



SUPPLEMENT

Name of Examination: SSC / HSC Part I - II 20
Annual/Supplementary

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Use the jargons carefully

Pakistan in the age of Information Technology

Work on minor grammar and structural mistakes

Outline:

1- Introduction

Thesis statement: Undeniably, Pakistan has a significant progress in the domain of information technology. National Freelance Programme, establishment of IT parks, digitalization of services etc are few examples. However, with rational measures, its hurdles can be removed for future progress in the field of information technology.

2- An overview of the contemporary age of information technology

3- Manifestation of Pakistan's progress in the domain of information technology

a) Initiation of National Freelance Training Programme



- to equip youth with modern skills
- b) Establishment of IT parks to promote awareness about technology
 - c) Revolutionary step towards digitalization of financial services throughout the country
 - d) Vision of e-governance and e-policing
 - e) Digitalization of land record country
 - f) Establishment of incubation centres with ~~collaboration~~ ^{Through} public-private partnership

4- Hurdles in the domain of information technology in Pakistan

- a) Fragile digital system of the country
- b) Widened digital illiteracy of women
- c) Weak ease of doing business
- d) Vulnerable cyber system in Pakistan
- e) Inefficiency of IT graduates to meet ~~with~~ international standards
- f) Difficulty in starting digital platforms

5- Methodologies to strengthen growth in information technology of Pakistan

- a) Ensure strong internet connection in the country
- b) Promote digital literacy and awareness
- c) Facilitate easy access to business for the

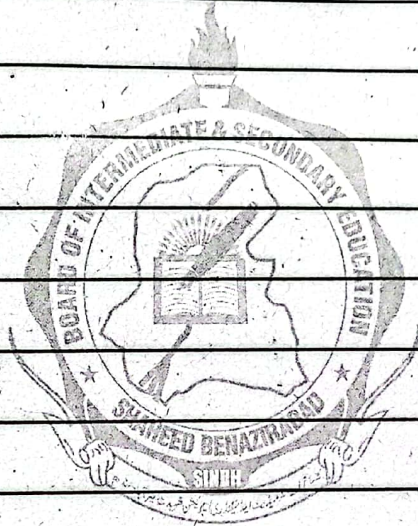


youth ✓

d) Strengthen cyber security of Pakistan ✓

e) Train IT graduates at the national and the international level ✓

6- Conclusion



Essay:

"Pakistan has more IT graduates as compared to India, which definitely are assets of the national development." (cfr.org, 2022). The above statement significantly highlights the potential of information technology in Pakistan's development. In the contemporary age of information technology, Pakistan has also stepped forward to benefit from IT sector. Several examples are evidences of it, which include initiation of the National Freelance Training Programme to equip youth with modern skills, establishment of IT parks throughout the country, and digitalization of financial services in the country. Not only these, but vision of e-governance and e-policy, digitalization of lands etc are also encouraged by Pakistan. However, Pakistan faces several challenges in promoting IT sector such as, fragile digital system, widened digital illiteracy, weak ease of doing business etc. Despite all these hurdles, Pakistan can benefit from IT sector by following recommend-

Being



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ations, including strong internet connection, digital literacy and awareness, easy access to business and so on. Undeniably, Pakistan has a significant progress in the domain of information technology. Above discussed examples, including National Freelance Programme, establishment of IT parks, digitalization of services etc are evidences of it. However, with rational measures, its hurdles can be removed for future progress in the field of information technology.

No doubt, the world has become digitalized in the twenty-first century. Countries are more focused towards digitalization of global growth and relationship. Technology has facilitated this vision of the globe to come close together. "The US has launched 'the chip and science act of 2022' at worth of \$ 40 billions investment to be



dominant over global technology." (The CNN, 2023). The above example serves as a clear demonstration of the contemporary age of information technology.

Undeniably, Pakistan has also significant progress in the domain of information technology, among which initiation of National Freelance Training Programme to equip youth with modern skills is ~~top listed~~ ^{Top of the list}. The youth of Pakistan will get opportunities to enhance their knowledge with modern techniques. As a result, Pakistan will also stabilize its economic condition. As per report of Relief Web, "Approximately 10 centers are opened in 10 cities of Pakistan, and about 10,000 IT graduates are trained, which, as a result, will earn approximately \$ 2.26 million." (Relief Web, 2023). Hence, this indicates that National Freelance Training Programme to equip youth with modern skills is a progress of Pakistan's IT sector.

