

Q2

(a)

POTENTIAL BENEFITS OF IMPLEMENTING

ARTIFICIAL INTELLIGENCE IN HEALTH-CARE SYSTEM

- i) Artificial Intelligence (AI) improves accurate diagnosis, lab result and patient records more than human.
- ii) AI can detect the early conditions of chronic diseases like cardiac diseases, Cancer, improving chances of successful treatment.
- iii) AI can reduce human workload by handling administrative tasks like schedule and documentation.
- iv) AI can enhance radiology and pathology with speed and precision unmatched by human.
- v) AI can improve ~~access~~ access into remote areas by bringing telemedicine specialist to far-flung regions.

CHALLENGES OF IMPLEMENTING ARTIFICIAL INTELLIGENCE IN HEALTH-CARE SYSTEM

- i) AI relies on vast amount of sensitive data of patients, raising concerns about its hacking and misuse.
- ii) AI has legal concerns regarding its wrong diagnosis, therefore, it is unclear who take responsibility, doctors, hospital, or software company.
- iii) AI requires large investment ~~as~~ that it can may concern that healthcare become expensive.

- (iv) It may arise the patient concern, feeling uncomfortable about being diagnosed by a machine.
- (v) Over-dependence on AI can weaken the doctor's diagnostic skill as well as fear of losing their jobs.

IMPACTS OF AI ON PATIENT CARE AND MEDICAL DIAGNOSIS

IMPACT OF AI ON PATIENT

- (i). AI helps patients get quick care and better support.
- (ii) AI assists patients to take medicine and follow their health plan.
- (iii) AI improves its services in poor or remote areas through video virtual checkups and health tracking tools.

IMPACTS ON THE MEDICAL DIAGNOSIS:-

- (i) AI can assist doctors to diagnosis with accuracy and make better decision.
- (ii) AI can find symptoms of any disease before it become serious.
- (iii) AI can do routine works like appointments, writing reports and maintaining records.

⑥ BIG BANG THEORY

~~Bang~~ Big bang theory was discovered by George Lemaître and further strengthened by Edwin Hubble in 1929. According to this theory that universe, is 13.8 billions years ago, ~~or~~ was ~~origin~~ begun from a single point which was dense and extremely hot called singularity. The point underwent ~~the~~ rapid expansion called Inflation, causing releasing of energy, and creation of Quarks and electrons. Furthermore, these particles combined and formed a nuclei of light elements ~~as~~ like Hydrogen, Helium. These atoms combined and formed stars and this universe, this process is still continue and expanding itself.

EVIDENCES OF BIG BANG THEORY:-

(i) FORMATION AND EVOLUTION OF GALAXIES:-

Galaxies are ~~disturb~~ observed their distribution in different patterns. These galaxies are interacting and merging to each other and form new different shapes of galaxies. Hence, this formation provide evidence of existence of Big bang theory.

(ii) RED-SHIFT OF GALAXIES:-

In 1920, Edwin Hubble observed that the velocity at which galaxies move is directly proportional to their distance. They move short

to long wave. When a Galaxy move away, the light wave it sends stretch.

(10)

Q.1

(C) Primary Causes of Global Warming:

(i) Emission of Green House Gases :-

This ~~emits~~ gas emitted by burning of Fossil Fuels (Oil, Coal, Gas) and Carbon di-oxide, from industries, vehicles etc.

(ii) Deforestation :-

Cutting down of trees ~~reduces~~ that absorb CO_2 , leading to more carbon in the atmosphere.

(iii) Excess Usage of Fertilizers

The excessive usage of fertilizers which emits Nitrous Oxide (N_2O) ~~an~~ which ~~become~~ ~~excess~~ ~~to~~ leading to global warming.

Effects of Global Warming:-

(i) Rising of Sea-level :-

Due to global warming, the glaciers and ice polar are melting, leading to rise the sea-level.

(ii) Loss of BIODIVERSITY:-

Due Many plants and animals unable to adapt to rapid climate change.

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because of global warming.

iii. Food and Water insecurity:-

Due to rapid change in weather like draught, heavy rain, etc. affects crops yielding, as well as shortage of water, leading to hunger and conflict.

