NEST Biology Sample Paper – 8

Duration: 45 Minutes **Maximum Marks: 60**

Instructions

- This paper contains **20 Multiple Choice Questions (single correct answer)**, modelled on the Biology section of **NEST 2026**.
- Each correct answer carries **+3 marks**. There is a deduction of -1 **mark** for each incorrect answer; **no marks** are deducted for an unattempted question.
- Every question has exactly **four options**, of which only **one** is correct. Choose carefully.
- Personal calculators, log tables, mobile phones, and other electronic gadgets are strictly prohibited in the examination hall.
- A simple on-screen (virtual) calculator is provided in the computer-based test interface and may be used; blank sheets for rough work are supplied at the exam centre.

Q1. A fungus produces non-motile, thin-walled spores called conidia borne externally on conidiophores; it has septate, branched mycelium, and no sexual (perfect) stage has ever been observed in its life cycle. To which class of kingdom Fungi does it belong?

(A) Phycomycetes

(B) Ascomycetes

(C) Deuteromycetes

(D) Basidiomycetes

Q2. An invertebrate has a long, cylindrical body that is divided externally and internally into a series of similar ring-like segments (true metameric segmentation), a closed circulatory system, and a body cavity that is a true coelom (e.g. the earthworm *Pheretima*). To which phylum does it belong?

(A) Platyhelminthes

(B) Aschelminthes

(C) Arthropoda

(D) Annelida

Q3. In a pea (*Pisum sativum*) flower the corolla can be divided into two equal halves in only one particular vertical plane, and the gynoecium sits at the highest point of the thalamus while the other floral whorls arise below it. Such a flower is best described as

(A) zygomorphic and hypogynous (superior ovary)

(B) actinomorphic and hypogynous (superior ovary)

(C) zygomorphic and epigynous (inferior ovary)

(D) actinomorphic and perigynous (half-inferior ovary)

Q4. Among the elements of complex permanent tissues in a flowering plant, identify the cell that is living at maturity, lacks a nucleus, has sieve plates on its end walls, and depends on an adjacent specialised cell for its functioning. This cell is the

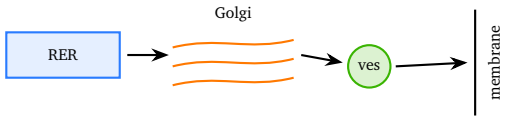
(A) tracheid of the xylem

(B) sieve-tube element of the phloem

(C) vessel element of the xylem

(D) xylem fibre (sclerenchyma)

Q5. The schematic below traces the path of a secretory protein through the endomembrane system. After synthesis on the rough ER, the protein is packaged into transport vesicles, modified in the Golgi apparatus, and finally released at the plasma membrane. Which set of organelles is correctly described as functioning together as the *endomembrane system*?



(A) mitochondria, chloroplasts and peroxisomes

(B) ribosomes, centrioles and nucleolus

(C) nucleus, mitochondria and chloroplasts

(D) endoplasmic reticulum, Golgi apparatus, lysosomes and vacuoles

Q6. An enzyme catalyses the hydrolysis of a peptide bond, splitting a protein into smaller fragments by adding a molecule of water across the bond. According to the international (IUB) classification of enzymes, this enzyme belongs to the class

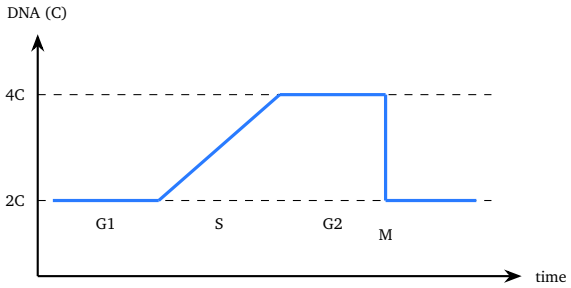
(A) oxidoreductases

(B) transferases

(C) hydrolases

(D) lyases

Q7. The graph below plots the DNA content (in arbitrary C units) of a somatic cell against time as it passes through G_1, S, G_2 and M phases of one mitotic cell cycle. The DNA content of the cell during the G_2 phase, just before mitosis, is



