2022 IGC Written Exam Key

Section 1 – ES
1. number – 3; explanation – longer lines at age groups that would attend college (accept reasonable equivalents); changes – age groups from 25-29, 20-24 and 15-19 would decrease significantly as students return home or leave town for the summer; overall population would decline (accept reasonable equivalents)
2. number – 1; explanation – age groups from 0 to 14 years are large; age groups at child-bearing age also large; the pyramid has a large base
3. number - 2; age group – 20-24 (accept 20-29); gender – male

Section 2 – ES
1. location – northeast
2. earthquake type – megathrust; type of plate boundary – convergent
3. a series of waves in a water body caused by the displacement of a large volume of water, earthquakes displace water through the movement of plates
4. normal waves are caused by wind or tides; normal waves have a shorter wavelength and are slower (accept reasonable equivalents)
5. a) Fukushima; b) IAEA; c) Chernobyl

Section 3 – ES
1. 1 – sedimentary rock; 2 – igneous rock; 3 – magma; 4 – sediment
2. A – melting; B – heat and pressure; C – weathering and erosion; D – melting
3. rock types – all of them; process – melting; new rock type – igneous
4. water drives weathering and erosion; water in the form of precipitation and acidic soil water and groundwater is quite effective at dissolving minerals and rocks; water action helps turn all types of rock into sediments (accept reasonable equivalents)
5. material – sediments; rock type – sedimentary rock

Section 4 – ES
1. 1 – temperate grassland; 2 – tundra; 3 – savanna; 4 – temperate forest; 5 – hot desert
2. number – 3; explanation – temperature range would be similar, but rainfall would be later in the year (late spring into summer) and for more months of the year
3. rainfall 2 – 2cm (accept 0cm to 4cm); rainfall 3 – 9cm (accept 7cm to 11cm); rainfall 5 – 2cm (accept 0cm to 4cm); temperature 2 – 10 C (accept 8 to 12 C); temperature 3 – 28 C (accept 26 to 30 C); temperature 5 – 30 C (accept 28 C to 32 C)
4. northern Siberia – 2; veldt of South Africa – 3; northern France – 4; Great Plains – 1; central Egypt – 5

Section 5 – ES
1. 1 – atheism / no affiliation; 2 – Buddhism; 3 – Christianity; 4 – Hinduism; 5 – Islam
2. Israel
3. Russia – Orthodox Christianity; Mexico – Roman Catholicism; Iran – Shi'a Islam; Italy – Roman Catholicism; Turkey – Sunni Islam
4. (Zen) Buddhism and Shintoism
5. affiliation – atheism / no affiliation; explanation – China, like the Soviet Union, discouraged religious affiliation during the height of Communist rule

Section 1 – MS
1. number – 3; explanation – longer lines at age groups that would attend college (accept reasonable equivalents); changes – age groups from 25-29, 20-24 and 15-19 would decrease significantly as students return home or leave town for the summer; overall population would decline (accept reasonable equivalents)
2. number – 1; explanation – age groups from 0 to 14 years are large; age groups at child-bearing age also large; the pyramid has a large base; differences with Japan - Japan's pyramid is much smaller on the bottom, indicating fewer

children and a lower birth rate, then gets bigger towards the age groups over 29 and is also much larger at the top indicating an ageing population
3. number – 2; explanation – large number of people ages 20-29, most of whom are men; differences with a prison – pyramid with a men's prison would look very similar, with a bulge at the same age ranges, but the gender of the inmates at the prison might make the bulge on the female side not the male side

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3. Russia – Orthodox Christianity; Mexico – Roman Catholicism; Iran – Shi'a Islam; Italy – Roman Catholicism; Turkey – Sunni Islam
4. (Zen) Buddhism and Shintoism
5. In both cases, Christianity was brought by both conquest and trade by European powers; the Americas were colonized by the Spanish and French (Roman Catholicism), and the English (Protestantism), and Southern Africa by various powers with Christianity as their predominant religion; missionary work also played a role in the conversion of Southern Africa
6. affiliation – atheism / no affiliation; explanation – China, like the Soviet Union, discouraged religious affiliation during the height of Communist rule

Section 6 – MS
1. number – 8; deposition; Deposition of levees is a natural consequence of the flooding of meandering rivers which carry high proportions of suspended sediment in the form of fine sands, silts, and muds.
2. number – 3; a U-shaped lake or pool that forms when a wide meander of a river is cut off, creating a free-standing body of water.
3. number – 6; deposition; backswamps are deposits of fine silts and clays settle after a flood, these deposits create a marsh-like landscape that is often poorly drained and usually lower than the rest of the floodplain
4. number – 4; term – belated confluence OR deferred junction

5. meander – one of a series of regular sinuous curves in the channel of a river or other watercourse; explanation - It is produced as a watercourse erodes the sediments of an outer, concave bank (cut bank) and deposits sediments on an inner, convex bank which is typically a point bar. The result of this coupled erosion and sedimentation is the formation of a sinuous course as the channel migrates back and forth across the axis of a floodplain.

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4. The DTM predicts that as education and income level rise, birth rate will decline; educational opportunities for women have a disproportionate effect on the birth rate

Section 2 – HS
1. location – 373km (232 mi) northeast of Tokyo; coordinates – 38.3° N, 142.3° E (accept 36-40 and 140 to 144)
2. earthquake type – megathrust; explanation - occur at convergent plate boundaries, where one tectonic plate is forced underneath another, caused by slip along the thrust fault that forms the contact between the two plates; plate boundary – convergent
3. a series of waves in a water body caused by the displacement of a large volume of water, earthquakes displace water through the movement of plates
4. normal waves are caused by wind or tides; normal waves have a shorter wavelength and are slower (accept reasonable equivalents)
5. a) Fukushima; b) IAEA; c) Chernobyl
6. health effects for residents; large-scale evacuations (permanent in the case of Chernobyl); environmental consequences (accept any reasonable answers – this is a very open-ended question with many possible correct answers)

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5. rainforest temperature – accept 22 C to 30 C; rainforest precipitation – accept 180cm to 250cm

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Section 7 – HS