MARK SCHEME for the October / November 2014 series

2059 PAKISTAN STUDIES

2059/02   Paper 2 (Environment of Pakistan), maximum raw mark 75

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1 (a) Study Fig. 1 which shows a map of Pakistan. Name:

    (i) The rivers E, F, and G. [3]

        E Indus
        F Jhelum
        G Ravi

    (ii) One of the dams H or J. [1]

        H Tarbela
        J Mangla

(b) What is meant by

    A: a link canal
    Diverts / transfers / moves water from / links barrages / syphons to rivers / canals
    Diverts / transfers / moves water from / links [western] rivers to other [eastern] rivers / canals
    Diverts / transfers / moves water between / links rivers / river and canal

    B: a perennial canal
    Supplies water throughout the year
    Supplied from dams / barrages

    C: an inundation canal? [3]
    Supplies water in the rainy season
    Taken from rivers / when rivers high / flood

(c) Explain the importance of the Indus Water Treaty to Pakistan. [4]

    Ensures that India does not restrict Pakistan's water supply / water supply in Pakistan is maintained

    Ensures an effective / dependable irrigation system in the Indus Plain
    Pakistan has exclusive rights to waters of the rivers Indus, Jhelum, and Chenab

    Maintains agricultural production
    Tarbela and Mangla dams built [to store water]

    Barrages / syphons / link canals built [to distribute water]
    Enabled construction cost of works to be shared with Western countries and India

(d) Study Photograph A.

    (i) Name the type of forest shown. [1]

        Coniferous / alpine / montane

(ii) Suggest **three** reasons why these forests are being cut down. [3]

Sale of timber
For fuel / heating
Cleared for: Farming
            Mining / mineral exploration
            Setting up industries / factories
            Housing / urbanisation / resorts / hotels
            Roads / other named infrastructure

(iii) Explain the effects of this deforestation. [4]

Soil erosion because no roots to hold soil / soil exposed / no interception
Soil becomes infertile / loses nutrients because of leaching / top layer of soil eroded / no humus formation from leaves
Soil becomes unfit for agriculture
Siltation in reservoirs because soil [exposed and] washed into rivers
Siltation in reservoirs leads to reduction in capacity of reservoirs / dams become silted up / reduces HEP production
Siltation in reservoirs leads to reduction in capacity of canals / irrigation / water supply
Flooding because increased surface runoff / less interception
Flooding leads to destruction of buildings / infrastructure / farmland
Landslides / avalanches because slopes / rocks / snow not held by trees
Landslides / avalanches lead to blocked roads / buildings destroyed
Loss of scenery / beauty / shade leads to decrease in tourism
Loss of habitat so species lost / extinctions / animals move away / disturbed
Air pollution from burning
Decrease in rainfall due to less transpiration
Fewer trees to take up of CO_2 and effect on global warming / climate change

(e) **To what extent is it possible to save and even increase the area of forests in Pakistan? Explain your answer.** [6]

<u>Possibilities</u>
Legislation / action on illegal logging / fines / penalties
Government protection of forest areas / national parks / reserves
Restrict logging / quotas / licences / selective cutting
Education / public awareness campaigns
Use of alternative fuel / natural gas instead of burning wood
Planting trees / named afforestation / re-afforestation projects / irrigated / commercial plantations / plantations for firewood
Providing alternative grazing areas
Action against pollution [which affects mangroves]

<u>Problems</u>
Cost / lack of finance
Security issues
Lack of government will / government priorities
Demand for timber / firewood / wood for construction / named products
Land needed for housing / industry / agriculture / roads
Very long term project

[Total: 25]

2   (a)   Explain what is meant by <u>each</u> of the following terms, and choose <u>one</u> example of
            each from the given list.
            A raw material;   B waste material;   C value added material   [6]

      A   Basic commodity from which finished goods are made / which is changed by a
             manufacturing process
             Coal / limestone
      B   Unused / unwanted by-product
             Slag / CO_2
      C   Product that increases in value / worth due to industrial activities / a material improved
             as it goes through a manufacturing process
             Steel / coke

      (b)   Study Fig. 2, a map of the site of the Pakistan Steel Mills.