(A) 4C (the DNA has been fully replicated in S phase)

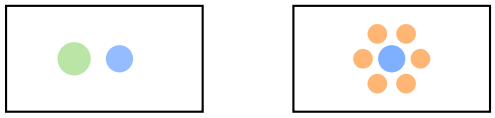
(B) 2C (the same as in G_1)

(C) 1C (half the G_1 amount)

(D) 8C (the DNA replicates twice)

Q8. The two leaf cross-sections below differ in their photosynthetic anatomy: leaf **Y** shows a ring of large bundle-sheath cells around the vascular bun-

dle (Kranz anatomy), whereas leaf **X** lacks this special wreath of cells. Compared with the **X**-type plant, the **Y**-type plant typically has



leaf X (no Kranz) leaf Y (Kranz)

(A) a higher CO_2 compensation point and pronounced photorespiration

(B) a lower CO_2 compensation point and little or no photorespiration

(C) no chloroplasts in its bundle-sheath cells

(D) the same photosynthetic efficiency as the X-type plant at high light and temperature

Q9. The respiratory pathway is often described as *amphibolic* rather than purely catabolic. The best justification for calling respiration an amphibolic pathway is that

(A) it occurs partly in the cytoplasm and partly in the mitochondria

(B) it can run in the presence as well as in the absence of oxygen

(C) it releases energy only in the form of heat, never as ATP

(D) its intermediates can be both broken down for energy and withdrawn to build up fats, amino acids and other molecules

Q10. In a resting adult the heart beats 72 times per minute and ejects 70 mL of blood from the left ventricle with each beat. Using the relation cardiac output = heart rate $\times$ stroke volume, the cardiac output of this person is approximately

(A) 1.0 L per minute

(B) 5.0 L per minute

(C) 0.5 L per minute

(D) 14 L per minute

Q11. Consider the human skeletal system. Which of the following statements is correct regarding the division of the skeleton and its joints?

(A) The skull, vertebral column, ribs and sternum form the axial skeleton, and the shoulder joint is a ball-and-socket joint

(B) The limb bones and girdles form the axial skeleton, and the knee is a ball-and-socket joint

(C) The vertebral column is part of the appendicular skeleton, and the elbow is a pivot joint

(D) The hinge joint at the elbow permits rotational (360°) movement in all planes

Q12. After a compatible pollen grain lands on the stigma, it germinates to produce a pollen tube that grows through the style and tissues of the ovule. When this pollen tube enters the ovule through the micropyle, the mode of entry is termed

(A) chalazogamy

(B) mesogamy

(C) porogamy

(D) apogamy

Q13. During the human menstrual cycle, ovulation (release of the secondary oocyte from the mature Graafian follicle at about day 14) is triggered by a sharp surge of a particular pituitary hormone. The hormone whose mid-cycle peak induces ovulation is

(A) progesterone from the corpus luteum

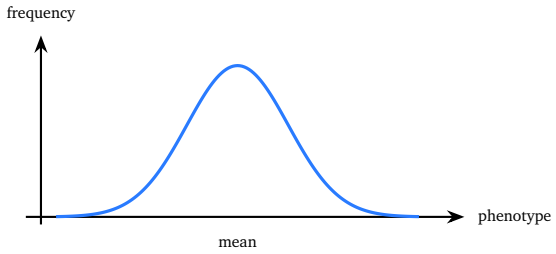
(B) luteinising hormone (LH) from the anterior pituitary

(C) estrogen from the developing follicle

(D) human chorionic gonadotropin (hCG) from the embryo

Q14. In humans, traits such as skin colour and height are controlled by three or more genes whose effects add up, giving a continuous range of pheno-

types that, when plotted against frequency, form the smooth bell-shaped curve shown below. This pattern of inheritance is called



(A) codominance

(B) incomplete dominance

(C) polygenic (quantitative) inheritance

(D) pleiotropy

Q15. During the process of translation, an amino acid is first attached to its specific transfer RNA (tRNA) in a reaction that uses ATP and is catalysed by aminoacyl-tRNA synthetase. This activation step, which produces an aminoacyl-tRNA, is commonly called the

