognition and reward for technical careers.

Conclusion

To conclude, enhancing technical knowledge is important for economic growth because knowledge raises productivity without limit, multiplies the return on physical capital, transforms agriculture and industry, makes exports competitive, creates entirely new sectors of employment, improves health, enables adaptation to shocks, and reduces dependence on foreign suppliers — and because its spillovers make it a proper concern of public policy. Land is fixed, labour grows slowly and capital wears out, but knowledge accumulates and compounds. In the long run, the growth rate of an economy is the growth rate of what it knows and of how widely that knowledge is shared among its people.

Question 3: Merits and Demerits of Industrialization in Pakistan (20 Marks)

Discuss the merits and demerits of industrialization in Pakistan?

Introduction

Industrialization means the process by which manufacturing industry grows in absolute size and, more importantly, in its share of national output and employment, becoming a leading engine of the economy. At independence in 1947, the areas that became Pakistan had almost no modern industry — a handful of textile mills, no significant engineering or chemical industry — and the country began, famously, with a very small industrial base, earning its living from raw jute, cotton and other agricultural exports. Through successive plans, incentives, public corporations, denationalisation and privatisation, and most recently the special economic zones associated with CPEC, Pakistan has built a substantial industrial sector dominated by textiles, with food processing, cement, fertiliser, sugar, automobiles, pharmaceuticals and others behind it. Yet industry's share of GDP has stagnated at roughly a fifth of output for decades, and discussion of 'de-industrialization' is common. This answer discusses the merits that industrialization has brought and can bring to Pakistan, and the demerits and costs that have accompanied the way it has actually proceeded.

Merits of Industrialization

- Higher and faster growth of income: manufacturing typically grows faster than agriculture and has strong linkages — a textile mill demands cotton, ginning, dyes, machinery, transport, banking and packaging — so industrial growth pulls other sectors with it. Pakistan's fastest growth episodes, notably in the 1960s and mid-2000s, coincided with rapid industrial expansion.
- Employment for a growing labour force: agriculture cannot absorb Pakistan's rapidly growing workforce productively; indeed it already carries disguised unemployment. Industry, construction and the services that grow around industry create wage

employment, especially in labour-intensive branches such as garments, footwear, sports goods and food processing, where Pakistan has demonstrated capability in clusters such as Sialkot, Faisalabad and Gujranwala.

- Foreign exchange earned and saved: manufactured exports earn the foreign exchange Pakistan chronically lacks — textiles alone supply more than half of export earnings — while domestic production of fertiliser, steel products, machinery, pharmaceuticals and refined goods saves imports. An economy that exports manufactures is also less hostage to the price of one or two raw commodities.
- Higher productivity and technological progress: industry is the main home of modern technology, research, quality systems and management methods, which then spill over to agriculture (through fertiliser, machinery and processing) and to services. Working in industry trains engineers, technicians and managers whose skills raise productivity across the whole economy.
- Urbanisation, infrastructure and social change: industrial centres justify investment in power, water, transport, housing and communications, and they widen access to education, health services and new occupations, including paid employment for women in garments and other sectors, with consequences for household welfare and social attitudes that extend well beyond the factory gate.
- Rising revenue and investment capacity: industrial enterprises are visible to the tax system in a way that subsistence activity is not; a growing industrial sector broadens the revenue base that finances public services and infrastructure, and industrial profits, when reinvested, become a major source of national saving and further investment.
- National strength and self-reliance: domestic capacity in steel, cement, fertiliser, defence production, pharmaceuticals and engineering reduces vulnerability to

embargoes, wars and supply disruptions — a consideration Pakistan's history, including wars and sanctions, has made vivid.