            (i)   Name the creek X and the port Y.   [2]

                   X   Gharo
                   Y   Port[Bin] Qasim

            (ii)   Name the sea to the south where ships can travel to the steel mills.   [1]

                   Arabian [Sea]

            (iii)   Using Fig. 2 and your own knowledge, state <u>three</u> factors that make this site
                    suitable for the development of the Pakistan Steel Mills. Explain <u>one</u> advantage
                    that <u>each</u> factor gives to this industry.   [6]

                    <u>Factors</u>
                    Flat / cheap / unused land
                    Coastal site / natural / deep water harbour
                    Limestone nearby / at Thatta / Murli Hills
                    Fresh water nearby / at Lake Haleji
                    Power stations nearby / at Pipri / Korangi
                    Rail / road connection
                    Township on site / near Karachi

                    <u>Advantages</u>
                    Low set-up cost
                    Allows transport by ship / of heavy / bulky materials
                    Cheap transport of raw materials
                    Reliable / continuous power supply
                    Ease of transport of raw / heavy / bulky materials / products [especially to HMC at Taxila]
                    Readily available supply of labour
                    Market for sales / exports

(c) Explain why the Pakistan Steel Mills is an industry in the 'formal sector'. **[4]**

Capital intensive
Employed / not self-employed
Mechanised / fewer workers
Regular working hours
Regular / fixed wages
In purpose built factory / office
Legal / registered / pays tax

(d) To what extent can work in the <u>informal</u> sector improve the lives of those living in urban areas? Explain your answer. **[6]**

<u>Might</u>   Would otherwise be unemployed / unemployed / unemployable find work
Source of income
Can afford better diet / improved housing / education / luxuries
May be suitable for unskilled / illiterate
Can use traditional skills
Goods / services available locally

<u>Might not</u> Poor working conditions
Low / irregular incomes
Too many people doing the same thing / too much competition
May employ children who do not receive education
Goods are poor quality

[Total: 25]

3 (a) Study Fig.3, a graph showing rainfall in Dir, Khyber Pakhtunkhwa.

    (i) What is the minimum rainfall, and when does it occur? **[2]**

        50–52 mm
        October

    (ii) What is the maximum rainfall, and when does it occur? **[2]**

        253 / 254mm
        March

    (iii) For how many months between October and June is the rainfall above 80mm? **[1]**

        6

    (iv) Give <u>two</u> causes of high rainfall between October and June at Dir. **[2]**

        Western / winter depressions / disturbances
        Relief rainfall
        Convectional rainfall / currents
        Thunderstorm

    (v) What is the main cause of summer rainfall at Dir? **[1]**

        Monsoon

(b) (i) In the list below circle **three** inputs used mostly for cash crop farming.   [3]

Chemical fertiliser
High yield seeds
Modern tractor

(ii) Explain how each of the **three** inputs you have circled can increase crop yields. [6]

Chemical fertiliser: Adds / replaces nutrients e.g. nitrogenous / nitrates, phosphates, potassium / potash
Larger plants

High Yield Seeds: Increase in yield described / allows multi-cropping / shorter growing period
Resistant to disease / pests
Need less water / drought resistant
Larger plants

Modern tractor: Quick
Efficient
Can use better tools / implements / powers tube-wells
Allows multi-cropping

(c) (i) Explain what is meant by sustainable livestock farming.   [2]

To meet the food / animal product needs of the present generation while not compromising the ability of future generations to meet their food / animal product needs
To meet the food / animal product needs of the present generation while protecting / minimising damage to the natural environment
Not overstocking which causes soil erosion / desertification
Not polluting water supplies with farm waste
Protecting young trees from grazing

(ii) To what extent can livestock farming increase food supply in Pakistan? Explain your answer.   [6]

Possibilities
Provides meat / milk / eggs / cheese / named food item
Provides protein
Provides raw material for food processing industry
Through selective breeding / livestock research
Higher quality fodder
Through better husbandry / fattening programmes
Cleanliness / hygiene / preventing disease
Veterinary services / vaccinations

Problems
Lack of land
Cost of / lack of fodder / water
Lack of education
Lack of government support
Cost of modern methods / facilities

[Total: 25]

4 (a) Study Fig. 4.

    (i) Name the smallest and largest province by area. **[2]**

       Smallest – KPK
       Largest – Balochistan

    (ii) What is the population density of Sindh province? **[1]**

       216 people per sq. km.

    (iii) Which is the most densely populated province? **[1]**

       Punjab

(b) Choose <u>two</u> of the factors given below and explain how they cause a low population density in Balochistan. **[6]**

Relief
Mountainous
Too steep / uneven for irrigation / building / agriculture
Difficult to construct transport routes
Long journey times

Climate
Extremely dry / arid / desert
Really hot in summer
Very cold in mountains
Too dry for farming
Shortage of water

Infrastructure
Lack of / poor named infrastructure
Lack of / poor roads for access to food / essential supplies
Lack of / poor roads for trade / industrialisation / communication
Lack of power / electricity / telecommunications / water for homes / businesses / schools

Security
Tribal warfare / insurgencies / terrorism / bombings
Threat to homes / livelihood
Danger of death
Hinders education
Prevents investment / industrialisation

(c) Study Fig. 4 again.