(A) initiation of the ribosome at the start codon

(B) peptidyl transfer during elongation

(C) release of the polypeptide at termination

(D) charging (aminoacylation) of the tRNA

Q16. Before the Industrial Revolution in England, pale (peppered) forms of the moth *Biston betularia* were common on lichen-covered tree trunks. After industrial soot darkened the trunks, the dark (melanic) forms became far more frequent because birds now preyed more easily on the pale moths. This shift in the population is a classic example of

(A) directional natural selection

(B) stabilising natural selection

(C) the inheritance of acquired characters

(D) genetic drift in a small population

Q17. Which of the following statements about tumours and cancer is correct?

(A) Benign tumours readily spread to distant organs by metastasis

(B) A cancer arising from connective or mesodermal tissue is called a carcinoma

(C) Leukaemias are solid tumours of the bones and joints

(D) Malignant tumours show uncontrolled division, invade surrounding tissue and can metastasise to distant sites

Q18. Match each bioactive molecule with the microbe that yields it: the immunosuppressant cyclosporin A is obtained from the fungus *Trichoderma polysporum*, the blood-cholesterol-lowering statins from the yeast *Monascus purpureus*, and the clot-dissolving streptokinase from the bacterium *Streptococcus*. Which single statement is entirely correct?

(A) Cyclosporin A is an antibiotic produced by *Streptococcus*

(B) Streptokinase, used to dissolve blood clots, is produced by *Streptococcus*

(C) Statins are immunosuppressants obtained from *Trichoderma polysporum*

(D) Cyclosporin A is a cholesterol-lowering agent from *Monascus purpureus*

Q19. In a biotechnological production process, after the desired product has been formed in the bioreactor, it must still be separated, purified and formulated before it can be marketed. This series of steps, which includes separation, purification and quality control, is collectively known as

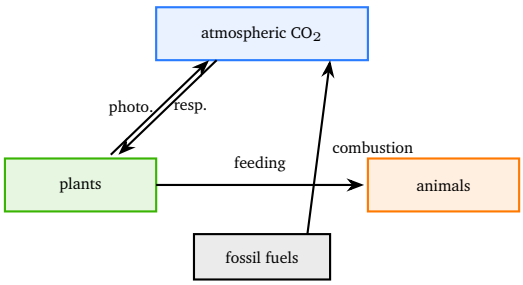
(A) downstream processing

(B) upstream fermentation

(C) gene cloning

(D) polymerase chain reaction

Q20. The carbon cycle and the phosphorus cycle differ in a fundamental way, as shown by the carbon flows in the diagram below. Which statement correctly contrasts these two biogeochemical cycles?



(A) Both carbon and phosphorus are gaseous cycles with large atmospheric reservoirs

(B) Phosphorus has a large atmospheric pool while carbon does not

(C) The carbon cycle is a gaseous-type cycle (major reservoir is atmospheric CO_2), whereas the phosphorus cycle is a sedimentary-type cycle (major reservoir is rocks) with no significant gaseous phase

(D) Neither carbon nor phosphorus is recycled through living organisms

Detailed Solutions

Q1.

Solution

Concept — Class Deuteromycetes (Fungi Imperfecti): The classes of Fungi are distinguished mainly by the mode of spore formation. Deuteromycetes are the "imperfect fungi": only their asexual or vegetative phase is known, and they reproduce asexually by conidia.

Step 1 — Match the clues: Conidia borne externally on conidiophores plus septate mycelium and a complete absence of any sexual (perfect) stage are the defining marks of Deuteromycetes.

Why other options are wrong:

- (A) Phycomycetes have aseptate (coenocytic) mycelium and form motile zoospores or aplanospores.
- (B) Ascomycetes do have a sexual stage producing ascospores inside asci.
- (D) Basidiomycetes produce sexual basidiospores on club-shaped basidia.

Final Answer: A fungus with only conidia and no sexual stage is a deuteromycete $\Rightarrow$ C

Answer: (C) Go Back to Q1

Q2.