Demerits and Costs

- Neglect of agriculture in early strategy: in the early plans, resources, foreign exchange and policy attention were tilted towards industry while agriculture — the employer of most Pakistanis and supplier of industry's raw material and food — was neglected. The result in the 1950s was stagnant farm output, food imports and inflation, a standing warning that industrialization at agriculture's expense defeats itself, since a hungry, poor countryside is neither a market for industry nor a stable base for it.
- Capital-intensive choices and disappointing employment: protected, subsidised credit and overvalued exchange rates in some periods encouraged large, capital-intensive plants, so industry grew without creating jobs in proportion to the capital it absorbed. Import-substituting heavy industry behind high tariffs often produced high-cost output that could survive only with continued protection.
- Regional and personal concentration: industry clustered in Karachi and a few Punjab cities, leaving much of Sindh's interior, Khyber Pakhtunkhwa, Balochistan and southern Punjab behind, feeding regional grievance. Ownership also concentrated: the famous observation about a small number of families controlling much of industrial wealth expressed a real political economy problem — industrialization that enriches a narrow circle while wages stagnate loses public legitimacy.
- Inefficient, protection-dependent firms: decades of tariffs, licensing and discretionary concessions sheltered many firms from competition, so they had little incentive to upgrade technology, control quality or export. When protection was reduced, such firms

struggled, and Pakistan's manufactured exports remained concentrated in low-value textiles instead of diversifying as competitors did.

- Environmental and urban costs: untreated industrial effluent has polluted rivers and groundwater around industrial cities, tanneries and textile processing are notorious polluters, and unplanned industrial-urban growth produced congestion, housing shortages and strained municipal services. These costs fall mainly on the poor, who live closest to the pollution and farthest from the services.
- Vulnerability to energy and imported inputs: Pakistan's industry depends heavily on imported fuel, machinery and raw materials, so industrial growth itself widens the import bill and is the first casualty when foreign exchange runs short or energy prices spike; the recurring gas and power shortages that forced textile mills to close or relocate work in some years are the practical face of this demerit.
- Social disruption: rapid, unplanned industrial urbanisation loosens family and community structures, expands informal settlements without services, and exposes workers — including, historically, child workers in some trades — to unsafe conditions where labour law enforcement is weak. These are not arguments against industry, but they are real costs that policy must manage rather than deny.

Table 1: Merits and Demerits Summarised

Merits	Demerits (as experienced)
Faster growth; strong linkages to other sectors	Agriculture neglected in early strategy; food imports followed
Wage employment for a growing labour force	Capital-intensive choices limited job creation
Foreign exchange earned (textiles) and saved	Exports stayed concentrated in low-value products
Technology, skills and productivity spillovers	Protected firms had weak incentive to upgrade
Revenue, infrastructure and self-reliance	Regional and ownership concentration; pollution and urban strain

Conclusion

In conclusion, industrialization has brought Pakistan indispensable benefits — faster growth, employment, export earnings, technology, revenue and strategic self-reliance — and no country of Pakistan's size has reached high income without it. The demerits listed are mostly not faults of industrialization itself but of the manner of it: neglecting agriculture, choosing excessively capital-intensive and protected techniques, concentrating benefits regionally and socially, and ignoring environmental and urban costs. The policy conclusion is therefore reform, not retreat: labour-intensive and export-oriented industry, competitive rather than protected, regionally dispersed through working economic zones, powered reliably, and balanced with a productive agriculture — the formula under which industry's merits can be secured without repeating its historical costs.

Question 4: Export Growth Strategy versus Import Substitution Strategy: What Should Pakistan Emphasise? (20 Marks)

Discuss what Pakistan should emphasize more on export growth strategy or import substitution strategy?

Introduction

Every developing country must decide how its industry will relate to world markets, and two classic strategies present themselves. The import substitution (IS) strategy develops domestic industry to replace imports, protecting infant industries behind tariffs, quotas and an often overvalued exchange rate, so that the home market is reserved for home producers. The export growth (EG) or export promotion strategy orients industry outwards:

producers are encouraged, by a realistic exchange rate, duty drawbacks, export finance and open access to inputs at world prices, to sell competitively in foreign markets, and protection, if any, is modest and temporary. Pakistan has tried both. Its early industrialization was import substitution — so successful at first that consumer goods imports largely disappeared — while from the late 1980s, and especially under liberalisation in the 1990s and 2000s, policy proclaimed export orientation, though practice remained mixed. Pakistan's chronic balance-of-payments crises make the choice urgent rather than academic. This answer explains both strategies, compares their merits and defects in Pakistan's conditions, and argues a clear conclusion.