Along with it, establish



ment of IT parks to promote awareness about technology is also Pakistan's significant progress. Fortunately, Pakistan has established IT parks in its cities in order to make public aware of **About** technology. This shows Pakistan's major footsteps towards information technology. "The chief executive of the National Economic Council (CENEC) established first largest IT park of Pakistan in Karachi in 2021." (Pakistan Bureau of Statistics, 2022). This indicates that establishment of IT parks to promote awareness about technology is achievement of Pakistan's IT sector.

Further, revolutionary step towards digitalization of financial services throughout the country is another step towards IT development in Pakistan. In fact, Pakistan has promoted the notion of digitalization of financial services across the country. In consequence, several centres are **Working** revolving to ensure all data of financial services. According to the update by Islamabad Policy Research Institute in 2023, "launch of Finger has further opened about 300 centres in the

country to ensure digitalization of financial services in Pakistan." (JPRI, 2023).

Thus, revolutionary step towards digitalization of financial services throughout the country is a keystone of Pakistan's growth in IT sector.

Furthermore, vision of e-governance and e-policing is also a new step towards IT progress in Pakistan. No doubt, the government of Pakistan's efforts to support e-governance with citizen engagement. This has also framed e-policies with active participation of citizens. "In 2019, the government of Pakistan encourage vision of e-governance and opened 'Pakistan Citizenship Portal' for active citizens' participation" (JPRI, 2022). This example serves as a clear demonstration of vision of e-governance and e-policing of Pakistan in the domain of IT sector.

Additionally, digitalization of lands in the country is one



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of achievements of Pakistan's IT sector. The government of Pakistan aimed at digitalizing the property of lands throughout the country. Resultantly, this reduced economic and wealth inequality in Pakistan. As per report, "The PTI government digitalized all lands possession and property to ensure fair economic and income mechanism." (The News, 2021). This stark reality highlights the success of Pakistan's IT sector in the name of digitalization of lands.

Moreover, establishment of incubation centres with collaboration of public private partnership is a clear progress of IT development in Pakistan. Undoubtedly, Pakistan, with public-private partnership, has successfully established incubation centers. This aims at facilitating development in the domain of IT. "The NIC, has established

about 8 core centers aiming to support energy, agriculture, and aerospace and earned worth \$ 1.96 billions in Fiscal Year, 2023." (Pakistan Bureau of Statistics, 2023). Therefore, establishment of the national incubation centers with collaboration of public private partnership is a huge achievement of Pakistan's IT sector.

However, Pakistan is facing several hurdles in the development of IT sector, chief among them is fragile digital system of the country. Pakistan, unfortunately, does not have strong internet connection in rural areas and also faces power cuts. As a result, massive loadshedding has further weakened internet connection in rural zones. As per the update of Pakistan Bureau of Statistics, "About 16 to 18 hours loadshedding in rural areas in 2022 almost kept off the internet services." (PBS, 2022). Thus, fragile digital system of the country is an obstacle to Pakistan's progress in IT sector.



Not only this, but widened digital illiteracy of women has also contributed to hurdles in IT sector of Pakistan. Unfortunately, women in Pakistan are deprived of modern knowledge and usage of technology. This, no doubt, has challenged to progress in IT sector. "Approximately 52% of women in Pakistan has cellphones, among them about 49% of women are less unaware of the internet usage as compared to men and 6 to 10 are totally unaware of simple usage of technology." (Taqeer Hussain, Gender and Technology, 2023). This statement highlights the digital illiteracy of women posing challenge to IT development in Pakistan.

In addition to the above, weak ease of doing business has also made IT development weak and slow in Pakistan. Unfortunately, Pakistan lacks ease access to promote business by benefiting from the youth. As a consequence, the growth in IT sector of Pakistan is slow and weak. According to the Relief Web, "About 108% of the youth are deprived of esse

of business in Pakistan." (Relief Web, 2022). This indicates that weak ease of doing business has also weakened IT development in Pakistan.