Solution

Concept — Phylum Annelida: Annelids are the first group to show true metameric segmentation, in which the body is divided both externally and internally into similar segments (metameres). They are triploblastic, coelomate, and possess a closed circulatory system.

Step 1 — Identify the diagnostic feature: A long, segmented (ring-like), coelomate body with a closed circulation, as in the earthworm *Pheretima*, points uniquely to Annelida.

Why other options are wrong:

- (A) Platyhelminthes are dorsoventrally flattened, acoelomate and unsegmented.
- (B) Aschelminthes (roundworms) are pseudocoelomate and show no true segmentation.

- (C) Arthropods are segmented but have jointed appendages, a chitinous exoskeleton and an open circulatory system (haemocoel).

Final Answer: The animal belongs to Annelida $\Rightarrow$ D

Answer: (D) Go Back to Q2

Q3.

Solution

Concept — Floral symmetry and ovary position: A flower is zygomorphic when it can be divided into two equal halves in only one vertical plane. When the gynoecium occupies the highest position on the thalamus and all other whorls arise below it, the ovary is superior and the flower is hypogynous.

Step 1 — Read both clues: "Divisible into two equal halves in one plane only" $\Rightarrow$ zygomorphic; "gynoecium at the top, other whorls below" $\Rightarrow$ hypogynous (superior ovary). The pea flower (*Pisum sativum*) shows exactly this.

Why other options are wrong:

- (B) Actinomorphic means radial symmetry (many planes), which contradicts the one-plane clue.
- (C) Epigynous means an inferior ovary, with the thalamus enclosing the ovary; not the case here.
- (D) Perigynous (half-inferior) has the ovary in the centre of a cup-shaped thalamus, and actinomorphic is wrong.

Final Answer: The pea flower is zygomorphic and hypogynous $\Rightarrow$ A

Answer: (A) Go Back to Q3

Q4.

Solution

Concept — Sieve-tube element: The phloem conducts food. Its conducting cells, the sieve-tube elements, are living but enucleate at maturity; their end walls bear perforated sieve plates, and each is helped by an adjacent companion cell that controls its activity.

Step 1 — Match every clue: Living + no nucleus + sieve plates + dependent on an adjacent (companion) cell uniquely fit the sieve-tube element.

Why other options are wrong:

- (A) Tracheids are dead, lignified xylem cells with no sieve plates.
- (C) Vessel elements are also dead at maturity and conduct water, not food.
- (D) Xylem fibres are dead sclerenchyma providing mechanical support.

Final Answer: The cell is the sieve-tube element of the phloem $\Rightarrow$ B

Answer: (B) Go Back to Q4

Q5.

Solution

Concept — The endomembrane system: Certain membrane-bound organelles whose functions are coordinated form the endomembrane system: the endoplasmic reticulum, the Golgi apparatus, lysosomes and vacuoles. They work together in synthesis, modification, packaging and transport of materials.

Step 1 — Trace the secretory path: A protein made on the rough ER is carried in vesicles to the Golgi for modification and packaging, then delivered to the membrane, all within this membrane system.

Why other options are wrong:

- (A) Mitochondria, chloroplasts and peroxisomes are excluded from the endomembrane system because their functions are not coordinated with it.
- (B) Ribosomes, centrioles and the nucleolus are non-membranous structures.
- (C) The nucleus along with mitochondria and chloroplasts does not constitute the endomembrane system.

Final Answer: ER, Golgi, lysosomes and vacuoles form the endomembrane system $\Rightarrow$ D

Answer: (D) Go Back to Q5

Q6.

Solution

Concept — Hydrolases: The IUB scheme groups enzymes into six classes by reaction type. Hydrolases catalyse the cleavage of bonds by the addition of water (hydrolysis); proteases, which split peptide bonds with water, are hydrolases.

Step 1 — Match reaction to class: Splitting a peptide bond by adding water is a hydrolysis reaction, so the enzyme is a hydrolase.

Why other options are wrong:

- (A) Oxidoreductases catalyse oxidation–reduction (electron transfer) reactions.
- (B) Transferases move a chemical group from one molecule to another.
- (D) Lyases break bonds without water or oxidation, often forming a double bond.