The Import Substitution Strategy: Logic and Record

The case for import substitution rests on the infant industry argument: new industries in a poor country cannot at first match the costs of established foreign producers, so temporary protection lets them learn, reach scale and survive. It promises to save foreign exchange, create industry and employment at home, reduce dependence on foreign suppliers, and use the certain demand of the home market as a training ground. Pakistan's first phase delivered genuine achievements: between the 1950s and 1960s domestic industry arose in textiles, sugar, cement, fertiliser and many consumer goods, imports of finished consumer goods shrank, and industrial growth was rapid.

But the strategy carries built-in diseases, which Pakistan contracted in full. Protected firms, facing no competition, had little reason to cut costs or improve quality; protection announced as temporary became permanent under lobbying; capital-intensive techniques were chosen because subsidised credit and an overvalued currency made machinery artificially cheap, so employment lagged; and, most importantly, import substitution did not

end import dependence — it changed its composition. Instead of importing cloth, Pakistan imported machinery, fuel, dyes and fibre; instead of consumer goods, capital and intermediate goods, whose import bill grows with industrial output itself. When export earnings failed to grow correspondingly, the result was the recurring foreign-exchange crisis. Finally, taxing agriculture through cheap food policies and an overvalued exchange rate to subsidise industry weakened the very sector that earned most foreign exchange.

The Export Growth Strategy: Logic and Record

Export promotion reverses the incentives. Because world markets are vastly larger than any home market, producers can achieve scale; because foreign buyers are unforgiving, firms must control cost and quality; because exports earn foreign exchange, growth does not strangle on the payments constraint; and because exporters must be free to buy inputs at world prices, the strategy disciplines the whole trade and exchange-rate regime. The East Asian economies — South Korea, Taiwan, later China and Vietnam — demonstrated the strategy's power, moving within a generation from poverty to industrial prosperity on manufactured exports. Pakistan's own export record is mixed: total exports have grown, but they remain small relative to GDP, heavily concentrated in textiles and a few other products, and directed to a narrow set of markets, while competitors such as Bangladesh (in garments) and Vietnam (in garments, footwear and electronics) have raced ahead by combining export orientation with investment, skills and reliable logistics.

Table 1: The Two Strategies Compared

Feature	Import Substitution	Export Growth
Market	Home market reserved by protection	World market; competition decides
Foreign exchange	Saves some, but import bill shifts to machinery and inputs	Earns foreign exchange directly

Efficiency incentive	Weak; captive consumers	Strong; quality and cost discipline
Scale	Limited by small home demand	Large; economies of scale possible
Employment	Often capital-intensive techniques chosen	Favours labour-intensive products of developing countries
Main risk	Permanent protection, inefficiency, payments crises	Exposure to world recessions and price swings
Pakistan's record	Built industry 1950s-60s, then stagnation and crises	Proclaimed since 1990s; exports still narrow and concentrated

What Should Pakistan Emphasise More?

Pakistan should emphasise the export growth strategy — clearly, but intelligently, learning from its own and others' experience rather than swapping one slogan for another. The reasons are decisive. First, Pakistan's binding constraint is foreign exchange: every growth acceleration has ended in a payments crisis because imports rose faster than exports. Only export growth relaxes that constraint permanently; import substitution merely postpones and disguises it. Secondly, Pakistan's abundant factor is labour, and world demand for labour-intensive products — garments, made-ups, footwear, sports and surgical goods, agro-processed foods, IT services — matches that abundance, promising the employment that capital-intensive import substitution failed to deliver. Thirdly, competition in export markets is the most reliable cure yet discovered for the inefficiency, poor quality and rent-seeking that protection bred in Pakistani industry. Fourthly, the home market alone is too poor to support modern scale in most industries; export volumes are needed to justify the investment in technology that raises productivity.

