CSIR NET Exam 2022
Exam Analysis
(Life Science 17th Feb)
Shift-02

Memory Based
Questions

GENERAL APTITUDE (Part-A)

Memory Based Questions (Quantitative Aptitude)

Topic- Algebra

Q1. $\dfrac{P+1}{Q} = 1$ and $\dfrac{Q+1}{R} = 1$ **, then PQR ?**

Solution- PQ + 1 = Q   ….. (1)

QR + 1 = R   ….. (2)

Multiplying, both the sides by R

PQR + R = QR   ….. (3)

Now, substitute value of R from (2) in (3)

Therefore, PQR = -1

Topic- Physics

Q2. If a 3-meter car moving with a velocity of 7m/s. Then what time will it take to cross a 4m long Bus?

Solution-Here Given,

Car length = 3 m

Bus length = 4 m

Velocity = 7 m/s

Now, if here car is crossing Bus then,

Distance = 3m + 4m = 7m

Speed = 7 m/s

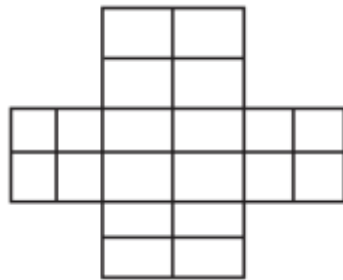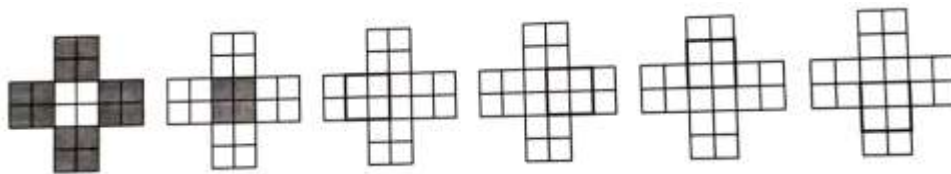Hence, time taken to cross Bus = $\dfrac{7m}{7m/s}$ = 1 sec

Topic: Figure Counting

Q3. How many square are there in the given figure?

Solution-

We can easily count in this figure the number of squares = 29**.**

Topic-Logical Puzzle

Q4. 10 m wide strip each on the arctic circle, equator and tropic of cancer. Find out which strip would have a larger area ?

Solution- If 10 m wide strip each on the arctic Circle, equator and tropic of cancer. Then, the correct answer will be equator. Because, a great circle that circumnavigates the Earth and passes through the centre of the Earth.

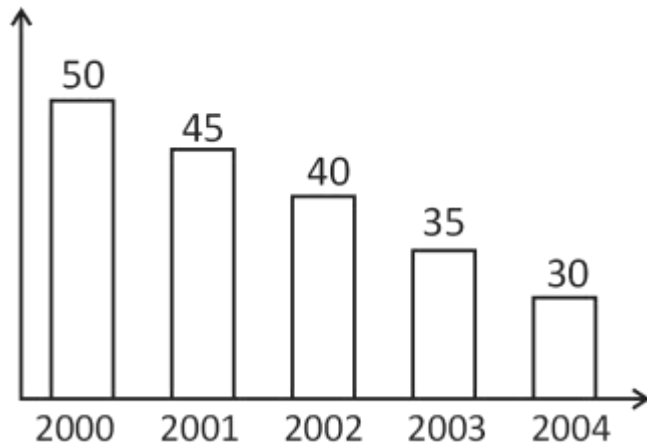**Topic- Number System**

Q5. What is the value of $2^{2^{2^2}}$ **?**

Solution-

$$2^{2^{2^2}} = 2^{2^4} = 2^{16} \Rightarrow 256 \times 256 \Rightarrow 65536$$

Topic- Bar Graph

Q6. What is the difference in average of combined production of 2000-2001 and 2003-2004 ?

Solution- The difference between the combined average production of 2000- 2001 and 2003-2004

$$= \frac{50+45}{2} - \frac{35+30}{2}$$

$$= \frac{95}{2} - \frac{65}{2}$$

$\Rightarrow$ 47.5 – 32.5 = 15 Crore

Hence the difference of average = 15 Crore

Part A

Q. Peptide with tyrosine, valine and alanine, charge on pH 5?

Q. 100 amino acids peptide, find out solubility graph on pH 7?

Q. Nitric oxide signalling -Cyclic GMP

Q. SINE- retrotransposons.

Q.TLR 2 knock-out effect

Q. Genome responsible for Rubisco enzyme formation.

Q. PFK-1 - positive modulator- regulation

Q. Melting of nucleic acid and absorbance at 260 nm.

Q. MAP kinase pathway

Q. Which nucleic acid has a high melting point . (high GC content)

Q. DNA DETECTION techniques - Negative answer

Q. Nuclear localisation sequence.

Q. Matching:

   Topoisomerase I, Topoisomerase II, DNA Pol alpha and DNA Pol delta

Part C

Q. A protein x was treated with DTT and sulfhydryl group was blocked later that protein was treated with chymotrypsin and we got 5 fragments. Find out the disulphide bond between cysteine.

Q. Unidirectional DNA REPLICATION diagram showing LEADING and LAGGING STRAND.

Q. Photosynthesis - z scheme.

   i. Accessory pigments transfer elections to the Photo reaction centre.

   ii. P680- Qa

   iii. D1 is encoded by PSD D

Q. Photorespiration

Q. Activation of NK and CTL cells upon viral Infection*

Q. B cell developmental marker

Q. Ramachandran plot

Q. IGg experimental based question

Q. Trp operon - mutation was operator and E gene

Q. GPCR- dag and IP3 PATHWAY.

Q. Pi value of peptide. Pk1, pk2 and pkr

Q. Cell cycle regulation. Cyclin B degradation, cyclin B, cdk degradation, rb blocks G2/M transition, cdk phosphorylation and dephosphorylation., SIC INHIBITION OR g1-s transition

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