Final Answer: The peptide-splitting enzyme is a hydrolase $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q6

Q7.

Solution

Concept — DNA content through the cell cycle: A diploid cell in G_1 has a 2C amount of DNA. During the S phase the DNA is replicated, doubling the content to 4C. This 4C amount is maintained through G_2 and until the chromatids separate in mitosis (M), after which each daughter cell returns to 2C.

Step 1 — Read the graph: The line rises from 2C to 4C across the S phase and stays at 4C through G_2. So in G_2 the DNA content is 4C.

Why other options are wrong:

- (B) 2C is the G_1 (pre-replication) value, not G_2.
- (C) 1C corresponds to a gamete, not a G_2 somatic cell.
- (D) 8C would require two rounds of replication without division, which does not occur here.

Final Answer: DNA content in G_2 is 4C $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q7

Q8.

Solution

Concept — C_3 vs C_4 plants: C_4 plants (leaf Y) possess Kranz anatomy, a wreath of large chloroplast-rich bundle-sheath cells. They concentrate CO_2 around RuBisCO, so they have a very low CO_2 compensation point and essentially no photorespiration, and are more efficient at high light and temperature.

Step 1 — Use the anatomy clue: The Kranz-type leaf (Y) is a C_4 leaf, so it shows

a low CO_2 compensation point and little or no photorespiration.

Why other options are wrong:

- (A) A high compensation point and strong photorespiration describe the C_3 (X) plant, not the C_4.
- (C) C_4 bundle-sheath cells are actually rich in chloroplasts; they are not empty.
- (D) C_4 plants are usually more (not equally) efficient at high light and temperature.

Final Answer: The C_4 (Kranz) plant has a low CO_2 compensation point and negligible photorespiration $\Rightarrow$ B

Answer: (B) Go Back to Q8

Q9.

Solution

Concept — Respiration as an amphibolic pathway: A purely catabolic pathway only breaks molecules down. Respiration is amphibolic because its intermediates (e.g. acetyl-CoA, α-ketoglutarate, oxaloacetate) can either be oxidised for energy or withdrawn as building blocks for the synthesis (anabolism) of fats, amino acids and other compounds.

Step 1 — Identify the reason: Because respiratory intermediates serve both breakdown (catabolism) and biosynthesis (anabolism), the pathway is amphibolic.

Why other options are wrong:

- (A) Occurring in two compartments describes its location, not why it is amphibolic.
- (B) Running with or without oxygen relates to aerobic vs anaerobic respiration, not amphibolism.
- (C) Respiration conserves much energy as ATP, not merely as heat, and this is unrelated to the term.

Final Answer: Intermediates are used for both breakdown and synthesis $\Rightarrow$ D

Answer: (D) Go Back to Q9

Q10.

Solution

Concept — Cardiac output: Cardiac output (CO) is the volume of blood pumped by each ventricle per minute and equals heart rate (HR) multiplied by stroke volume (SV): CO $=$ HR $\times$ SV.

Step 1 — Compute: CO $=$ 72 beats/min $\times$ 70 mL/beat $=$ 5040 mL/min $\approx$ 5.0 L per minute.

Why other options are wrong:

- (A) 1.0 L/min is far too low for a normal resting adult.
- (C) 0.5 L/min is roughly the stroke volume scale, not the per-minute output.
- (D) 14 L/min represents heavy exercise, not the resting values given.

Final Answer: CO $\approx$ 5.0 L per minute $\Rightarrow$ B

Answer: (B) Go Back to Q10

Q11.

Solution

Concept — Axial vs appendicular skeleton and joints: The axial skeleton comprises the skull, vertebral column, ribs and sternum; the appendicular skeleton comprises the limb bones and the pectoral and pelvic girdles. The shoulder (and hip) are ball-and-socket joints allowing movement in all planes.

Step 1 — Test each statement: The skull, vertebral column, ribs and sternum are correctly axial, and the shoulder is correctly a ball-and-socket joint; option (A) is fully correct.