Emphasising export growth does not mean abolishing import substitution altogether; it means subordinating it. Sensible import substitution remains justified where a genuine

infant industry can reach competitiveness within a stated period, where national security requires domestic capacity (for example in some pharmaceuticals, fertiliser and defence-related production), and where Pakistan has a natural base, as in agro-processing of its own farm output. But protection should be moderate, time-bound, announced in advance to decline, and conditional on performance, including export performance — the discipline East Asian governments imposed and Pakistan historically did not. Equally, export promotion is not laissez-faire: it requires active supporting policies — a competitive real exchange rate and no return to chronic overvaluation; duty drawback and sales-tax refunds paid promptly; export finance at reasonable cost; reliable energy; trade facilitation and ports that work; compliance with the standards, testing and certification that modern markets demand; market and product diversification, helped by trade agreements such as GSP+ access to the European Union; and skills and technology upgrading so Pakistan climbs from raw and semi-processed exports towards higher value-added goods and services.

Two cautions complete the argument. Export-led growth exposes the economy to world recessions, protectionism and price falls, so earnings should be diversified across products and markets and reserves built in good years. And export success must not again be built on squeezing agriculture and the exchange rate against farm exports; agriculture and agro-exports are part of the export strategy, not its victim. With those cautions observed, the balance of evidence — Pakistan's own stop-go history under inward-looking policies, and the transformation of outward-looking Asian economies — is not close.

Conclusion

To conclude, Pakistan should emphasise the export growth strategy, retaining import substitution only in a disciplined, temporary and performance-tested supporting role.

Import substitution gave Pakistan its industrial base, but as a governing strategy it produced inefficiency, a transformed but undiminished import dependence, and repeated balance-of-payments crises. Export growth attacks the foreign-exchange constraint directly, employs Pakistan's abundant labour, imposes competitive discipline on industry, and opens the scale of world markets to Pakistani producers. The real policy task is not choosing the label but supplying its requirements: a competitive exchange rate, prompt refunds, energy, logistics, standards, skills and stable policy — so that Pakistan's exporters, who have shown in textiles, sports goods, surgical instruments and IT services that they can compete, are finally given conditions in which competing is the normal expectation rather than the heroic exception.

Question 5: Concept and Importance of the Green Revolution in Pakistan (20 Marks)

Discuss in detail the concept and importance of the green revolution in Pakistan.

Introduction

In the mid-1960s Pakistan faced a food emergency. Population was growing at around 3 per cent a year, food-grain production was not keeping pace, large quantities of wheat were imported under foreign food aid, and informed observers predicted famine across South Asia. Within a few years the picture changed dramatically: wheat output rose sharply, the country approached self-sufficiency in food grains at the end of the decade, and rice exports expanded. The transformation is known as the Green Revolution. It was not a political revolution and it involved no redistribution of land; it was a technological revolution in agriculture, based on high-yielding seed varieties and the package of inputs and practices

that allows them to yield. This answer explains the concept in detail, describes how the Green Revolution unfolded in Pakistan, discusses its importance and achievements, and also examines its limitations and second-generation problems, which are part of any honest assessment.

The Concept of the Green Revolution

The term 'Green Revolution' was popularised in 1968 to describe the rapid increase in cereal production in developing countries resulting from modern agricultural technology developed at international research centres — notably the semi-dwarf wheat varieties bred in Mexico under Norman Borlaug at CIMMYT, and the IR8 rice variety released by the International Rice Research Institute in the Philippines. The core of the concept is a package, not a single input. The high-yielding varieties (HYVs) were bred to respond to fertiliser without lodging (falling over), to mature quickly and uniformly, and to resist major diseases; but they express their potential only when combined with assured irrigation, chemical fertiliser in the right doses, plant protection against pests and diseases, and improved practices such as proper sowing time, seed rate and weeding. Credit and extension services complete the package, because a farmer must be able to buy the inputs and must know how to use them. Two features of the concept deserve emphasis: the technology is biological and chemical rather than mechanical, and it is in principle scale-neutral — a bag of seed and fertiliser works on two acres as on two hundred — although, as experience showed, access to water, credit and information is not equally distributed, so its benefits were not scale-neutral in practice.