    (i) Which province has the largest percentage of population over 65?   **[1]**

    Punjab

    (ii) Compare the age range of Punjab and Balochistan provinces.   **[2]**

    <u>For Punjab</u>   (reverse for Balochistan)
    Fewer under 15 / children / young people
    More 15 to 65 / working age / independent
    More over 65 / elderly

(d) Use Fig.4 and your own knowledge to explain the advantages and problems caused by the age distribution of <u>either</u> Punjab <u>or</u> Balochistan   **[6]**

<u>For Punjab</u>   (reverse for Balochistan)

<u>Fewer children</u>

Advantages
- Reduced demand for / pressure on resources schools / clinics for young
- More chance of education / school places
- Less likelihood of poverty in family

Problems
- Fewer workers / less innovation / fewer unemployed
- Not enough young to look after old

<u>More people of working age</u>

Advantages
- More production / economic growth
- More taxes paid / people earning

Problems
- Fewer job opportunities / more unemployment / lower wages
- More pressure on named resources e.g. healthcare / recreation / public transport / food supply

<u>Larger population of older dependents</u>

Advantages
- Old give good advice / provide family support

Problems
- Old cannot work / do not contribute to economy
- More healthcare / family / social support / homes for elderly / pension needed
- Cost of care / pensions / raised taxes to provide for care / pensions

(e) To what extent can the birth rate of Pakistan be reduced? Explain your answer. [6]

Possibilities
More education of women / more women in careers (will marry later / have shorter reproductive spans / less desire for children / large families)
More education on family planning / awareness of [economic] problems caused by high BRs
Use of family planning / better access to contraception / more family planning programmes / clinics / population policy
Cheaper contraception
More hospitals / clinics / better healthcare (lowers infant mortality so less need to replace those who die)
Approval of family planning by religious leaders
Raising marriage age
Banning child labour (so less need for children to work on farms)

Problems
Lack of education / illiteracy
Lack of empowerment of women to control family size
Traditions / opposition to contraception
Lack of medical facilities / investment in family planning programmes
Traditional beliefs encouraging large families
Early marriage

[Total: 25]

5 (a) Study Fig. 5, a map showing air routes in Pakistan.

(i) Give the destination of the air routes from Karachi R, S, and T. [3]

R Gwadar
S Peshawar
T Lahore

(ii) Describe the pattern of air routes from Islamabad. [3]

In most directions / widely spread
More / many to the south
Longer routes to the southwest
Fewer / a few to the north
Shorter routes to the north
None to the coast

(b) Explain the benefits of air transport to the people and the local economy of the northern mountains of Pakistan. [6]

People
Allows movement where lack of / inaccessible by roads / railways / roads blocked by snow
Faster means of travel
Enables faster relief after earthquakes / landslides
Access to hospitals in medical emergencies / transport of medicines
Supply of imported food items
Employment e.g. air hostess / pilot / airport staff / hotel staff / waiter / guide

Local economy
Good for transport of perishable goods
Good for transport of valuable / light goods
Promotes trade
Promotes cottage / small-scale industry
Brings income / foreign exchange / currency from tourism

(c) (i) What is meant by the term 'cottage industry'? [1]

Production of saleable goods / industry / valid named industry in own home

(ii) State and explain three advantages of establishing cottage industries in a rural area. [6]

Advantages
Employment / self-employment
Employment of women / whole families
Income / export earnings
Meets demands of local market
Raw materials available locally / cheaply
Low technology

Explanation
Ability to support family
Reduces rural-urban migration of otherwise unemployed
Promotes independence / equality of women
Raises standard of living / quality of life
Boosts national economy / GDP / BOP
Puts money in local economy
Promotes self-reliance of area
Saves expensive imports / extra transport costs
Suitable for poorer people
Low set-up costs

(d) **To what extent can small scale and cottage industries be sustainable? Explain your answer.** **[6]**

Possibilities
Can be done in the home (so low set up costs)
Local raw materials / re-used waste materials (therefore cheap / less need to borrow money)
Simple technology (so less need for electricity / power supply)
Small scale causing less damage to environment
Traditional skills / does not demand education (people can support themselves when other work not available / possible)
Government support / schemes / loans
Use of machinery
Use of electricity (allowing work after dark)
Provision of other named infrastructure
Training / education

Problems
Small output / low earnings
Low profits (therefore difficult to escape poverty)
Need for 'middle man' which reduces profits
Poor quality products (so lack of demand / low value)
Use of child labour (restricting markets / sales)
Lack of education / telecommunications (which limits marketing skills / limit marketing ability)

[Total: 25]