Why other options are wrong:

- (B) Limb bones and girdles are appendicular, not axial, and the knee is a hinge joint, not ball-and-socket.
- (C) The vertebral column is axial, not appendicular; the elbow is a hinge, not a pivot joint.
- (D) The elbow hinge joint permits movement in only one plane, not 360° rotation.

Final Answer: Statement (A) is correct $\Rightarrow$ A

Answer: (A) Go Back to Q11

Q12.

Solution

Concept — Porogamy: The pollen tube can enter the ovule by three routes. When it enters through the micropyle, the mode is called porogamy, which is the most common type of entry in flowering plants.

Step 1 — Match route to term: Entry through the micropyle ⇒ porogamy.

Why other options are wrong:

- (A) Chalazogamy is entry through the chalaza (as in *Casuarina*).
- (B) Mesogamy is entry through the integuments or the funicle.
- (D) Apogamy is the development of an embryo without fertilisation, not a mode of pollen-tube entry.

Final Answer: Entry through the micropyle is porogamy ⇒ C

Answer: (C) Go Back to Q12

Q13.

Solution

Concept — Hormonal control of the menstrual cycle: The cycle is driven by pituitary and ovarian hormones. A rapid mid-cycle surge of luteinising hormone (LH) from the anterior pituitary, occurring around day 14, induces the rupture of the mature Graafian follicle and the release of the oocyte (ovulation).

Step 1 — Identify the trigger: The "LH surge" at mid-cycle is the immediate cause of ovulation.

Why other options are wrong:

- (A) Progesterone rises after ovulation (luteal phase) and maintains the endometrium; it does not trigger ovulation.
- (C) Rising estrogen stimulates the LH surge but is not itself the immediate ovulation trigger.
- (D) hCG is secreted by the embryo after implantation, much later in pregnancy.

Final Answer: Ovulation is triggered by the mid-cycle LH surge ⇒ B

Answer: (B) Go Back to Q13

Q14.

Solution

Concept — Polygenic (quantitative) inheritance: When a trait is governed by three or more genes whose alleles each add a small effect, the phenotypes form a continuous range. Plotting their frequency against the phenotype gives a bell-shaped (normal) distribution. Human skin colour and height are classic examples.

Step 1 — Match the description: Additive effects of many genes + continuous variation + bell curve $\Rightarrow$ polygenic inheritance.

Why other options are wrong:

- (A) Codominance means both alleles of a single gene are fully expressed (e.g. AB blood group), giving discrete classes.
- (B) Incomplete dominance gives an intermediate phenotype at a single locus, not a continuous multi-gene range.
- (D) Pleiotropy is one gene affecting many traits, the opposite situation.

Final Answer: The pattern is polygenic (quantitative) inheritance $\Rightarrow$ $\boxed{\text{C}}$

Answer: (C) Go Back to Q14

Q15.

Solution

Concept — Charging (aminoacylation) of tRNA: Before translation, each amino acid is attached to its specific tRNA. This activation, catalysed by aminoacyl-tRNA synthetase and requiring ATP, produces an aminoacyl-tRNA and is called the charging of tRNA.

Step 1 — Match the step: Amino acid + tRNA + ATP $\rightarrow$ aminoacyl-tRNA is, by definition, charging (aminoacylation).

Why other options are wrong:

- (A) Initiation is the assembly of the ribosome at the start codon, after charging.
- (B) Peptidyl transfer is the bond-forming step during elongation on the ribosome.
- (C) Termination is the release of the finished polypeptide at a stop codon.

Final Answer: Attaching an amino acid to its tRNA is the charging step $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q15

Q16.

Solution

Concept — Directional selection: In directional selection one extreme phenotype is favoured, shifting the population mean toward that extreme. Industrial melanism in the peppered moth *Biston betularia* is the textbook example: soot-darkened trunks favoured the dark form and the population shifted in that direction.

Step 1 — Identify the type: Selection favoured one extreme (the dark moths) over the other, moving the population that way, so this is directional selection.

Why other options are wrong:

- (B) Stabilising selection favours the intermediate and removes both extremes, the opposite of what happened.
- (C) Inheritance of acquired characters is Lamarckism, not natural selection.
- (D) Genetic drift is random change in small populations, not selection by predators.

