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Date:
Page: MPL assignment -2. Q.1 Define progressive web App (Pwn) and emplain its significane in modern was development. Discuss the key characteristic that differentiatiate pwas forom traditional mossive apportunity. A progressive new App (PWA) is a type of new application that works eite a mobile app but runy is a browner if can be enstawed on a derice, works oppiline, and provides a fast & Smooth every emporionees Significance of PWA in modern heb Development. 3. cross - platform compatibility - works on both mobile.

and desetop with a single codebase.

2. Offine support - can function without the internet

using cached data.

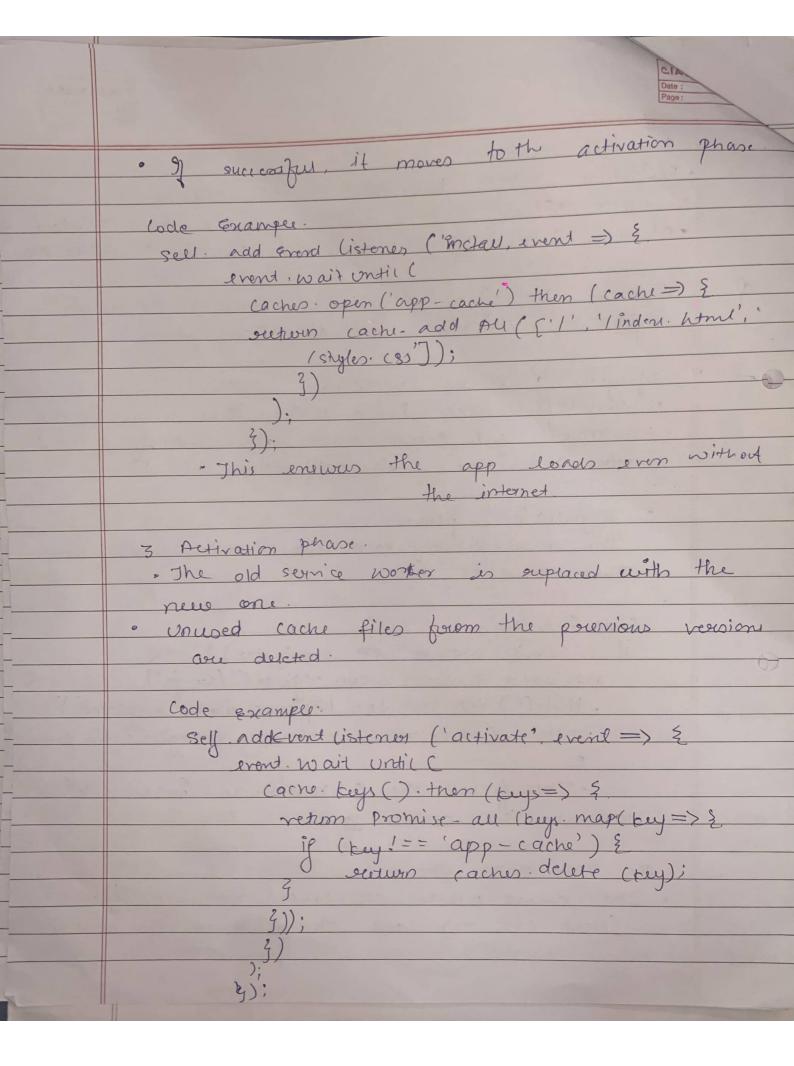
3. fast performance - loads quickey even on slow networks

4. No App space Required : Users can install it directly

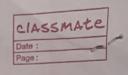
from the knower. leasure pun & Traditional Mobile Apps. Traditional mobile Download forom app store. Installation Oned from belowless Interned Required works offine with caching usually sugarious interned Required works offine with caching usually sugarious interned opportunance fast noith somice workers faster but needs intal fast noith somice workers faster but needs intallation store approval nuded'
lower cone codebase tigner (seperate appo Development Corst for all) for each peatform)

	Date: Page:
Q-2	Define susponsive web design and emplain its emportance in the context of progrunive web approaches compare and contrast susponsive, fluid, and adaptive web design approaches.
→	Defination of Responsive web Design: Responsive web design (RWD) is a termique that makes web pages adjust automatically do different Revieen sizes and devices.
	Impostance of Responsive Design in PWAS. 1. Better User Experience - PWAS work smoothly on any device. 2. faster land Jime- optimized design improves greed. 3. SEO Benefits - Groogle ranks stesponsive Sites higher. 4. Cost - effictive - No need to build multiple versions for different screens.
Appronc Responsiv	11 11 11 11 11 11 11 11 11 11 11 11 11
- fluid	Uses percent-bossed words well on less control over width in stead of fixed different screen layout on large pixels. So element sizes, easy to screen. The smoothey implement
Adapti	uses fixed layout that optimized for brown more effort required changes at specific screen sizes as design for lach screen size

1	Date: Page:
7	try différences
	Responsive adapts dynamically to all sevens.
	fliested respect smoothly but may not be fully optimized
	Responsive adapts dynamically to all serieurs. Pluitd respect smoothly but may not be fully optimized. Adaptive loads different layouts based on divice Appli
9.3	Describe the eigengele of Service corrers, in duding registration, installation, and activation phases.
0-	
	A service morkers is a script that runs in the
	background and helps a web app work offine, load
	faster and send puch notifications.
	1. Registration phase
	The browser registeres the service worker using
	Javasonpt
	Code Gnamper.
	if ('Service Norces' in Navigator) {.
	navigator service worker register ('/sw.js')
	· then () = console. 109(service in more a paistred)
	· catch (error => console. log (Registration failed
	This for fells the 13 browser to enstall and
	activate fine service (2) orton.
	2. Installation phase.
	· The service worker downloads necessary files -
	(HTML, (8), Is) and stories them in cache.



	Page:
	Final step: fetch & sync.
	Final step: fetch & sync. once activated the service worker intercepts network sequent, scarces cached files, and synce data when the internal internel in available
	This vifecycle makes puras faster, more relaible and capable of working offline.
8.11	Emplain the use of indexed DB in the service worker for data storage
Sor	Indexed DB in a Growsey database. that storage amount of structured data like Ison bjects. The helps PWAS work offine by saving and setting data efficiently.
	very use indered DB in service worker?
9	2. Efficient Storage: Saves Structured data like 2. Efficient Storage: Saves Structured data like 2. Linea Settings, cast items, or form inputs. 3. faster Access - Retrieves data quickey weithout needing a network request
	How service worken ose indexed DB?
	opening the Database let db;
	let suquest = indexed DB. open (My Database . 2)



suquest onsuccess = function (event) 2.

db = event larged susuel;

3;

creating a store & Adding Data.

ouquest on upgradenceded = function (event)?

let dh = event · target : result;

let store = db. oute · Object 870x (useys, 3 try

parh:id'g));

grown add (?id:g, name: John Dos'age -25g);

3;

fetening Data in seguice worker.

Let transaction = db transaction ('user; "steadonly).

let store = transaction object store ('users');

let gd User = Store gel (1);

getUser, onsucers = function ()?.

console. log (get user, seward);

3;