ROLE OF HUMAN ACTIVITIES IN GLOBAL WARMING

(i) INDUSTRIALIZATION

Factories emit CO_2 , methane and N_2O through use and production process, causing global warming.

(ii) URBANIZATION:-

Expanding ~~more~~ cities requires more land, that reduces global warming.

Q5

Data

80% of students are below 8 age.

48 students have 8 years old.

more above the 8 years old student = $\frac{2}{3}$ rd of 48 students.Solution

80% — below 8 years
 rem 80% — 48 — have 8 years age
 ↳ $\frac{2}{3}$ rd of 48.

Total Number of student who are above 8 years old.

$$\frac{2}{3} \times 48 = \frac{96}{3} = 32$$

32 students have age of 8 above 8 years.

: Students having age below 8 years.

80% of student who have age equal to 8 years or above 8 years

80% 48 — student having 8 years age
 32 — students having above 8 years
 80

80 remains 80% of student having

age are 20 — $20 + 80 = 100$

Hence, the total number of student is 100.

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(b)

Data

$$F = F + 3R = 4R$$

After 8 years,
he would be and
half time of
Rashid age

$$\left. \begin{aligned} 4R + 8 &= \frac{5}{2} (R + 8) \\ 2(4R + 8) &= 5(R + 8) \end{aligned} \right\}$$

$$8R + 16 = 5R + 40$$

$$= 3R = 24$$

Rashid current age $\Rightarrow R = 08$ Father Current age $= 4 \times 08 = 32$

After further 8 years;

$$R + 8 + 8 ; F + 8 + 8$$

$$08 + 16 ; 32 + 16$$

Rashid = 24

Father = 48

After further 8 years
how many times he would be
of Rashid age.

$$\frac{F}{R} = \frac{48}{24} = 2$$

He would be two times of Rashid
age.

(c)

Two dice tossed, $\Rightarrow 6 \times 6 = 36$
probability of that the total ^{score} number of
prime number.

possible chance = 2 to 12

let find prime number comes from
dice — 2, 3, 5, 7, 11 $\rightarrow$ 15 possibilities

(1,1) — 2

(1,2) } — 3

(2,1) }

probability = $\frac{15}{36}$

$\boxed{= \frac{5}{6}}$ Ans.

{ (1,4)
(2,3)
(3,2)
(4,1) } — 4

{ (2,5)
(5,2)
(4,3)
(3,4)
(6,1)
(1,6) } — 6

(6,5) — 11

d.

Data

$$C = 26 \text{ year}$$

$$Wk = 3 \text{ year older than Captain} = 26 + 3 = 29$$

Average ages of ~~team~~ team.

total age

$$\text{average of whole team} = \frac{29 + 26n}{11}$$

along with C & Wk

$$= \frac{55n}{11}$$

$$\text{Remaining players age average} = \frac{9n}{9}$$

The average of remaining players.

$$\frac{55n}{11} = \frac{9n}{9}$$

$$9(55n) = 11n - 55n = 9n - 9$$

$$9n = 55 - 9 \Rightarrow$$

$$n = \frac{46}{2}$$

$$\boxed{n = 23}$$

The remaining average age is of team
is 23.

Q7

(9)

Data

$$A:B = 5:3$$

$$5\% A + 4\% B = \frac{2}{3}(6\% A + 8\% B)$$

$$A:B = ?$$

Data

Solution

$$5\% A + 4\% B = \frac{2}{3}(6\% A + 8\% B)$$

multiply 100 with both side

$$3(5A + 4B) = 2(6A + 8B)$$

$$15A + 12B = 12A + 16B$$

$$15A + 12B = 12A + 16B$$

$$3A = 4B$$

$$\frac{4}{3} = \boxed{A:B = 4:3}$$

The ratio A:B is 4:3

(c)

Data

Sum of money distributed A, B, C, D = 5:2:4:3

C gets 1000^{time} more than D

Share of B = ?

Solution

Total shares = 14

Find the C's share, suppose share

is x

$$C = 1000 \times D$$

$$x = 1000$$

$$\text{Share of C} = 1000$$

$$\text{Now } B = 2 \times 1000$$

B's Share is Rs. 2000

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