Final Answer: Industrial melanism illustrates directional selection $\Rightarrow$ $\boxed{\text{A}}$

Answer: (A) Go Back to Q16

Q17.

Solution

Concept — Benign vs malignant tumours: Benign tumours stay confined to their site and do not spread. Malignant tumours grow uncontrollably, invade and damage neighbouring tissues, and shed cells that travel through the blood/lymph to form new tumours elsewhere (metastasis).

Step 1 — Test the statements: Uncontrolled division + invasion of surrounding tissue + metastasis correctly defines a malignant tumour, so option (D) is right.

Why other options are wrong:

- (A) Benign tumours do not metastasise; that is a feature of malignant tumours.
- (B) A cancer of connective/mesodermal tissue is a sarcoma; a carcinoma arises from epithelial tissue.
- (C) Leukaemias are cancers of blood-forming cells, not solid bone tumours.

Final Answer: Malignant tumours divide uncontrollably, invade and metastasise $\Rightarrow$ $\boxed{\text{D}}$

Answer: (D) Go Back to Q17

Q18.

Solution

Concept — Microbial bioactive molecules: Several microbes yield medically useful products: cyclosporin A (an immunosuppressant) from the fungus *Trichoderma polysporum*, statins (cholesterol-lowering) from the yeast *Monascus purpureus*, and streptokinase (a clot dissolver) from the bacterium *Streptococcus*.

Step 1 — Match correctly: Streptokinase, used as a "clot buster" for heart-attack patients, is produced by *Streptococcus*; option (B) is the only fully correct match.

Why other options are wrong:

- (A) Cyclosporin A is an immunosuppressant from *Trichoderma polysporum*, not an antibiotic from *Streptococcus*.
- (C) Statins are cholesterol-lowering agents from *Monascus purpureus*, not immunosuppressants from *Trichoderma*.
- (D) Cyclosporin A is an immunosuppressant, not a cholesterol-lowering agent, and is not from *Monascus*.

Final Answer: Streptokinase, a clot dissolver, is produced by *Streptococcus* $\Rightarrow$ B

Answer: (B) Go Back to Q18

Q19.

Solution

Concept — Downstream processing: After a product is formed in the bioreactor, it must be separated and purified before sale. These post-fermentation steps of separation, purification, formulation and quality control are collectively called downstream processing.

Step 1 — Match the stage: "Separation + purification + quality control after the bioreactor" $\Rightarrow$ downstream processing.

Why other options are wrong:

- (B) Upstream fermentation is the growth/production step inside the bioreactor, before separation.
- (C) Gene cloning is the making of recombinant DNA, an earlier laboratory step.
- (D) PCR amplifies DNA in vitro and is not a product-recovery step.

Final Answer: The recovery and purification steps are downstream processing $\Rightarrow$ A

Answer: (A) Go Back to Q19

Q20.

Solution

Concept — Gaseous vs sedimentary cycles: In a gaseous cycle the main reservoir is the atmosphere (or hydrosphere); the carbon cycle is gaseous because its chief reservoir is atmospheric CO_2, exchanged by photosynthesis, respiration and combustion. In a sedimentary cycle the main reservoir is rocks/soil; the phosphorus cycle is sedimentary, with no significant gaseous phase.

Step 1 — Contrast the reservoirs: Carbon = gaseous-type (atmospheric CO_2); phosphorus = sedimentary-type (rock-bound, no real gaseous phase). Option (C) states this correctly.

Why other options are wrong:

- (A) Phosphorus does not have a gaseous reservoir, so both are not gaseous cycles.
- (B) This reverses the truth; carbon, not phosphorus, has the large atmospheric pool.
- (D) Both carbon and phosphorus are very much recycled through living organisms.

Final Answer: Carbon cycle is gaseous-type, phosphorus cycle is sedimentary-type $\Rightarrow$ C

Answer: (C) Go Back to Q20

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	A	4	B	5	D
6	C	7	A	8	B	9	D	10	B
11	A	12	C	13	B	14	C	15	D
16	A	17	D	18	B	19	A	20	C