The Green Revolution in Pakistan

Pakistan (then including its eastern wing) adopted the new technology from 1965–66, when seed of the Mexican wheat varieties — from which the famous local selections such as Mexi-Pak were derived — was imported and multiplied, fertiliser use was expanded through imports and domestic production, and the existing canal system was supplemented by a rapid spread of private tubewells, which gave farmers water on demand at critical growth stages. Agricultural research and extension were reorganised to support the programme, seed corporations were established, and support prices for wheat encouraged adoption. The results in the record years 1967–70 were striking: wheat production rose by roughly a third within a few seasons, the country moved close to self-sufficiency in food grains, and Basmati and later IRRI rice became important export earners. Maize and cotton also benefited from improved varieties and practices, though the seed-fertiliser breakthrough was above all a wheat and rice story, concentrated in the irrigated plains of Punjab and Sindh where assured water made the package work.

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Importance and Achievements

- Food security and escape from famine: the foremost importance of the Green Revolution is that it broke the Malthusian fear that population would outrun food. Pakistan fed a population that has since multiplied several times over from essentially the same cultivated area; without the yield increases of the Green Revolution, the import bill and human suffering involved are difficult to imagine.
- Self-sufficiency and saving of foreign exchange: reduced dependence on imported food aid freed foreign exchange for development imports, ended the political vulnerability

that came with food dependence, and turned rice into a regular export, so agriculture, instead of being only a consumer of foreign exchange, became one of its earners.

- Rising farm incomes and rural demand: farmers who adopted the package early earned substantially higher incomes. Their demand for consumer goods, housing, transport and services stimulated rural markets and non-farm employment, while their purchases of fertiliser, machinery, diesel and tubewells created demand for industry — a two-way linkage between agricultural and industrial growth.
- Employment and agro-industry: higher yields and double cropping increased the demand for labour in planting, harvesting and threshing in the initial phase, and expanded output fed agro-based industries — flour milling, rice husking, sugar, cotton ginning and textiles, dairy and edible oil — which remain central to Pakistan's manufacturing and exports.
- Demonstration that technology transforms agriculture: the Green Revolution permanently changed attitudes. It showed farmers, administrators and economists that agricultural stagnation was not fate; that research, extension and input systems were productive investments; and it built institutions — research institutes, seed and fertiliser industries, agricultural universities — on which all later progress depends.
- Raw material and price stability: steadier and larger supplies of cotton sustained the textile industry, and increased food supply moderated food price inflation, protecting urban real wages and the political stability on which all development planning depends.

Limitations and Second-Generation Problems

A detailed discussion must also record the costs. Because the package required assured water, credit and purchased inputs, its benefits concentrated in the irrigated districts and

among larger and better-connected farmers in the early years; rain-fed (barani) areas and small tenants gained less, and rural inequality was widely believed to have increased at first. The new varieties encouraged monoculture of wheat and rice, narrowing the cropping pattern at the expense of pulses, oilseeds and fodder, of which Pakistan remains a heavy importer. Continuous cereal cropping with heavy chemical use has produced soil fatigue, micronutrient depletion, declining response to fertiliser, pest resistance and pesticide pollution; the spread of tubewells contributed to waterlogging and salinity in some canal areas and to falling water tables in others. Mechanisation that followed — tractors and harvesters — displaced some rural labour, and the health costs of unsafe pesticide use fell on farm workers. Finally, after the initial breakthrough, yield growth slowed, and Pakistan's agricultural growth in later decades became uneven, with cotton setbacks and periodic wheat imports returning whenever policy, water or weather failed — evidence that the Green Revolution was a beginning, not a permanent solution.

Conclusion

To conclude, the Green Revolution was the application of a science-based package — high-yielding seed, fertiliser, assured water, plant protection, credit, extension and price support — to Pakistan's agriculture from the mid-1960s. Its importance is difficult to overstate: it averted famine, achieved near self-sufficiency in food grains, earned foreign exchange, raised farm incomes, supplied industry and taught the country the power of agricultural technology. Its limitations — regional and social unevenness, environmental strain, neglected crops and slowing yields — define the agenda of the 'second green revolution' Pakistan still needs: one based on water efficiency, soil health, climate-resilient varieties, balanced cropping and equal access for small farmers and rain-fed regions. The lesson of the

first Green Revolution is that knowledge, delivered to the farm in usable form, grows food; the lesson of its shortcomings is that how technology is shared, and at what cost to soil and water, matters as much as the technology itself.

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