Similarly, vulnerable cyber system in Pakistan is also a big challenge to Pakistan's IT progress. Pakistan has been targeted because of vulnerable cyber system. Resultantly, this has put Pakistan's IT sector at the stake. As per words by Moeen-ul-Haq, former IT minister, "Approximately 9 lakhs accounts are being hacked everyday in Pakistan." (Moeen-ul-Haq, former IT minister, 2022). This statement highlights the vulnerability of cyber system, which threatens IT progress in Pakistan.

Further, inefficiency of IT graduates to comply with the international standards is a huge hindrance to development of IT sector in Pakistan. Pakistan has many graduates to benefit from, but unfortunately



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Notably, inefficiency of graduates regarding international standards has weakened growth of IT domain. In consequence, Pakistan gets low investment in IT domain. As per report, "Pakistan received \$40 millions as FDI in the national progress in IT sector in Fiscal Year, 2023." (cfv.org, 2023). The above example is a clear evidence that inefficiency of IT graduates to meet with international standard has weakened IT progress in Pakistan.

Moreover, difficulty in starting digital platforms is the most common hurdle in IT development in Pakistan. Lack of public trust and mistorture of the government has made digital system much difficult. Despite having potentials, Pakistan does not promote successive digital system due to these difficulties. "Mistrust in

the government of the youth has made digital Pakistan difficult." (Pew Research Centre, 2022). Hence, difficulty in starting digital platforms has weakened IT domain in Pakistan.

However, some measures will strengthen IT sector in Pakistan, and certainty of strong internet connection is one of them. Pakistan, no doubt, needs a strong internet access throughout the country, especially in rural areas. By ensuring strong internet system, Pakistan can earn significant amount in IT sector. "Pakistan has potential to strengthen internet connection via to strengthen energy sector by renewable energy resources." (The World Bank, 2023). This indicates that strong internet connection will definitely serve the IT progress in Pakistan.

Secondly, Pakistan should promote digital literacy and awareness. No doubt, a significant amount of population is comprised of

women in Pakistan, which needs equal access to digital education. This approach will strengthen growth of IT sector in Pakistan. "About 37% of women and men are unaware of digital technology in Pakistan." (Pakistan Institute of Sustainable Development Report, 2023). This stark reality demonstrates the importance of digital literacy and awareness in order to facilitate IT development in Pakistan.

Besides this, Pakistan should also facilitate easy access to business for the youth. Fortunately, many of the youth are deprived of access to business because of poor performance of the government. This highlights the need of easy access to business to get benefits from the youth bulge in Pakistan. As per report by Pakistan Bureau of Statistics, "Pakistan should get ready to earn at least \$13 billion by facilitating youth in the domain of IT business." (PBS, 2022). This recommendation will also pave a way for Pakistan's growth in IT sector by facilitating easy access to business.

Additionally, Pakistan needs to strengthen cyber security in order to promote IT growth. Vulnerable cyber security mechanism has decreased progress of IT sector in Pakistan. Pakistan has already trying to make cyber system strong to combat hurdles in the domain of IT development. "Launch of 'cyber security policy 2021' is a key step towards security of cyber system in Pakistan." (Pakistan Institute of Regulatory and Transparency Development, 2022). Thus, strengthening security of cyber system will support continuous progress in the field of IT sector.

Last but not the least, training of IT graduates at the national and international level will encourage IT domain in Pakistan. Undoubtedly, Pakistan needs to pursue policy of training the IT graduates. This approach will not only make standard IT development, but will also earn economic development. "Pakistan should make policy to train IT graduates in order

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to comply with the global standard by using the "international platforms." (Dr. Ishrat Husain, Good governance, 2022). Therefore, Pakistan should train IT graduates at the national and international level to promote IT development.

In conclusion, Pakistan has a significant progress in the domain of IT sector. In the contemporary age of technology, Pakistan is also efforting for the success of IT sector such as, National Freelance Training Programme to equip youth with modern skills, establishment of IT parks to enhance awareness about technology and digitalization of financial services are evidences of it. On the other hand, Pakistan also faces several hurdles in the growth of IT sector including, fragile digital system, widened digital illiteracy,

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weak ease of doing business etc. However, Pakistan can remove these hurdles and ^{can} promote successful IT sector by following the given measures. Among them includes, strong internet system, digital awareness, easy access to business and so on. These steps will definitely increase IT development in Pakistan.

"Pakistan is a country, which has a tremendous potential to progress in the domain of information technology."
(Hillary Clinton, 2002).

